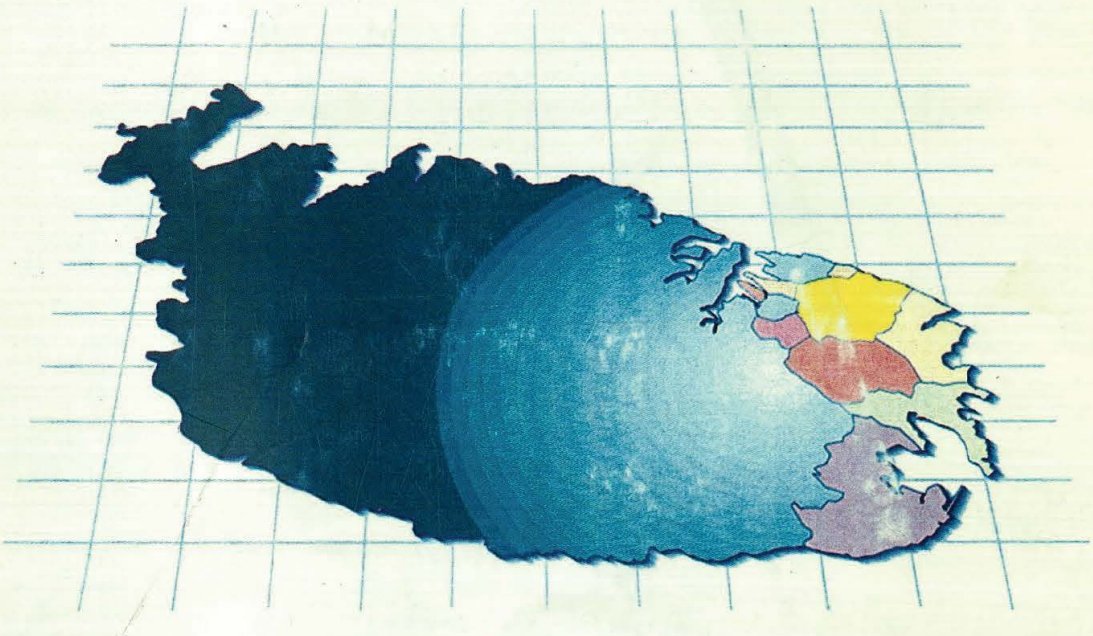
REGIONAL SOCIO-ECONOMIC DEVELOPMENT PLAN FOR THE SOUTH OF MALTA



MAIN REPORT

Planning Council
Ministry of Housing and Local Councils
Government of Malta
(February 1998)

Ref

Regional Socio-Economic Development Plan for the South of Malta

Part 3: Main Report



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The *Regional Socio-Economic Development Plan for the South of Malta* is based on Technical Reports. The views and opinions expressed in these reports are not necessarily those of the Planning Council

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III.1.0 Introduction

Methodology

Aims and Objectives

- Social Issues Working Committee
- Economic Issues Working Committee
- Environmental Health Working Committee
- Heritage Working Committee
- Built-up Environment Working Committee
- Infrastructure Working Committee

Technical Committee

1.1.0 Methodology

The underpinning of the Regional Socio-Economic Development Plan for the South of Malta of which this write-up forms part, is the democratic process involved: planning for the development of the region started at the grass-roots level - distant from the administrative centre notwithstanding the active participation of the Cabinet Ministries and their liaison officers appointed to act as focal points for the Planning Council. Direct participation of the people and involvement by their elected representatives / councillors would ensure a better response and would reflect the real needs of the locals. Local Councils were invited to be the prime movers of this Plan. They were expected to mobilize all the forces and resources present within their localities to identify both the problems and the opportunities which exist in the region.

Furthermore, to help Local Councils in drawing up their technical reports, the Planning Council had identified a pool of professionals, mainly from the public sector. Six Working Committees were formed, each responsible for an issue which will be covered by the Plan. These Working Committees formed part of the Technical Committee which was coordinated by the Chairman of the Planning Council. Since these Working Committees were to be the fulcrum on which the first phase of the Plan (that is the preparation of the technical reports) turns, the Planning Council organised a set of meetings specifically to bring together the Local Councils and the professionals in order to explain the methodology suggested for adoption in the first phase of the execution of the Plan.

Each Working Committee was responsible for one of the main six broad issues identified, namely :

1. Social Issues,
2. Economic Issues,
3. Environmental Health,
4. Heritage,
5. Built-up Environment, and
6. Infrastructure.

The underlying objective of this process was to analyse, together with the Local Councils, organisations and other interested bodies, existing material related to specific issues. The Working Committees met and consulted with all Local Councils, organizations and other parties with an interest in the Regional Plan and its aims. The Working Committees also consulted local plans and documents related to the Plan and, when necessary, also went on site to gain first hand information. This led to an identification of the problems and opportunities inherent in the region under discussion.

Periodic, fortnightly seminars were organised by the Planning Council where interim technical reports prepared by each Working Committee were discussed, and where feedback from different Working Committees was given on various issues while the general guidelines of operations suggested by the Planning Council were being observed. These seminars were attended by the Planning Council members who in turn gave their feedback from their respective areas of expertise.

Each Working Committee, together with all the eleven Local Councils concerned in the Regional Socio-Economic Development Plan, has prepared a technical report

which was submitted to the Planning Council by mid-October 1997. The proposals emanating from the technical reports are many. Prioritisation is therefore essential. This depends significantly on the nature of the proposal itself, that is whether it is of a policy nature or of a capital nature, whether further studies are needed and whether or not the expense incurred for its materialisation is prohibitive when compared to the expected benefits. In all, 152 proposals were identified, a third of which are of a capital nature while the rest implying policy matters. A list of issues and recommendations grounding these proposals is included in section III.8.0 of this part of the report.

Plenary sessions / seminars were held in a hotel in the south region of Malta where the Local Councils ratified the respective technical reports before final submission to the Planning Council.

1.2.0 Aims and Objectives

1.2.1 Social Issues Working Committee

1.2.1.1 Aim

The principle aim was to consider the main social issues affecting the people of the region as a society, individually and in their various social roles and functions.

1.2.1.2 Objectives

The four main objectives were :

1. to adopt an holistic approach towards development in the region and to emphasize its social dimension;
2. to view the region's historic and cultural context with the intention to better understanding its current social fabric;
3. to analyse the actual social situation and salient issues; and
4. to recommend sustainable mechanisms which can enable the region to improve its social situation.

1.2.2 Economic Issues Working Committee

1.2.2.1 Aim

The objective of this Working Committee was to gain a better understanding of economic issues related to industry, tourism, fishing and aquaculture, agriculture, horticulture and livestock management in the south region.

1.2.2.2 Objectives

The four main objectives of this team were :

1. to put forward policies for the resolution of problems caused by industry and to suggest plausible projects to satisfy both industrial and residential necessities;
2. to recommend specific initiatives to introduce and develop a compatible form of tourism as part of a wider regional development base and assist localities to identify unique selling prepositions within their boundaries;
3. to identify the problems and constraints affecting the fishing and aquaculture industry and to recommend policies and projects for its improvement and development; and
4. to suggest ways in which to enhance agricultural activities.

1.2.3 Environmental Health Working Committee

1.2.3.1 Aim

The aim of this Working Committee was to identify the main environmental health issues affecting the south region.

1.2.3.2 Objectives

The three main objectives of this team were :

1. to assess the current environmental situation in the south region;
2. to correlate environmental factors with actual or potential health effects; and
3. to suggest solutions and review previous recommendations (if available).

1.2.4 Heritage Working Committee

1.2.4.1 Aim

To define the cultural resources of the south region and identify possible ways of developing its heritage potential.

1.2.4.2 Objectives

Four objectives were identified and dealt with by the Heritage Working Group. These were :

1. to assess the current heritage situation in the region under study;
2. to locate problems in the sector and recommend national solutions;
3. to identify possibilities to develop the heritage sector in the region; and
4. to promote a radical and positive cultural change.

1.2.5 Built-up Environment Working Committee

1.2.5.1 Aim

The Built-up Environment Working Group tried to identify problems, issues and the potential of the built-up environment within the region.

1.2.5.2 Objectives

The two main objectives of this Working Committee were two-fold :

1. to put forward proposals for better land use management; and
2. to improve the built-up environment and consequently raise the quality of life in the area.

1.2.6 Infrastructure Working Committee

1.2.6.1 Aim

The main aim was to define infrastructural issues pertaining to the region with specific reference to wastewater, stormwater, water supply and distribution, electricity and transportation.

1.2.6.2 Objectives

The two main objectives of this Working Committee were the following :

1. to analyse Local Councils' complaints, expectations and requirements pertaining to infrastructure; and
2. to outline proposals, recommendations and suggestions for further studies to be undertaken.

1.3.0 Technical Committee

Chairman : Lino Bianco, B.A.(Phil.), B.E.&A.(Hons)(Malta), M.Sc.(Geol.)(Leics.), M.Sc.(Arch.)(Lond.), A.&C.E.

Secretary : John Gatt, B.A.(Hons.), Dip. Dev. Plan. Tech. (The Hague), M.A.(Econ.)(The Hague)

Member : Joanne Muscat, B.A.(Hons)(Comm. Stud.)

Social Issues Working Committee

Pauline Abela, B.Psy., P.G.C.E.
Ritienne Abela, B.A.(Hons)
Godfrey Baldacchino, B.A.(Gen), P.G.C.E, M.A.(The Hague), Ph.D.(Warwick)
David Caruana, B.A.(Gen), Dip. Educ.(Adult), Dip. Educ.(Admin.&Mang.)
Dennis Theuma, B.A.(Hons)

Economic Issues Working Committee

Joseph Borg, Nat. Dip., M.D.H. (Am.), C.D.H.(Am.)
Anthony J. Camilleri, B.E.&A.(Hons), A.N.T.E., Dip. Proj. Mang., A.&C.E.
Diane Spiteri, B.Sc., M.Sc.(Biol.)
Leslie Vella, B.A.(Hons) (Bus. Mang.)

Environmental Health Working Committee

Joanne Muscat, B.Sc., M.Sc.(Agric. Sc.)
Louis Saliba, B.Sc., B.Pharm, B.Sc.(Hons)(Lond.), Ph.D.(Lond.), M.I.Biol, F.R.E.S.

Heritage Working Committee

Claude Borg, B.E.&A..(Hons), Dip. Restor.(Rome), A.&C.E.
Nathaniel Cutajar, B.A., M.A.(York)
Norbert Gatt, B.E.&A..(Hons), Dip. Restor.(Rome), A.&C.E.

Built-up Environment Working Committee

George Buhagiar, B.E.& A..(Hons), M.Sc., A.&C.E.
Althea Camenzuli, B.E.& A..(Hons), M.Plan., A.&C.E.

Infrastructure Working Committee

Kevin Gatt, B.E.& A..(Hons), M.Sc.(Hydr.)(Lond.), DIC, MCIWEM, C.Eng., A.&C.E.
Anthony Sammut, B.E.& A.(Hons), A.&C.E.
Joseph Scicluna, B. Elec.(Hons)
David Sutton, B.A.(Hons)

Table III.1.1 : Expertise of consultants engaged in the respective Working Committees

Working Committee	*Name*	*Post*[1]	*Expertise*
Social Issues	Pauline Abela		Psychology
	Ritienne Abela		Human Geography
	Godfrey Baldacchino	Lecturer University of Malta	Sociology
	David Caruana	Liaison Officer Ministry of Education and Culture	Education
	Dennis Theuma	Graduate Trainee Ministry of Education and Culture	Physical Geography
Economic Issues	Joseph Borg	Principal Officer Ministry of Agriculture	Agriculture
	Anthony J. Camilleri	Architect & Civil Engineer Malta Development Corporation	Project Management & Building Construction
	Diane Spiteri		Aquaculture & Fisheries
	Leslie Vella	Research & Planning Manager NTOM	Business Management
Environmental Health	Joanne Muscat		Chemistry & Agriculture
	Louis Saliba	Chairman, Consultant & Advisory Board on Environment Ministry of Foreign Affairs and Environment	Entomology Former WHO Senior Scientist
Heritage	Claude Borg	Architect & Civil Engineer Building & Engineering Works Division	Architecture Restoration
	Nathaniel Cutajar	Curator National Museum of Archeology	Archaeology
	Norbert Gatt	Architect & Civil Engineer Building & Engineering Works Division	Architecture Restoration
Built-Up Environment	George Buhagiar	Architect & Civil Engineer Works Division	Urban Planning
	Althea Camenzuli	Architect & Civil Engineer Works Division	Urban Planning
Infrastructure	Kevin Gatt	Architect & Civil Engineer Drainage Department	Surface Runoff, Infrastructural Engineering
	Anthony Sammut	Architect & Civil Engineer Planning & Control Section Water Services Corporation	Strategic Development Water Distribution and Water Engineering
	Joseph Scicluna	Senior Engineer Planning & Development Enemalta Corporation	Electrical Engineering
	David Sutton	Consultant Roads Department and Public Transport Authority	Traffic and Road Engineering

(1) Posts not stated indicate professions engaged in private practice.

III.2.0 Social Issues

Executive Summary
Background and Methods
Inspiration
Preamble
A Social Analysis of the Region
Work and the Economy
Demography
Housing
The Community
Recreation and Leisure
Health
Family
Education
Criminality
Recommendations
Final Comments
Main References Consulted
Appendix III.A2

2.1.0 Executive Summary

This report includes the following :

A summary of the different sources of information which have enabled the present description, analysis and recommendations in connection with the Regional Socio-Economic Development Plan for the South of Malta (section 2.2.0 refers).

A declaration of the basic principles that have dictated the Working Committee's approach to the problems posed by development in this area: these principles emphasise the need to maintain a high quality of life for all kinds of persons, thus including :

> persons belonging to different categories within Maltese society (amongst whom women, men, senior citizens, children, foreigners, people with special needs);
>
> individuals as well as persons in a group (amongst whom families, secular and religious organisations, places characterised by an activity relating to the production or consumption of goods); and
>
> persons participating in the whole multitude of activities that may be carried out in everyday life (persons who work, practise a sport, move from one place to another) (section 2.3.0 refers).

A historical account of the main events which have turned the south region into what it now is – a region afflicted by a sense of inferiority and a general lack of self-confidence, and suffering from a chronic lack of financial and human resources investment; in short, a region serving as a convenient dumping place for the problems troubling Maltese society (section 2.4.0 refers).

A detailed analysis of the social situation within the region, based largely on councillors' statements which have however been bolstered wherever possible by facts, references to sources of information and updated official statistics. This analysis has brought to light a number of statements of fact regarding the situation prevailing in the south region, which statements have for convenience been grouped under nine interrelated categories :

1. Work and Economy;
2. Demography;
3. Housing;
4. Community;
5. Entertainment and Leisure;
6. Health;
7. Family;
8. Education; and
9. Crime.

In this manner, each of the Working Committee's five members could concentrate on particular aspects of social reality, and seek to place the information gathered within a regional context. Such an exercise has certainly helped to make all members aware of the considerable amount of work which is required to be carried out on a regional basis in Malta (section 2.5.0 refers).

An analysis of the actual state of affairs prevailing in the south region of Malta must naturally lead to a whole series of recommendations. The Working Committee is proposing about 70 main social issues which require some form of initiative, whether in the form of a project or in the form of a policy which should subsequently lead to and translate itself into a number of projects. A few of these recommendations bear a certain similarity to each other and even overlap. At this stage, even at the cost of being accused of repetition, the Committee opted to leave them as they are in order to emphasise their worth and to justify their relevance. This is especially the case with regard to those recommendations which stem from different analytical perspectives.

One needs to be aware of the importance of the several basic aspects which ought to be the inspirational motive of any development to be carried out in the Maltese Islands. The opening up of access to the sea; access to the countryside; the benefits of indulging in sports and recreational activities; a desire for communal activities and the safeguarding of public spaces — it is easy to forget about all these facets of a healthy lifestyle in the current greedy rush to make money. One finds this attitude reflected in numerous land development activities, in the strong increase in the use of private means of transport and in the increased consumption of energy. The population of the Maltese Islands will shortly be reaching the 400,000 mark, and this on a small chunk of land the area of which does not amount to more than 316 square kilometres! What physical and social heritage shall be passed on to future generations? The present generation bears a great responsibility for the current sad state of affairs, especially those persons who are the main decision-makers and planners within Maltese society. The following is a tentative scheme of development which comes near to having that extremely elusive quality which is sustainability (section 2.7.0 refers).

As for the conclusion of the report, this has been penned with an eye on possible future trends, and hence with a view to stating along which lines any future development should be required to take place. The Social Issues Working Committee has therefore advocated the establishment of permanent development structures which would provide backing for the concerted endeavours of the localities of the south region of Malta to create a better future for the region.

2.2.0 Background and Methods

The following preparatory exercises were followed :

a) The Social Issues Working Committee identified 51 social indicators which were then grouped under 9 different sections.

b) Each Local Council in the south region of Malta was invited to brief the Working Committee about what they considered to be the most important and the most pressing social issues faced by their respective localities.

c) Separate meetings were held by the Social Issues Working Committee with each Local Council in every locality of the south region of Malta. During these meetings, all relevant points which had come to light through the above two exercises were discussed and defined. Eleven detailed reports were then drafted, their aim being to illustrate the obtaining social reality in each locality as seen through the eyes of the councillors.

d) Contact was established with various persons – including priests, doctors and members of parliament – who were asked to give their advice and opinions as to which were the major social issues and problems in their locality. These resource persons included Working Committee members who were themselves resident in the south region of Malta. This exercise was intended to be complementary to (c) above.

e) Several documents and other sources of statistical information were traced and referred to enable the formulation of the best possible conclusions from the information gleaned through exercises (c) and (d) above.

f) The conclusions drawn about the social situation prevailing within each locality were analysed and reformulated according to the theme as well as on a comparative and, where feasible, regional basis.

g) A draft report was drawn up to comprehensively identify the main social issues. This report was distributed to the eleven Local Councils, which were asked to provide feedback which was provided primarily through an *ad hoc* meeting which was held at a hotel in Marsascala, and also through written submissions which were received from three Local Councils.

h) The comments received from the Councils, together with statistical and other information gathered with the help of the Planning Council, were incorporated into a revised report. From this essentially analytical exercise, supported by facts and reports, a series of concrete and hopefully practical recommendations came into being.

i) Throughout this whole ongoing process, the regular fortnightly meetings at Projects House in Floriana have been of great help, allowing the Social Issues Working Comittee to meet with the other five teams of experts and exchange views at all the various stages of the drawing up of this report.

2.3.0 Inspiration

At this stage it is important to expound the values that have inspired this study and which thus provide the required insight for a proper understanding of both the approach which was adopted throughout the whole exercise as well as the drift of the many recommendations made therein.

Certainly, the development sector is one of those areas of land management in our Islands which is riven by a number of contradictions and conflicting interests. However, any attempted definitions of these contradictions are very often of a purely technical nature where land use aspects are concerned. From time to time, development planners were briefed to define the parameters of development. However, very often one basic fact is overlooked, namely that these persons have usually had their academic grounding in theories which have been developed and are consequently best applicable abroad, where there is a much greater availability of natural resources and no limitations on the availability of land. An approach based on the particular theoretical background described above is generally insensitive to the tradition and the special character of a Maltese locality, and therefore fails to give due consideration to either the identity of such a locality or the unique features which are an intrinsic part of its definition. Development planners typically tackle matters from a largely scientific and technical viewpoint. Apart from this, the development planning sector has been excessively entrusted to architects, economists and other professionals who take for granted the need to increasingly augment the means of production and consumption. For such people, development very often translates itself into projects, buildings and environmental work which, unfortunately, rarely adopts a holistic perspective. Adopting the latter perspective would, in contrast, enable work to be seen within the context of other activities in which one must necessarily participate in order to be a truly complete person. But, for the type of professionals we are referring to, undeveloped land is underutilised land and jars with these people's creed that humankind can only fulfill its destiny by exploiting environmental resources in order to increase productivity and general economic output. One must keep in mind that intense pressure is continually being brought to bear also by investors in the local economy who regard building construction as one of the few kinds of local investment which is productive and bears a low level of risk. For them, this kind of activity is also development.

The above attitude of developers can only be described as misguided and the fruit of narrow-mindedness, and its effects on the land are immediately visible. The area of built-up land in the Maltese Islands has increased to more than four times what it was forty years ago. Whole towns and suburbs have sprung up during this time, without any thought to the overall needs of the persons living on these Islands. Priority has been given throughout to the exploitation of vacant land, which has virtually become a national craze. We have adopted a tourism policy based on volume rather than quality. We have allowed our roads to come close to constituting one continuous traffic jam of private vehicles, such that we have now become unable to imagine any open space as being utilisable as anything other than a parking area. To further complicate matters, the mass of blockwork and tarmac that has been spewing out unchecked over our land has been accompanied by numerous relocation operations involving the moving about of families - exercises which were ostensibly carried out to satisfy administrative exigencies but which have sometimes been coloured even by political considerations.

All this demonstrates the lack of attention being paid to the social dimension of development. It is as though we have forgotten and even inverted the guiding principle that all development should be at the service of humankind. This in turn shows a lack of appreciation for the dynamics involved in the formation of a community and the acquisition by that community of a proper identity which will serve to keep it forging ahead in unison, despite any internal conflicts or differences, and enable it to take pride in safeguarding the environment in which it is rooted.

It seems we have also been forgetting that having a roof of concrete over one's head is not a person's only purpose in life. Although that is important, housing is just one of humankind's basic needs. Living does not mean only residing in some place. Possibly, urban dwellers have been ignoring their other needs for so long that they have now completely forgotten what these needs are. Perhaps they have grown sceptical and have possibly even come to consider as ludicrous the need for open spaces, the need to cherish their natural, cultural and architectural heritage, the need to be able to move safely within their community in order to practise a sport, to rest, to socialise and to enjoy their leisure time. If space is not provided in order to cater for such needs within a community, we risk creating a repressive and possibly neurotic society. We would be arriving at a society harbouring an incredible contradiction, being located within a country having a population density amounting to more than 1,300 persons per square kilometre while being at the same time a society devoid of any element of collectivism. Consequently, it is quite understandable that at present the Maltese seem to find it difficult to relax and are unable to do anything else but work and keep on working even after normal working hours.

Hence, it is primarily crucial to look at development in a holistic way. This can only be done by identifying the complete human being as the desired object and beneficiary of any sort of development. It then follows that one must have regard for all those aspects – environmental, economic, cultural, social – which affect all inhabitants of these Islands and mould them into Maltese in a process which is as subtle as it is powerful. The above applies in respect of all Maltese, whether they be men or women, old or young, with all their particular needs.

Secondly, it is equally important that any exercise in development be imbued with the awareness that its aim should not only be that of offering medicine to a weak and dying patient. This Regional Socio-Economic Development Plan aims to go further than simply providing a cure. It is also intended as a means of fostering a sense of confidence, ownership and empowerment within communities as well as of bringing about a change in the identity (and soul) of the south region of Malta. This will enable the region to react as all other living communities are able to react, and thus respond from within and with spontaneity to the challenges it faces on the social level, rather than facing up to such challenges by implementing grandiose or standard solutions suggested by development planners. Indeed, such solutions are invariably fashioned in isolation from the environment within which they are to be applied, and are then imposed on the community from above.

A clear example of standard policies of this type is the wholesale construction of apartment blocks. This type of social housing project may have been convenient from an administrative point of view. However, their construction has brought about a situation where the occupants have been socially stigmatised, and have been hindered in their efforts to integrate with the rest of the community in which they found themselves on account of the fact that the buildings in which they had been placed were generally quite removed from the physical core of the same community.

Furthermore, they have been forced to live in an environment that lacks the essential breathing space provided by gardens or yards, which are so characteristic of Maltese life. Indeed, we have had a number of problem families housed together in what has in practice developed into problem housing. This is an example of social problems aggravated, not to say created, by development planners.

Therefore :

> Development is not only about buildings and the conversion of the countryside ('barren land full of weeds') into houses, shops and streets.
>
> Development is not only about quantity (to the exclusion of everything else) but about the quality of life.
>
> In the final analysis, development has a social and human aim – it must therefore take into consideration all persons and regard them in a holistic manner, having regard to all aspects of their life.
>
> The south region of Malta is not a patient, and development planners are not doctors. Even investment by central Government, albeit made with the best of intentions, can itself constitute a kind of financial dumping. The south region of Malta deserves the mechanism needed to help it overcome its problems on its own, through regional solutions which it itself implements. That will be the final proof of a truly sustainable development.

For this to take place, the social objective of the Regional Socio-Economic Development Plan should not be one of social engineering : it should not be to list the initiatives which are meant to try and solve or cure the social problems of the south region of Malta. This is the temptation facing development planners, and falling for such a temptation is wrong as well as dangerous.

Hence, the Regional Socio-Economic Development Plan should be directed towards taking those initiatives which will help to change the destiny of the south region of Malta by allowing market forces to play their part in improving the physical environment, changing the image of the locality, increasing investment opportunities, thus leading to a shift in demographic patterns. These changes should enable the social infrastructure to reassert itself.

2.4.0 Preamble

The tragedy which has befallen the south region of Malta is a part of Maltese reality which we have taken a long time to acknowledge. Even today, the word "south" is generally still saddled with connotations relating to local partisan politics.

The south region of Malta is not an invention of some political party wanting to win the elections. Certainly, some would have found it advantageous to invent "the South region" or "the South" in order to gain an opportunity to cudgel their political adversaries and/or become the avowed and acknowledged champions of the region. However, the regionalisation of our Islands goes far beyond the imaginative ploys of a few politicians.

The regionalisation of the Islands has long historical roots going back entire centuries. One could well say that one of the most determining moves has been the decision of the Knights of the Order of St. John to shift the administrative centre of the country from Mdina to Birgu in 1530, and subsequently to the new capital of Valletta in 1568. Until that time, one could say that Malta possessed an economy based on agriculture and fishing, exposed to the threat of piracy and without any particular centre of economic activity. The Order was essentially a seafaring one, and the economic strength of Malta soon came to depend on activities connected with the sea such as trade; the construction and repair of ships; maintenance work on military fleets; the unloading and carriage of merchandise; and, eventually, the unloading and carriage of industrial raw materials and goods. The only economic alternative which existed for the masses was agriculture, which of its nature afforded a more precarious and rather arduous existence.

The cities which sprang up around the Grand Harbour area were also protected by bastions so as to provide the population with shelter from enemy attack, especially by pirates. Where no bastions existed, there was no prospect of a healthy and stable community. This situation dragged on virtually until the mid-eighteenth century[1]. Thus, Valletta, Floriana and Cottonera were the foundations of the Maltese society; the rest of the country was at the periphery in all senses of the word, including from the political and cultural perspectives. It is not difficult to imagine that, beyond the inner Harbour area, nothing much ever happened. The hub of Maltese economic progress was the Grand Harbour, to which has in recent years been added Marsaxlokk Harbour. It was the place where work could be found and profit made.

After the arrival and settling of the British on the Islands, this situation of dependency continued to become more acute. Opportunities for working and earning money at the Grand Harbour continued to increase with the arrival of transhipment and the setting up of the Drydocks – especially after the opening of the Suez Canal in 1867 – whilst work opportunities elsewhere diminished. The cotton industry, which used to employ up to 20% of the population, including women, children and elderly people, was destroyed – possibly on purpose (Baldacchino, 1988 and Chirchop, 1997). By 1838, it had already become evident that the population did not have anything else to depend on for its livelihood except the influx of money and spending by the British Colonial Administration. Throughout the years, civil administration was expanded, recruitment of Drydocks personnel by the Admiralty went up, and job opportunities with the Army and Air Force increased. Most of these jobs had to be carried out at Valletta and Cottonera. The lack of

adequate transport facilities therefore meant that employees had to be living in the same area. One could say that, until the Second World War, Valletta, Floriana and Cottonera were the country's high-class localities, highly sought after as residential areas[2]. They were the place to be as regards going out, social endeavour and also as regards work, trade and consumption of goods.

The situation changed dramatically over the span of fifty years. The tragedy which has befallen the south region thus hurts all the more, on account of the speed with which it has occurred and the radical nature of its effects on the fate of this area of the Maltese Islands.

2.4.1 Factors Causing Social Mobility

The devastation caused by the Second World War was for the most part concentrated in the area around the Grand Harbour where many buildings were demolished.

On account of fear and the ravages of enemy onslaughts, many Maltese left Valletta, Bormla, Isla and Birgu and settled elsewhere. They were ready to face the extra hardship involved in going to and from work in order to safeguard their existence and that of their families.

Meanwhile, transport facilities improved. Walking and donkeys as a means of transport gave way to public buses and, eventually, the private car. By the seventies, one could say that the choice of area of residence had ceased to depend on one's place of work. All areas of the Islands had become accessible. Those who had moved out of Cottonera during the War chose to remain in residence elsewhere even after the War had come to an end.

The end of the War heralded the baby boom on the Islands - the beginning of a population explosion. If it were not for the emigration that took place in the fifties and sixties, the Maltese population would have doubled in these last 50 years. An increase in the population meant also a strong demand for more buildings and land on which one could live.

A change in the size of families : the number of persons in the Maltese family started to decrease from an average of 7.4 in 1920 to an average of 3.25 in 1985 (Central Office of Statistics, 1986). The increase in population led to a further increase in the number of households. Consequently, there was a great demand for new houses and facilities.

A shift in the standard of living and lifestyle of the Maltese and the evolution of consumerist values — the increase in wages and salaries as well as in work opportunities, the advent of television and increased acquaintance with the lifestyle of other peoples — have led a lot of present-day Maltese to prefer and expect much more opulent houses, with more rooms and space than those of their parents. It must also be remembered that property has traditionally been considered as the most solid investment one could make. The existing housing stock could not satisfy the demand. Even worse, it was considered to be antiquated and started being shunned by would-be residents. Since land was readily available, sometimes even for free, there was every incentive to abandon old buildings and build anew. This was the beginning of the frenzied colonisation of the countryside. Over a span of 40 years, the area of land turned over for building purposes more than quadrupled

(from circa 11 square km in 1955 to circa 48 square km in 1995). A pattern of residential inversion was also witnessed : isolated sites were no longer considered as dangerous and arduous to live on; rather, they came to be considered as classy, attractive areas, secluded, full of opportunities and preferred, while sites in heavily built-up areas, which were previously considered as chic and secure, now became old, noisy, polluted by traffic, small and uncomfortable[3].

2.4.2 Dumping and Zoning

Valletta, Floriana, Bormla, Isla and Birgu were the areas least equipped to face the challenges generated by this new state of affairs. Hemmed in by bastions, they did not contain enough room for new households. Resigned, they could only watch most residents leave for ever. The only persons who remained were those who could not leave, mostly elderly people. As a result, the population became more aged and the number of empty houses increased.

The exodus of people from towns or villages is an established social phenomenon and, provided that there is an influx which compares favourably thereto in terms of quantity and quality, it need not cause any particular problems. However, in the south region of Malta, one type of people left and a different type came in their stead.

Consequently, another phenomenon started making its presence felt. The people who started coming in were people who were largely considered incapable of fending for themselves, and who therefore relied on the bounty of the welfare state. With low rent levels frozen as at 1939, and on account of the allocation of tenements by the Housing Department, other people started coming in[4]. A certain amount of damage had already been caused by the setting up of housing estates on previously undeveloped land which became full of persons who did not come from the same locality, most of whom found it difficult to integrate within the social set-up of their adoptive city or village. Thus began the mingling and dumping of outsiders.

In addition to the above, which some consider to be a form of 'social pollution' which brings with it serious problems, the dumping of several other structures in the south region of Malta must also be taken into consideration. The first wave of dumping involved the building of industrial estates, purposely created around the Grand Harbour area for easier access. The Marsa and Bulebel Estates were the first, and were among the biggest in terms of employment. After them came those at Kordin and Ricasoli. The people of the south region — both men already accustomed to industrial work such as dock work, and women seeking work out of the home - eagerly sought employment at these new estates. Apart from this, the south region of Malta – being devoid of sandy beaches except for a small stretch at Pretty Bay – did not become the target of alternative investment, such as investment in tourism. Birzebbuga and Marsascala never came to be considered as anything more than second-class summer resort centres for locals.

A certain element of zoning crept subtly into national planning policy. The north region, with its sandy beaches was to specialise in services, all the more so since it did not house any industrial complexes and was more agricultural than the south region, being consequently cleaner. On the other hand, the south region was to specialise in industry. In the minds of certain planners this, almost automatically, meant also that it was more vital to safeguard the natural environment of the north region; if not for locals, at least for the benefit of tourists. As for the south region,

since it had been given over to industry it could continue to endure the effects of productive industry, namely wastes and pollution – the high price which had to be paid for the rapid industrialisation of the country. After all, the manufacturing industry is of its own nature less clean than tourism. Meanwhile, the Grand Harbour was already bursting with 'dirty' activities – including the Drydocks, the Coal Depot, the Marsa Power Station, Marsa Shipbuilding, the tank-cleaning installation at Ricasoli and, not far away, the national outflow channel for raw sewage at Wied GHammieq. Apart from these, the Grand Harbour also had to start fulfilling functions relating to tourism, with the construction of docking terminals at Xatt il-Kurcifiss and Xatt ir-Rizq, which area is also being proposed as a yacht marina. Another area within the south region was therefore sought as a candidate for hosting new industrial development, and the choice fell on Marsaxlokk Bay. The crucial decisions taken here were that of erecting the new Power Station at Delimara, as well as that of siting the Freeport on the other side of the same Bay in the 1980s. Marsaxlokk Bay is now undergoing the same evolution as that undergone by Grand Harbour, but over a much shorter period of time.

With the establishment of the Planning Authority in 1992, it seems that the wave of industrialisation has started to be evaluated in the context of a wider definition of development, and there has therefore been an attempt to maintain or to redress the balance between the use of land and space for commercial purposes and use of land for residential, leisure and/or environmental purposes. We understand that the Regional Socio-Economic Development Plan for the south region of Malta is inspired by the same vision.

One notes two important exceptions to this pattern of industrial development in the south region. The first is the decision to install a sewage purifying plant at Sant'Antnin, to cater for the irrigation requirements of the Zabbar and Zejtun farmers – an investment in agriculture, which is still important in this region[5]. Secondly, the decision to build what was at the time the biggest 4-star hotel in Malta at Marsascala in 1980. If it had not been for these two factors, the wave of development and industrial pollution in the south region would probably have been much more severe.

It is therefore crucial for any regional plan for the south region to give due regard to the importance of considering the region much more than simply an industrial zone and a dumping site wherein to put all those installations – and families — regarded as undesirable elsewhere, under the tenuous excuse that, after all, the south region has already been destroyed, so it is preferable to continue destroying the same region than to extend destruction to some other area.

2.5.0 A Social Analysis of the Region

The particular reality of the south region of Malta must be fully appreciated. The full picture of such a reality comes out from :

a) the views of the people who live in the region, especially the members of the eleven Local Councils involved in this exercise;

b) the views of resource persons who live or work in the region; and

c) from relevant documents, comments and statistical data gathered from several sources, including the Secretariat of the Planning Council itself.

For the purposes of analysis and organisation of its work, the Social Issues Working Committee has partitioned reality obtained into nine interdependent aspects, which may be referred to as social indicators. This is the first time that social indicators have been drawn up and integrated within the process of drawing up a development plan.

2.6.0 Work and the Economy

The south region of Malta provides work for several thousand industrial workers, especially in the Drydocks and the surrounding estates. However, a relative lack of entrepreneurial initiative is also noticeable. The workers of the south region of Malta come near to the classic definition of working class, where the majority of persons who work full-time earn their living by offering their services to others at a price. (The only exception in this regard seem to be the community of full-time, self-employed fishermen at Marsaxlokk. This totals about 120 persons according to the *1995 Census*). It would seem that the highest level of productive capital investment attainable by locals is that of corner-shop ownership. In fact, when investment in a shop reaches a certain level, the chances are that the owner will be hailing from another area.

The corner-shop phenomenon bases itself on the other phenomenon of captured clientele – that is, a small but consistent number of faithful customers. This style of traditional buying and selling seems to be still going strong, especially in Cottonera, all the more so where personal mobility is restricted because of, for instance, advanced age or the lack of a private car[6]. However, where residents do not have problems of accessibility and have no particular ties with a place, it is more likely that they will not be tied to a particular shop or vendor, and will therefore base their strategy of consumption on factors other than loyalty. These consumers will be more ready to look for bargains, and that is where the big supermarkets come in. In the south region of Malta, the framework of communitarian identity is still strong, and this could explain why the south region of Malta has the lowest density of supermarkets in the country. Another reason could be the relatively low average of earned income in this region. The largest supermarket in the south region of Malta is at present to be found on the edge of Zabbar adjacent to Fgura, and a shopping complex has opened recently between Fgura and Paola.

Regarding consumption linked to recreation, it seems that Marsascala, with over 130 food and leisure outlets, is the biggest centre catering for such an activity, with Birzebbuga close behind. Both have promenades which are very popular with strollers, especially during the summer months. Then there is Rinella Bay, which provides Cottonera residents with an opportunity for recreation during the summer, and has been cited as the only bay fit[7] for swimming within the Grand Harbour. At Isla there is the Marina, which is also popular with Cottonera residents, and there is also a potential for more leisure centres – possibly also with local investment – throughout the coastal periphery at Isla, Bormla, Birgu and Kalkara. The sea could yet provide much more opportunities – for making money, leisure activities, transport investment and tourism – in such a way as to involve the four Councils of the area. Other important centres for consumption in the region are the shops at Zabbar Road in Fgura (the main traffic artery in the south region of the Island) and the Sunday market at Marsaxlokk as well as the Tuesday market which is variously referred to as the Bormla or the Birgu market.

In Malta there are few employers from the south region. Perhaps this is because the south region is that part of Malta whose inhabitants were most able, or else most constrained, to put their minds at rest as to the possibility of obtaining employment. The south region is close to the industrial and administrative centre of the country, where there has throughout the years been a consistent demand for work. People from other areas were physically and culturally more distant, and had more incentive to figure out for themselves, along entrepreneurial lines, which was the best way to

earn money. For the same reason, the south region of Malta is still hostage to the mentality that an entity much more powerful than oneself has the duty to provide one with work, housing and benefits. This leads to a greater sense of resignation and of dependency on the State[8]. That is why people like Tony Ventura, a Kalkara resident employing circa 20 persons, stand out. The south appears to lack residents who own large shops, traders, contractors or businessmen. Any such persons who were raised in the south region have now probably moved out and set up their business elsewhere.

Even the number of professionals is low. Most professionals who have their practice in the locality do not live in the south region at all. The most common professionals from the area are teachers. Others, such as lawyers, doctors, dentists, notaries and accountants, are few in number. This situation also affects the level of earnings reported by the families of the region.

On the other hand, the Social Issues Working Committee noted some internal differences to this general pattern. Statistical data gathered from the *National Census* of October 1995 confirms that the average earnings reported by families of the south region of Malta is much lower than the national average. Nevertheless, there are differences between one locality and another, and even within the same locality, although the latter are difficult to document in a quantitative manner. The poorest families are to be found in Bormla and Birgu, followed by Isla and Xghajra. Xghajra, Isla, Bormla and Birgu, in this order, have the lowest percentage of households who reported earnings of Lm12,000 or more during 1995 (Table III.2.3). The same four localities report the lowest percentages of both men and women who hold a professional or technical job, according to the same *1995 National Census* (Table III.2.1 and Table III.2.2).

Statistical data consistently indicates that Xghajra, Bormla, Isla and Birgu as well as Zabbar have the highest level of unemployment amongst men willing to work – in all cases, figures have exceeded 5% of the economically active population of the locality as at September 1995; probably, the current obtainable percentage is even higher. Throughout the country, only Marsa, Qormi and Valletta had a higher percentage of unemployed persons during that particular month. Most of the unemployment is structural in nature, involving persons who have not worked for a year or more. Unemployment can itself be a consequence of the lack of work opportunities in the region, as well as of various other factors such as age, trades which are no longer sought by employers, the state of health of persons, undeclared part-time jobs or apathy as regards seeking a job. The relationship between unemployment and other social problems shall be commented upon further on.

In considerable contrast, one notes that the two localities which are showing a strong percentage increase in their population – namely Fgura and Marsascala - have a totally different track record. The percentage of households that declared earnings of over Lm 12,000 in 1995 is higher than the national average – in this regard, these two localities are unique in all the south region of Malta. We also find that these same two localities have the lowest percentage rate of households declaring earnings of less than Lm 2,500 during 1995, a rate which is much lower than the national average. Fgura also has the highest rate of private car ownership in all the south region of Malta.

Fgura and Marsascala also stand out as the localities which, according to the latest census, have the highest percentage of women working at a profit outside the home in all the south region[9]. Furthermore, Fgura is also the only locality in the south

region of Malta where the number of working men exceeds the number of households. This indicates the presence of a population made up of a high percentage of young couples, with a pattern of both male and female workers. Bormla, Isla, Xghajra and Birgu, in this order, are the southern localities with the lowest level of women working at a profit outside the home[10], whereas Bormla is again to be found at the bottom of the list insofar as percentage rates of active male participation in profitable work are concerned. After Bormla, also with very low percentage rates, come Isla and Birgu. Out of the whole south region, only these three localities suffer from a much lower percentage figure of males working at a profit than the national average[11].

This situation is more easily understood when one attempts to understand the movement of persons in the south region. Until the eighties, one could say that Fgura was the principal magnet attracting persons and couples moving out of Cottonera and looking for a place where to settle. There was also some movement towards Kalkara, Zabbar, Birzebbuga and Marsascala, but at a much lower rate. Lately, however, as Fgura expanded and itself became somewhat hemmed in – not so much by bastions as by the surrounding towns (Zabbar, Tarxien and Paola) - there has been a slight exodus from Fgura, mostly in the direction of Marsascala. Marsascala has also attracted a number of persons formerly residing at Zejtun and Zabbar. On a smaller scale, there has also been an expansion of Xghajra fuelled by movement from Zejtun and Zabbar and the expansion of Birzebbuga and Marsaxlokk due to inflows from Zejtun and, beyond the south region, from Zurrieq.

Thus, it seems that a certain social hierarchy is taking shape within the south region of Malta. Fgura, and lately especially Marsascala, represent the most desired localities of the region. They attract people who are more affluent, with better jobs and a higher level of education. They have a lesser degree of unemployment, and a better housing stock, with a higher degree of home-ownership. The same conditions apply with regard to Kalkara, although there the increase in population has been of a lesser degree. Both Marsascala and Kalkara are populated mostly by people with southern family roots, and both contain adequate building space. Both enjoy a certain amount of hinterland which consists of both sea as well as countryside. By contrast, this last feature is completely absent, especially in Birgu and Isla and most especially in Fgura, which has neither sea nor countryside.

It seems evident that in all the Three Cities, but all the more so in Bormla, a sort of vicious circle is creeping into the social framework. There is a high rate of structural unemployment, which is reflected in a lack of interest in finding, acquiring and retaining a job. The high rate of men and women who are not working at a profit is reflected in a low purchasing power. This in turn affects one's ability to take care of one's home, to buy one's own home or to buy a better home. It also affects economic activity by killing it off. This effect is rendered more serious by the existence of a high proportion of elderly persons, leading to a certain carelessness in the maintenance of housing stock and also to other consequences - which are more subtle but also more important - such as the dearth of sponsorship sources for activities organised by the locality. So much so that Dar Sant' Anna, at Isla seafront, represents a social investment made possible by donations made as acts of devotion towards Christ the Redeemer, who is worshipped at Isla's Basilica.

2.7.0 Demography

A constantly increasing population such as that of the Maltese Islands must have space to grow and work, and space for recreation. However, the small size of the Islands in itself does not only impose limitations with regard to landuse and use of natural resources, but also an added amount of pressure in relation to the need for services such as road construction, electricity and water supply and waste disposal is created.

As a region, the south of Malta has borne the brunt of the social consequences brought about by the demographic changes that occurred in the country during and after the Second World War. During this period, social phenomena such as social mobility, varying rates of births and deaths and high emigration levels have in one way or another had a dominant effect on life in the region. However, a comparative analysis of the localities indicates that demographic development in the south region has not been - and is still not – uniform.

It is surprising that, despite being part of the same region, most of the localities of the south are still experiencing different situations with regard to population levels. There are stable localities such as Zejtun, other localities where residents are increasing at a fast rate such as Marsascala and Fgura, and yet others such as Birgu, Isla and Bormla which are risking being abandoned. This situation of imbalance indicates, amongst other things, how much the region needs a regional development plan which is sensitive to the same region's inherent diversity if it is to be sustainable and effective in its implementation.

2.7.1 Statistics and Analysis

The statistical information contained in this report has been gleaned from the five *Census Reports* held to date, that is, from 1948 to 1995, as well as from *Annual Demographic Reviews* from 1959 to 1994. The principal characteristics which were examined in each locality were the following :

a) changes in the increase and distribution of the population between 1931 and 1995;

b) population density between 1985 and 1995;

c) population distribution as per citizenship according to the *1995 Census*;

d) crude birth and death rates between 1964 and 1994;

e) population distribution as per age and sex according to the *1995 Census*;

f) percentage of population over 60 years of age according to the *1995 Census*;

g) demographic movement between November 1994 and November 1995;

h) emigration between 1959 and 1994; and

i) returned emigrants according to the *1995 Census*.

It has not always been possible to effect an analysis of these characteristics for all localities. Separate figures for Marsascala and Fgura do not appear in the *1948* and *1957 Census* respectively, since the substantial development which took place in these localities occurred after those dates. Moreover, it was only during the last census that Xghajra started to be considered as an autonomous locality separate from Zabbar. Thus, most of the analysis set out below excludes Xghajra.

Notwithstanding the importance of statistical analysis in demographic studies, one cannot stop there. The aim of this report is not only to state the facts that have led to this type of demographic development but also to

a) shed light on the economic, environmental and social consequences which have been the cause as well as the effect of this development; and

b) submit reasons which reinforce the need for certain recommendations listed in this and other reports.

2.7.2 Changes and Increases in Population Between 1931 and 1995.

These years have been characterised by many events which have brought demographic changes and transitions, varying according to both the locality as well as the time when the events took place. Consequently, observations regarding changes in the region's population are divided according to the census periods and illustrated in Figure III.2.1(a) to (c).

2.7.2.1 1931-1948

During these years, especially before the War, Bormla, Birgu and Isla were the most important localities of the region, both as regards the number of inhabitants living there as well as with regard to the intense economic activity linked to the British presence. However, due to the fact that all these cities centre around the Grand Harbour, residents had to move out during the War years to more central localities such as Zabbar and Zejtun. After the War, that is, between 1943 and 1948, there was an increase in the number of marriages (which had dwindled during the War). This increase brought with it an increase in the birth rates, a phenomenon nowadays referred to as the post-war baby boom. On the other hand, the death rate decreased substantially and this contributed towards the natural increase in population. The Cottonera population began to regenerate once again, although this increase is most noticeable in the census of 1957 (Table III.2.4). The populations of Zejtun and Zabbar continued to increase in a stable manner, whilst the greatest increase - amounting to 210% - took place in Birzebbuga (Figure III.2.1). This locality was much sought after by the British as a residential zone, and also by the Maltese, including people from Zejtun and Zurrieq, as a summer residence.

2.7.2.2 1948 – 1957

During these years, the population of Cottonera continued to increase at a fast rate. The primary factor leading to this increase was the intervention of the State, which set up reconstruction projects, financed by War Damage funds in order to allow the cities' former residents to settle there once again. Another incentive which brought an equally strong demographic shift were the rent conditions, which were frozen to pre-War levels so as to attract more families.

2.7.2.3 1957 – 1967

As a form of control on the rapid increase in population, the Government began to encourage emigration. This brought a decrease in the male population within the 15-44 years age bracket, with the consequence that the birth rate went down. These two factors, together with the beginning of the winding down of the British base facilities, helped Government reach its aim – a reduction in the population both on a national as well as on a regional level. In every locality of the region, some decrease in the population was registered. Towards the mid-1960s, the shift from the rent market to the home ownership market began. Government started to distribute the first plots of the Home Ownership Scheme and more Maltese from the lower middle class upwards started to become owners of their own houses because of the rise in the standard of living. The rent laws ceased to provide a return on investment to owners of rented property.

Thus, investment in localities such as Bormla and Isla decreased rapidly. All these factors together brought the first shift of residents away from Cottonera, which shift has persisted to this day. New communities, such as Fgura, started to develop. The *1967 Census* refers to these types of internal immigration :

1. movement of residents away from Cottonera;
2. expansion of rural centres such as Fgura and Marsaxlokk; and
3. influx of residents from localities such as Hamrun towards Dockyard cities (Boswell, 1992).

2.7.2.4 1967-1985

This period saw the greatest demographic change of all, as the schemes for social accomodation and the distribution of plots gratis or for nominal sums continued to be strengthened further. This brought about substantial development in Marsaxlokk and Birzebbuga. Thus, the population of Cottonera continued to decrease. Between 1957 and 1985 Birgu, Isla and Bormla suffered a population loss of 15%, 18% and 15% respectively. This loss was absorbed by localities such as Marsascala and Fgura, whose population exploded by 121% and 201% respectively (Figure III.2.1). Zejtun and Zabbar took the place of Cottonera and became the most populated localities of the region, although they reached this level gradually without any sharp increases as was the case with Marsascala and Fgura (Table III.2.4).

2.7.2.5 1985-1995

During this period, one can observe the continued transformation of localities such as Marsascala and Birzebbuga into permanent residential zones - no longer merely as summer residencies. As for Cottonera, it never managed to recover from the loss of population. Localities such as Zejtun and Kalkara remained stable whilst Fgura, from the mere suburb of Zabbar that it was in 1957, became the third most populated locality in the region, after Zabbar and Zejtun. With the development going on at their edges, cities and villages expanded and merged together in such a way as to become indistinguishable one from the other in certain cases. Fgura, Zabbar and Xghajra have become a mass of never-ending buildings, whilst coastal localities such as Birzebbuga, Marsascala and Marsaxlokk are continuing to spread inwards.

2.7.3 Population Density between 1985-1995

As a region, the south of Malta always had a high population density. Whilst the national average for 1995 is of 1200 persons per square kilometre, the south region of Malta has an average of 1944 persons per square kilometre, an increase of 15.6% from 1985. However, this increase does not apply for every locality. Despite a significant degree of shifting of populations, localities such as Birgu, Isla and Bormla still have the highest population density in the region. In an area of 0.15 square kilometres, Isla is not only the smallest locality in the region but also the one with the highest national population density at 22,744 persons per square kilometre. In spite of this high density, there has been a decrease in population density in Isla as a result of the decrease in its population (Table III.2.5).

In large localities such as Zabbar, Zejtun, Marsaxlokk and Birzebbuga, many families have come out of the village cores with the consequence that these villages are now suffering from density inversion, that is, there are more people living beyond the urban centres than there are living within the village core. The construction of housing estates at the periphery of these villages has continued to exacarbate this phenomenon.

It is inevitable that localities larger than Cottonera such as Marsascala, Birzebbuga and Marsaxlokk will have a much lower population density. Although the size of the land is an important factor in determining the density of population, the style of houses in the locality must also be taken into consideration because it affects population distribution in both a vertical and a horizontal direction. In Marsaxlokk, 75% of houses are terraced houses and fully/semi-detached houses, whereas in localities such as Bormla, 54% of houses are apartments and maisonettes. The biggest increase in density has been recorded at Marsascala – an increase of 158% from 1985. On the other hand, localities like Bormla, Birgu and Isla, have experienced a decrease in population density, due to their population decline.

The locality that showed minimum variation was Fgura, with a change of 1%. In this case, population increase is spatially reflected in the increase of the locality's surface area, therefore minimally affecting the change in the percentage of population density.

2.7.4 Number of Foreign Residents

The British presence in Malta has not died down completely. From the latest census, it transpires that the British represent the majority of foreign residents in every locality in the south region. In Marsascala, apart from the large number of British residents, there are also residents hailing from other countries such as Germany and Italy. The same goes for Birzebbuga, although it is not clear to which countries they belong, since they have been qualified as citizens of "Countries within the European Union" or, in the case of Birgu residents, as "Other Citizenships".

In consultations made with Birgu representatives, there has been a reference to a number of Russian and Chinese residents. Unfortunately, these could not be quantified from the information contained in the last census, since the questionnaire does not include a precise reference to their nationality. The presence of foreign residents in Malta is increasingly becoming the object of discussion, especially where aspects relating to acquisition of property are concerned. This aspect is being discussed in more detail in section 2.8.0.

2.7.5 Birth and Death Rates between 1964 and 1994

For the purposes of this study, the rates illustrated in the *Annual Demographic Reviews* of 1964, 1974, 1984 and 1994 were used. The aim was to establish whether any particular trend could be detected as regards the levels of fertility and mortality of the region. The natural increase in population is determined by the link which exists between these two rates.

During this century, the increase in the Maltese population, both on a regional and on a national scale, was always a natural one, that is, the birth rate was always higher than the death rate. Table III.2.6 shows that during these last thirty years, there has been a decrease in both birth and death rates. It was only at the time of the two World Wars and the mass emigration of the 1950s that this trend was affected. The wars raised the death rate and lowered the birth rate. After the War, the birth rate increased drastically and there were less babies dying immediately after birth because of an amelioration of sanitary services. The birth rate fell again during the 1950s and 1960s, since emigration removed a considerable number of males of reproductive age within the bracket of 15 to 44 years.

In the 1970s, the birth rate continued to increase. This increase was indirectly linked to the socio-economic security brought about by the increase in the number of marriages. In this context, one observes that the south region had localities boasting of birth rates in the order of 55.9 per thousand per year in 1974 (Fgura) whereas the average rate for the region was of 23.7 (Table III.2.6).

Up to the mid-1970s, Bormla, Isla and Birgu had a much higher birth rate than the average. This notwithstanding, the cheap building schemes available were an incentive for young betrothed or newly-wed couples to leave these urban areas and acquire their own property in relatively newer and more peaceful areas. This has led to a decrease in Cottonera birth rate during the last 15 years. On the other hand, the improvement in the standard of living reduced the death rate amongst children and old people, with the consequence that these three cities are today faced with an ageing population.

Localities which developed during the second half of this century, such as Fgura, Birzebbuga and Marsascala, have been the antithesis of Cottonera, with families and young couples establishing their residence in these localities, and have thus enjoyed the highest birth rates in the region.

An analysis of birth and death rates only does not give a clear and complete picture of the demographic profile of a locality, due to the exclusion of other parameters - such as social mobility, which affects the population ratio as regards age and sex. With the opening of a home for the aged at Zejtun, the death rate is bound to be affected, since, statistics regarding the number of deaths will not only comprise the number of deaths of Zejtun residents but also those of old people living in the home.

2.7.6 Population Distribution according to Age and Sex in 1995

The aim of this distribution (Figures III.2.2 to Figure III.2.4) is to determine :

the balance or imbalance between the male and female population in relation to age groups;

the type of population, whether ageing or still relatively young; and

the life expectancy.

A certain similarity was found to exist between localities when these were considered in relation to the groups of localities identified by the Planning Council. Therefore, the comparative analysis took place according to the distribution of these groups.

2.7.6.1 The Littoral Group (Figure III.2.2)

This group is dominated by a young population in the range of 30-49 years, especially in Marsascala and Birzebbuga. This factor is reflected in the local increase in birth rate, and there is thus a large number of children, that is, of 15 years and below. Marsaxlokk has much too low a proportion of the population within the 20-34 years age bracket; this deficiency may be linked to industrialisation of the area which may be scaring young people away. Xghajra is the only littoral locality which does not have a great deal of affinity with the rest of the group, although there are some indications of an increase in the birth rate. Although it is sought after in summertime by the people living in nearby localities, there is still no willingness on the part of young people to settle there, on account of the lack of essential services and the proximity of Wied GHammieq.

2.7.6.2 The Cottonera Group (Figure III.2.3)

In these localities, there seems to be a great lack of men and women of nubile age, that is between 25-34 years. This further corroborates the already known fact that most young couples and newly-established families do not remain in the locality if they can afford to settle elsewhere. Stripped of the youthful elements of its population, the Cottonera population is ageing steadily.

2.7.6.3 The Contiguous Localities Group (Figure III.2.4)

This is the group with the greatest demographic affinity between the component localities. The development of Zabbar and Zejtun has been quite similar: they have both served as catchment areas for people moving out of Cottonera, and both had a regular increase in the population. The prevailing ages are those between 35 and 49 years and between 15 and 19 years. The low percentage of the population between 55 and 59 years reflects the recent rapid development undergone by this locality when compared to others. Everything indicates that if the natural increase in population continues to follow the low birth and death rates, this group will end up with a high ratio of elderly persons within 20 years time.

2.7.7 Demographic Movement in the South Region between November 1994 and November 1995

According to statistics derived from the latest census, it turns out that between November 1994 and November 1995, 69.1% of those who changed their residence remained in the south region, whereas 30.9% decided to leave the south region (Table III.2.7 and Table III.2.8). The highest percentage of people opting to remain in the south region is at Zejtun, at 94%; consequently this village has the least percentage of people opting to leave the south region, at 6%. Zabbar and Bormla have the highest percentage of people opting to leave the south region (44.1% and 42.1% respectively). The localities most sought after by people who remained in the south region throughout this year were Marsascala, Zabbar, Fgura and Birzebbuga, whilst those least popular were Xghajra, Marsaxlokk and Kalkara.

Another interesting fact which resulted from the analysis was that the highest statistical value obtained falling under the 'change of residence' category refers to those people who changed residence but remained in the same locality (Table III.2.8). Marsascala, Xghajra, Birzebbuga and Marsaxlokk have the highest percentage of people who changed residence but remained within the locality. Since no similar gathering of statistical data has taken place in previous censuses, it was not possible to make a comparative analysis so as to establish whether this phenomenon has been happening on a long-term basis. An ethnographic study of women from Isla by O'Reilly Mizzi, which took place in 1972/73 and revisited in 1992/93, established that, although there were some families who were leaving the locality, over 70% of the women interviewed had been raised in Isla, remained in Isla and did not wish to go and live elsewhere. This confirms the results of Boswell's 1982 study, which discovered a strong sentiment in people living in Isla and did not wish to move elsewhere.

2.7.8 The Ageing Population between 1985-1995

In this report, the term 'ageing population' is being applied with reference to those persons who have reached 61 years of age, the age of retirement and acquisition of the right to an old-age pension. Comparisons between 1985 and 1995 statistical data (Figure III.2.5) indicate that the ageing population has greatly increased in the localities of Cottonera and Fgura. In Zejtun, there has also been an increase in the ageing population although the home for the aged situated therein has been the greatest cause of such an increase.

No increase has been noted in localities such as Marsascala, Marsaxlokk, Birzebbuga, Kalkara and Zabbar; these localities have the highest birth rates (Table III.2.6) and this affects the relative percentage of the population which is ageing.

2.7.9 Emigration between 1985-1995

As has already been discussed, the emigration rate in Malta reached its highest levels between 1959 and 1968. During this period, 45,911 people emigrated, of whom 18% where from the south (Table III.2.9). As a percentage, the rates of emigration vary greatly from locality to locality, depending on the period. In the 1960s, the majority of emigrants from the south region were from Bormla, Zabbar

and Isla. In the 1970s, there was an increase in the number of emigrants from Zejtun and Fgura, whilst the number of emigrants from Bormla and Isla decreased greatly. Between 1983-1994, Fgura had the highest number of emigrants, followed by Birzebbugia and Zabbar. It is important that this type of information is interpreted by keeping in mind two important factors :

a) general rates of emigration decreased drastically in these last years; although Table III.2.9 shows that between 1983 and 1984, 23.9% of emigrants from the south region were from Fgura, the total number of emigrants from the south region were less than those who left Bormla between 1959 and 1968, who totalled 25.2% for the region. In fact, the number of emigrants from Fgura and Bormla during the period was of 174 and 2,090 respectively; and

b) the number of emigrants is directly proportional to the total number of residents of the locality : the more residents there are in a locality, the greater the chance of finding a higher number of emigrants than in localities with a lesser population. In fact, development at Fgura and Birzebbuga increased the number of emigrants (Table III.2.9) whilst the lack of residents in Cottonera had the opposite effect on the number of emigrants.

2.7.10 Returned Emigrants According to the *1995 Census*

The present increase in the population of the Maltese Islands has in part been due to the increase in returned emigrants. According to the latest census, the south region has received 3,393 returned emigrants, that is, 5% of the total population of the region. The majority of returned emigrants came back from Australia, England and Canada. In almost every locality, there has been a prevalence of returned emigrants from Australia, with the only exception being Bormla and Isla, where there are more returned emigrants from England.

Table III.2.10 gives the total of returned emigrants in each locality of the south region according to the last census. On a regional scale, Fgura has the highest amount of returned emigrants living in the south region (22.7%) followed by Zabbar (14.8%) and Birzebbuga (12.1%). When the number of returned emigrants was compared to the total number of residents in each locality, there were some variations. On a local level, Table III.2.10 shows Marsascala as having the highest percentage of returned emigrants (7.1%). It should be mentioned that according to the latest census, this locality also had the highest number of English residents in the south region.

2.7.11 Councillors' Comments

During the individual consultations held by the Social Issues Working Committee with the Local Councils of the south region of Malta, emphasis was placed on the following social issues relating to demography :

an ageing population;

an exodus of young couples who leave the locality;

'mingling' of residents from the locality with the so-called 'outsiders', that is, people coming from other localities;

the population of summer residence localities increases considerably during the summer; and

in certain localities, the permanent population is increasing.

2.7.11.1 An ageing population

This is a general phenomenon of the Islands and also of many other industrialised countries. In the south region of Malta however, the factors which are causing this effect are somewhat different :

a) the number of aged persons who are coming back to retire in the locality;

b) aged persons who come to live with their children's families; and

c) young couples who go to live elsewhere and thus cause an increase in the average age of the population of the locality.

2.7.11.2 An exodus of young couples who leave the locality

This occurs due to the fact that :

a) there is not enough space in which to erect new buildings;

b) couples do not wish to live in old buildings (as in Cottonera) and in surroundings which do not offer leisure opportunities (as in Fgura) or which are taking on increasingly industrial characteristics (such as Marsaxlokk Bay); or

c) marriages take place with persons from the northern part of Malta. It is truly exceptional for someone born and bred in more northerly areas to come and live in the south region.

The exceptions to this exodus from the south region are the new residential localities such as Xghajra and Marsascala, as well as the outer part of Kalkara, Zabbar and Birzebbuga.

2.7.11.3 'Mingling' of residents from the locality with the so-called 'outsiders', that is, people coming from other localities

There are particular 'outsiders' who may be professionals and well-to-do; these will look for old houses or new areas in which to live[12]. There are then those who are 'of low social class' and will end up living in the sub-standard houses of the locality. Thirdly, there are also illegal immigrants and persons belonging to ethnic minorities, also associated with the sub-standard areas of the locality. These include the Iraqis and Yugoslavs who work at the Freeport and live in the Qajjenza area, and the Chinese community in Birgu. These communities rarely mix with the rest of the residents of the locality[13].

In new areas – where for the moment no residents can be truly considered as coming from the locality (such as in Fgura) – the phenomenon of the influx of 'outsiders' is not felt. In a sense, in Fgura everyone is an outsider. However, in places where there is a strong sense of community and identity, this influx of people from outside can be seen and felt. The people of the locality normally take the view that the locality is theirs alone, and do not make it easy for outsiders to integrate themselves within the community. Very often, they may even monopolise the social activities of the locality, and take over all committees. For their part, the 'outsiders' usually take much less of an interest in the social life of their adopted town or village; what is more, they often maintain ties with their old town or village. This pique may be intense in the sense that some residents may end up with little opportunity for social commitment. Not only that, but where the given situation is one affording limited opportunity for relaxation, this combination of a hegemonic attitude from one side and apathy from the other further reduces the chances of a dynamic social interaction taking place.

2.7.11.4 The population of summer residence localities increases considerably during the summer

In Xghajra, the population triplicates with the arrival of summer residents from Zejtun, Zabbar and Cottonera. In Birzebbuga, Maltese summer residents arrive mainly from Zurrieq and Zejtun, and the population increases by circa 20%. In Marsascala, the population also triplicates and there is an influx of foreign tourists because of the bed space available at the local hotel.

2.7.11.5 In certain localities, the permanent population is increasing

This is due to : young couples in Xghajra and Marsascala;
an influx of foreigners from Italy and England in Isla; and
a very rapid increase in Fgura, which has now almost reached the 12,000 mark.

2.7.12 Discussion

Demographic change often gives rise to the necessity of revising certain existing policies, and of drawing up new ones. The fact that it is even possible to make demographic estimates for the future is of help not only in drawing up effective policies for the present but also for the future.

The localities of the south region of Malta have gone through different experiences of development and thus the south region cannot continue to be considered as a demographically uniform region. Consequently, the drawing up of recommendations will be taking place at two levels :

- at a regional level – where general recommendations will be drawn up which will apply to the whole region and take into consideration the few common elements that unite the localities; and

- at a local scale – where the perspective of the south as a region is put aside, and policies are drawn up which apply to every locality according to its particular needs.

2.7.12.1 Services for the elderly

It is fitting that there be more infrastructural and community services for the aged. In every locality of the south region, an increase in the number of old people is taking place. Intervention in order to ensure a proper quality of life for this sector of the population should not be seen as an act of charity but as an act to fulfil the State's responsibility towards society.

The need for improvement in the quality of life of the ageing sector of the population has always been studied from an economic point of view in terms of aspects such as housing, medicine and money for old-age pensions. The result has been that most of the State's endeavours in this area have tended to concentrate on improvement of the above services and on the opening of homes for the elderly. From the consultations made with Local Councils, it is clear that the increase in the number of elderly people is creating the need for a suitable infrastructure including day centres or night centres. The idea of a small day centre in every locality is preferred to having a big centre serving a number of localities. The aim of these centres is not that of serving as homes for the aged – which already exist in various localities in the south region. Instead, the purpose is one of an interactive and communal nature, and at the same time envisages putting people's minds at rest regarding such problems as theft or other situations which the elderly may find difficult to solve on their own.

On the other hand, the centres for the elderly do not have the aim of enabling the community to keep elderly people away from the daily life of the community, but rather constitute a form of aid which they could not receive from members of their family. For the rest, the family environment has always been and should continue to be the environment of first choice for the elderly to live in.

There has to be an increase in activities involving collaboration between the State, non-governmental organisations and Local Councils as well as the Church, so that the elderly will feel that they are still an active and respected part of the community. One should also mention the Info-Anzjani Project, which has the aim not only of identifying the various roles through which the elderly may give their contributions, but also the creation of a form of database with the profile of every individual elderly person. The ideal policy in this regard should be that, rather than being given a social service, elderly persons will have personal assistance. Awareness of the importance of such a project should not remain at the administrative level but should be communicated to the public to invite their participation.

2.7.12.2 Public spaces and recreational facilities

There should be room for more public spaces and recreation facilities. In localities with a high birth rate such as Fgura, Marsascala and Birzebbuga, there is room for more services such as a branch of the M.U.S.E.U.M. Thus, the little space that remains, especially in Fgura, should be utilised as a space for leisure facilities such as playing fields and public gardens. In Birzebbuga, there is a youthful population but, this notwithstanding, children and young people lack sporting facilities. There is only one playing field, at the centre of the locality. Children who live in areas far away from the centre, such as the Tal-Papa, Benghisa and Qajjenza areas, are unable to attend the catechism centre in the heart of Birzebbuga. In fact, there is no religious organisation in these areas, and the same may be said of the Housing Estate and Bulebel iz-Zghir zones at Zabbar.

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In this connection, it is important to launch a study of the actual capacity of primary schools in the locality and of catechism centres to absorb the projected increase in the number of children as well as their ability to offer catechism services in more areas which are removed from the centre. From a study carried out in connection with the size of primary schools, it was discovered that, according to the standards used in Italy, (2,295 square metres for every 125 students) most of the primary schools in the south region of Malta are too small to house their present intake of schoolchildren (Mintoff, 1995). One has to wait and see what is going to happen in localities such as Marsascala, Xghajra and Birzebbuga, where demographic analysis indicates an increase in the number of children and thus the new schools built there have already become inadequate in terms of space.

2.7.12.3 Incentives to deter mobilisation

There is a need for more incentives to encourage couples to remain in the locality, especially Cottonera. The departure of young couples, and thus the decrease in the birth rate, is reflected not only in an increase in the average age of the population but also in the quality of the social life of the community, which would lack a desirable element of regeneration. This phenomenon is causing problems such as

the consolidation of sub-standard buildings and zones in localities such as Cottonera;

the transfer of commercial services to urban zones in new and central areas of the south region, such as Fgura and Paola;

the lack of investment in these localities because of their stigmatisation as 'low class' areas, which contributes towards the reinforcing of the vicious circle of emigration; and

urban development consisting in the building of houses in the periphery of Maltese villages, but nevertheless development of a 'soulless' nature and without any sense of integration and participation in the community in which it is situated.

Movement by young couples into localities such as Bormla, Birgu and Isla must take place through a programme of rehabilitation with respect to every aspect of the locality, including the economic, social and environmental aspects. The rehabilitation of existing houses and the reform of the rent laws constitute good incentives. However, in order for localities such as these to be injected with new life, they must not serve as transitional zones for couples to live in until they are able to find alternative accommodation. Solid communities are formed by people who are happy to live where they live, and who thus desire to see development and improvement in their living environment in the form of more services, facilities such as shops, health centres and banks, and public spaces.

The need is felt for a study with the aim of quantifying the internal movement of the population and of identifying the reasons leading to such movement. One of the biggest drawbacks of the *Structure Plan* is that it did not recognise the fact that one of the main social and environmental problems connected with the development of the south region (and indeed of the whole Island) is the effect of too much internal immigration within the country.

In the drawing up of a development plan, it is difficult to look at the south as a region when in actual fact every single locality within the region has experienced an individual development which has led to various exigencies. On the other hand, a development plan can only be effective and realistic if every locality derives a benefit from the recommendations made therein and makes some progress. It is only when there is progress in every locality that one can truly speak of a progressive and sustainable regional development.

2.8.0 Housing

2.8.1 The Development of Housing and the Social Impact on the South Region

Acceptable human accommodation is a primary necessity and a social right of every person. In the absence of accommodation, a family will lack the fundamental condition which must exist to enable it to realise itself and its members, and the family's interpersonal relations as well as its child-rearing function may be weakened. Hence, the State is responsible for seeing that this social right is enjoyed by every citizen.

The social conditions that have arisen out of the development of housing in the south region are linked to several interventions by the State in this sector : the reconstruction projects after the War, the rent freeze, the home-ownership schemes, the demolition of slum areas and social accommodation schemes, both when effected under the form of individual allocations as well as when carried out collectively through the building of flats and housing estates.

By the end of the Second World War, the most urbanised zone in the south region, comprising Bormla, Birgu and Isla, had suffered considerable damage. In order to bring back the residents of the area, the State set up reconstruction projects by means of which the rebuilding of a substantial part of the houses presently to be found in the Cottonera was effected. In fact, according to the latest census, 53.9% of the houses at Isla were built in the period between 1945 and 1960 (Table III.2.11 and Table III.2.12). After Isla come Bormla and Birgu with 45.9% and 40% respectively.

Though people did return to localities such as Bormla, Birgu and Isla, they started realising that these cities were no longer the prestigious localities of pre-war Malta (Abela, 1993). The rent freeze brought a great many people from other localities such as Hamrun but did not help much in improving quality (Boswell, 1982). On the other hand, the local 'elite' were starting to become influenced by two tendencies as regards buildings :

building homes away from urban areas, in more rural areas; and

having another house as a summer residence by the sea, in places such as Marsascala, Bugibba and Birzebbuga.

Thus, those who possessed financial clout started to seek alternative accommodation in newer areas such as Zabbar, Marsascala and Fgura whilst their old homes in Cottonera became the homes of families who could not afford to own better premises. The result was that the standard of living in Cottonera started to decline, and a vicious circle was created which contributed further towards a reduction in investment in the area.

The rapid pace of urban development in the south region of Malta in the 1970s was determined by three measures taken by Government, which were meant as incentives. These were Home Ownership Schemes and housing estates, and an increase in tourism investment. The first two measures began to give rise to a high

level of immigration of a socio-economic nature, with Maltese hailing from the lower middle-class becoming owners of their homes on applying for home-ownership. In the planning of these Home Ownership Schemes, little public space, if any, was incorporated. From a survey dated 1985/86, it resulted that 44% of residents had applied for home-ownership because of marriage whilst 33% had already possessed rented accommodation. Investment in tourism continued to strengthen the economic development of the country and brought an urban sprawl of flats, apartments and hotels for tourists in localities such as Birzebbuga and Marsascala, whilst the summer-house trend among the Maltese continued to grow stronger. In fact, between 1957 and 1985, the population of the south region increased by 15% whilst the number of houses increased by 42%. Table III.2.11 and Table III.2.12 show that the majority of buildings presently existing in localities such as Marsascala, Marsaxlokk, Fgura and Birzebbuga, were built from 1971 onwards : Marsascala (79.3%), Marsaxlokk (66.3%), Fgura (65.7%) and Birzebbuga (53%).

For those who were not financially capable of building or buying a place to live in, accommodation in housing estates was available. The aim of social accommodation in itself was a positive one, that is, to offer help to whoever desired to live in a humane environment. However, the negative impact of such a concentrated allocation of families - within buildings which were segregated both because of their similar structure and because of their isolation from the community of the locality in which they were built – was never considered. In time, these housing estates came to constitute a catchment area for many families with economic and social problems. Thus, these homes ended up tarnished by social stigma and considered as low-class areas, whilst the members of the original community of the locality developed a class-conscious attitude. A lack of communal integration was inevitable. The geographic isolation of these housing estates, most of them built on the periphery of villages, was also a determining factor in the solidification of this social division.

Through these two schemes, many families came out of the urban centres of villages to seek new accommodation on the periphery. The result of this mobility was the creation of :

density inversion in villages, that is, more people living outside urban centres than in the core;

an urban sprawl beyond the village core lacking or having very inadequate commercial and leisure facilities. In Birzebbuga, in the Tal-Papa and Benghisa zones, there are no religious associations or clubs, and it is very difficult for unaccompanied children and young people of the area to be able to frequent the Youth Centre which is located in the village core because of the distance and the traffic dangers involved. Even Zabbar has about 600 families living in the peripheral areas known as the Estate and Bulebel iz-Zghir but lacking recreational facilities and social centres; and

an influx of other people from outside who came to live in those buildings at the village core which had been vacated. When the Hal Tmiem Housing Estate at Zejtun was built, it received most of the residents of the Rahal t'Isfel; these were transferred to the Estate because of the sad conditions in which they were living – the substandard buildings which they vacated were then occupied by other people and used, for a number of purposes including the raising of livestock.

The net increase in the population of the south region of Malta was also brought about by other factors such as a decrease in emigration, an increase in immigration and an increase in industrial and commercial development, which helped fuel the demand for more land and buildings for residential purposes, especially by young people. Most of today's young people are still expecting to build the kind of spacious houses that their parents built in the 1970s and 1980s. This major demand was the cause of an explosion in the value of land and buildings and, eventually, of a heavy financial burden and of considerable psychological stress on many couples, who started going in for more loans than they could afford to pay back. Economic development increased expectations of a better quality of life. More than ever, the home became the main symbol of one's social status – as important as one's level of education and type of occupation. The desire to be the owner of one's house – the bigger and more lavishly furnished, the better – is a concept which is deeply rooted in Maltese mentality.

The lack of available land on which to build, together with the exaggerated price of existing buildings, reduced the rate of increase in home-ownership. On the other hand, the demand for accommodation supplied by Government has increased, especially where young people are concerned. It bears mentioning that 1,089 applications were submitted for 50 maisonettes in shell form which were put up for sale by the Housing Authority in August, 1997. According to the available figures, it seems that 875 betrothed couples applied, whilst 165 applications were made by people living in sub-standard homes.

In this regard, it seems that the south region is not lacking in sub-standard housing. According to the latest census, 20.6% of sub-standard houses are to be found in the south region of Malta. Table III.2.13 shows that Bormla, Isla and Birgu are in the second, third and fourth place respectively in the list of localities with the highest level of sub-standard housing (that is, houses without a bathroom and/or a kitchen). At the moment, there are 125 applications from Birgu for alternative accommodation, 35% of which are by persons living in dangerous or low-quality buildings, whilst on the other hand there are 300 empty buildings.

Another factor which these localities of Cottonera have in common, is the fact that the majority of the houses situated therein are on lease. Table III.2.14 indicates that the number of rented houses greatly exceeds the average for the region, which stands at 30.2%. By contrast, in Fgura, Marsaxlokk and Marsascala more than 80% of houses are owned by the people residing therein, a proportion which is much higher than the national average, which totals 66.5%.

In spite of the above, the industrial development which took place in some parts of the south region in these last years has prevented certain localities from developing, whilst in others it has caused a degeneration of the urban environment. In the case of Xghajra, the sewage outflow onto the coast and the surrounding sea from the Wied GHammieq installation could be hindering the development of the locality. There are days when summer residents within the area are unable to swim or even to open their windows because of the foul smell; neither is it possible to stay outside because of the danger and discomfort posed by rats and mosquitoes respectively. In other localities there have been socio-environmental conflicts, as in Bormla and Isla, due to the impact of grit-blasting on residential areas in the vicinity, and in Birzebbuga, where the Freeport installation is based near one of the few sandy beaches of the south region.

2.8.2 Comments by Councillors

Where houses are concerned, the Local Councils noted the following four issues of a social nature :

the existence of sub-standard or empty buildings;

variation in the quality of the flats in the region;

private ownership of most of the land and property in the south region of Malta; and

the presence of several housing estates in certain localities.

2.8.2.1 The existence of sub-standard or empty buildings

This is due to the fact that :

a) in the case of localities such as Birgu and Kalkara, owners are awaiting the fulfillment of the tourist-attracting potential of the locality;

b) many of these houses are on lease and when such houses end up in need of substantial repairs, neither the owners nor the tenants can afford to shoulder the financial burden. These houses are attracting people with a low standard of living, who often come from other localities. This phenomenon is most common in Bormla, but is also taking place in Birgu, in Isla (in the area known as Ta' Fuq is-Sur and in Triq San Pietru u San Pawl), in Zabbar and in Birzebbuga (the Qajjenza area). Usually, sub-standard houses will either be located in the old part of the locality, which would have been built soon after the Second World War or, in the case of summer resort localities such as Kalkara and Xghajra, will be those first houses built close to the coast. Hence, a contrast is created in the environment of the same locality, through the presence of both high and low-status houses; in Birgu, for example, part of the Collachio is sub-standard whilst another part is well-kept. In Isla, there are the flats at Misrah l-4 ta' Settembru, which contain huge rooms and provide a contrast with the buildings located between Triq il-Ponta and Triq il-Vittorja, where people live in more restricted spaces. The worst area is Triq is-Sur, because of the impact of the Drydocks.

2.8.2.2 Variation in the quality of the flats in the region

Many flats have been built for rental purposes in summer-residential localities such as Marsascala. In Birzebbuga, flats are being bought by private companies and converted into offices. In Marsascala, there are flats which are being rented not only to villagers but also to young people seeking an independent lifestyle or who are living there temporarily until they decide to purchase or build other premises. There are flats for lease in Birgu, Bormla and Isla which had been built after the Second World War and never upgraded since then. In Marsascala (Triq tan-Nadur) there are empty flats which have never been completed and which have become a haven for drug abuse.

It has been suggested that most substandard zones or old flats be demolished and replaced by apartments and maisonettes in order to attract young people or young couples/families. There are shanty towns along the Kalkara coast and at St. Thomas Bay, Marsascala (these last are much frequented by people from Zejtun).

2.8.2.3 Private ownership of most of the land and property in the south region of Malta

Little land is owned by Government or by the Church. This makes it much more difficult to plan any sort of development, or to establish some other type of development which is contrary to the interests of landowners.

2.8.2.4 The presence of several housing estates in certain localities

There are four housing estates in Kalkara, three in Zabbar and three in Bormla. The recently-built housing estates (dating back fifteen years and less) such as the Tal-Hawli Estate in Bormla and the Tal-Plier Estate in Zabbar, have become a catchment area for low-income families. There are also zones with the same characteristics such as Qajjenza in Birzebbuga and Verdala in Bormla. There is little integration between people residing in Housing Estates and the other people of the locality. It has been stated that in some instances, mixing between the people of housing estates and the people of the locality has brought about a certain element of degradation in the social life of the locality.

New housing estates are being built in order to satisfy the demand for accomodation in the region. Some 24 maisonettes are being built at Tal-Papa in Birzebbuga, which are attracting families even from the older part of the village. At San Gwann t'GHuxa in Bormla there are a number of families from Birgu, whilst Tal-Hawli, also in Bormla, has resident families from Bormla, Birgu and Zabbar.

2.8.3 Discussion

As far as possible, sustainable development should be based on the rational use of available resources, and this holds especially for housing development in the south region of Malta. As a region, the south will benefit more from development which is based on quality rather than quantity. However, this type of development requires more care and long-term planning because of the need to take into consideration not only the economic and environmental aspects of the project but also the possible effects on social life. The identification of the latter aspect takes more time than other aspects.

2.8.3.1 Every housing project should have a Community Impact Assessment Study

The implementation of such projects as housing estates and reconstruction plans, although affording a certain amount of environmental and economic progress in a short period of time, have, after a certain period of time, a negative social impact. For example, the building of housing estates for people living in low-level housing at the periphery of the locality would be contributing towards the solution of a social problem. However, if one does not supply adequate facilities and continuous assistance in the leisure, communal and commercial sectors of the area, one would be creating other social problems because of the sense of marginality brought about by such a state of affairs. Consequently, it is important for impact assessments relating to future projects not to be short-sighted in their approach. The impact that every project is bound to have on the social environment of the area should be considered not only in the context of the present situation but also *vis-à-vis* future ones; moreover, the study of such impacts should not be limited to the territory occupied by the site of the project, but should take the locality into account.

2.8.3.2 Social accommodation has to be carried out with a greater diversification of the mode of allocation

The concentrated allocation of families with the same social problems in one area is bound to create an environment which is more antisocial than social in nature. Inevitably, the area becomes stigmatised, and a social dichotomy develops between such families and the rest of the people of the locality, who will start to regard the area as a low-class area. Areas which already have a social stigma, such as Qajjenza in Birzebbuga, should not be developed with the aim of providing social accommodation, since this would tend to aggravate the stigma. Thus, the label 'social accommodation' should definitively be eliminated, so as to make room for the allocation of resources to people of varying needs and of different social classes. In order to enable this to take place, the system of allocation of this type of accommodation should be revised.

2.8.3.3 Social accommodation should be allocated closer to the core of the locality

Accommodation at the periphery of a locality is not socially acceptable. Geographic isolation causes difficulties as regards integration with the rest of the locality because of problems created by having to cover certain distances in order to participate in communal activities. This applies especially with regard to the needs of children, who usually attend the M.U.S.E.U.M. and other community centres, and also with regard to those of senior citizens. A policy of allocations in more central areas would not only decrease the urban spread within the region but, through the rehabilitation of a quantity of old houses for this residential aim, would be giving a boost to community life in these abandoned areas as well as facilitating social integration between the people of the locality and outsiders.

2.8.3.4 More attention and assistance should be given to Housing Estate areas

The Department of Social Accommodation is afflicted by a severe lack of human resources in the social sector. Such personnel would be able to effect an analysis of the needs of the people living in these residential areas. The lack of adequately trained people to carry out such work is mirrored by the limitations which are apparent in the Department's ability to offer its help and services to remedy the situation. In order to tone down the element of isolation, there is a need to set up a social embellishment project in these areas under the auspices of the Local Councils, the Planning Authority, the Departments of Housing and Social Accommodation respectively and Church representatives. The aim of this project, for which a pilot study would need to be prepared, would be to effect a social and environmental analysis of these areas in order to determine the social exigencies of the people in relation to the surrounding environment, and the deficiencies which exist in relation to leisure and especially communal facilities. For example, it would be a good idea to establish specially equipped centres for youths supervised by trained and paid individuals. Such centres would fall under the responsibility of Local Councils.

2.8.3.5 An inventory of surplus and rented buildings

The drawing up of an inventory of surplus and rented buildings would also be an opportune measure. The aim of such an inventory would not only establish the number of vacant and rented houses but also gathers information as to the reasons

why they are empty and the nature of the structural damage or deficiencies of such buildings, their dimensions, planning details and surrounding environment. Such work would be very useful for whoever is interested in holding activities in vacant venues. In this respect, the Cottonera Rehabilitation Project plays an important part. Any information regarding deficiencies in buildings can be gathered by means of a survey among the lessors of such buildings. Such a project could be of help to the Housing Authority when it comes to select buildings for rehabilitation. Such a study will help to quantify the number of sub-standard buildings which are *kerrejja*, and the rehabilitation of which should therefore be given greater priority because they are inhabited for residential purposes. The survey on vacant buildings should be extended to cover the whole region since, according to statistical evidence, there is a considerable number of empty houses in every locality (Table III.2.13). The reasons for the existence of these vacant buildings should be established prior to the taking of any decision by Government in connection with the offering of some form of fiscal incentives or tax exemptions so as to encourage the sale of such buildings.

2.8.3.6 Rehabilitation must include slum clearance

Several projects with this aim are being planned, such as those of Triq Papa Alessandru at Birgu and those at Bormla between Triq l-Ajkla and Triq Santa Tereza. The plan is to build new apartments. However, attention must be paid to the fact that not all old parts of villages are necessarily slum areas. The characteristics that render an area a slum area have to be properly identified. Very often, village cores contain a rather unique type of community life, especially among people who have been living there all their lives. It would be a pity if such traditional social characteristics were to die out because of structural alteration. Ethnographic studies should complement architectural ones in order to ensure that any change in the environment will leave the least negative impact on the lives of the people of the locality.

2.8.3.7 Housing standards

Standards should be applied to the rehabilitation of houses and the building of new units. An important point to consider with regard to the rehabilitation of old houses and the building of new houses is that the requirements of persons with special needs have always been regarded as a secondary rather than a primary consideration of the planning process. The above reference to persons with special needs also includes the elderly who have developed some sort of disability or invalidity because of old age. Although it is an established fact that the senior part of the population is steadily increasing, no study has to date been effected to establish the extent to which the existing housing stock can offer accommodation which is suitable in relation to their needs. Most senior residents of Isla find staircases as a main obstacle to remain in the locality; this was one of the reasons which led to the exodus of many people from Isla (Mintoff, 1992). The exigencies of persons with special needs are more of a social than a medical nature, in the sense that it is actually the inaccessible nature of the surrounding environment and the negative attitude of society which makes these persons handicapped, and not an inherent disability in itself.

The quality of the information gathered by local authorities about the needs of people with special needs in relation to housing standards has always been rather poor. A pilot project should be drawn up which would give a clear and detailed

picture of the difficulties faced by such people to assess the type of housing stock currently available. The Housing Authority should draw up projects to increase housing stock or rehabilitate existing ones which are based on standards of accessibility such as the Lifetime Home Standards. Studies on the implementation of these standards have shown that they can be utilised in every type of house. From the economical point of view, the introduction of these standards in order to provide housing for persons with special needs is much more feasible compared to the expenses involved in projects involving structural alteration. Organizations such as the National Commission for Disabled Persons as well as Government Departments such as the Accessibility Unit of the Works Department, should have an important part to play in the implementation of these accessibility policies.

2.8.3.8 Housing subsidies

It is fitting that the subsidies currently given for the rehabilitation of houses to be accessible to persons with special needs should be reviewed. Government is already offering a form of subsidy to persons with special needs to enable them to adapt their homes to their needs. However, the subsidised amount is fixed and does not reflect the kind of disability one is suffering from. Such a policy does not make sense since the more acute the disability the greater the expense involved in converting a house to suit the needs of its occupant, and hence the greater the financial aid required to defray such expense. There should be a revision of this scheme so as to permit the granting of financial aid which would be in conformity with, and therefore suitable and just in view of, the type of disability suffered. In this way, the need for alternative accommodation would also decrease.

An incentive should also be given to young people in the form of a subsidy. Incentives to encourage the buying of residential property should be reduced and replaced by incentives for the purchase of houses in the south region of Malta, appropriately boosted by further assistance in the form of restructuring schemes. Young people should be given preference in the granting of such incentives, so that it will be possible for young couples to repopulate localities such as Cottonera which have an ageing population. The investments which Government intends to make in these localities to boost tourism, such as the transformation of Dock No.1 into a yacht marina, should serve as an incentive to other entrepreneurs to take the initiative and invest in the locality. It must be said that the young generation has developed a trend to restructure old tenements such as farmhouses and townhouses. The fact that foreign residents and even local Members of Parliament have shown a preference for this type of residence has helped a lot to inspire this new mentality. Cottonera has a lot of potential in this sector and many foreign residents are already capitalising on this potential.

Although a development plan cannot always provide the answer to every query, the above is nevertheless the beginning of a long process in order to arrive at some form of balance between the allocation of resources in this country and the country's own social needs. However, in order for this to take place, one must first have a clear and complete picture of the situation which will then enable the creation of planning which is both strategic and practical.

2.9.0 The Community

This section deals with those social aspects which are connected with :

the transport sector,
minorities (local as well as foreign),
persons with special needs (both physically and mentally),
material and social insufficiency,
public spaces for recreation,
the local identity, and
the role of lay organisations in the locality.

2.9.1 Social Impact of Public Transport

The very negative social impact which the public transport service is having is evident in each of the eleven localities under investigation. However, in certain localities these problems are of a more serious nature. For example, the localities which make up Cottonera are surrounded by bastions. Throughout the centuries, much of the urban development which took place in these localities was concentrated primarily behind the bastions. Thus, an urban environment was created which was characterised by high density both in terms of residential buildings as well as of population.

During the rule of the Knights of St. John, this type of environment was not a hindrance to the residents. However, with the passage of time this medieval infrastructural system could not continue to meet the needs of Cottonera's ever growing population. The introduction of private cars and other mechanised means of transport continued to add to the locality's existing problems. The narrow streets, limited accessibility as well as the strong urban element which dominates Cottonera, greatly limit the possibility of having public transport which would truly be of service to the community. Moreover, the situation is further worsened by the lack of discipline on the part of certain drivers.

In these localities, public buses are only available at the bus terminus, if at all, which normally takes up a substantial part of the main square of the locality. Because of this, those residents who live at some distance from the terminus end up having to walk a considerable distance in order to be able to use public transport. In the case of the ever growing number of old people in these localities, especially those living on their own, these find themselves spending even more time in their homes, cut off from the rest of the community.

In the case of Birgu and Kalkara, it was discovered that some 60% of the population in these localities have to walk for more than ten minutes in order to use the public transport service. To make matters worse, the official times set by the Public Transport Authority for departures to Valletta terminus are not always adhered to by drivers.

Besides all this, the latest bus from these localities to Valletta terminus usually leaves at nine in the evening, if not earlier. This is the cause of considerable inconvenience for the many residents who depend on this service, especially during the summer months when days are longer and many people stay out till late.

Other problems which deserve mention are :

oil leakages from public buses, especially older ones;

the dumping of rubbish which accumulates in buses onto the local bus terminus/square;

the clamorous behaviour of certain drivers, and especially the uttering of swearwords and vulgarities;

some bus drivers have a civic awareness which has been developed to such a high degree that they even urinate in the local squares, such as is the case at the Isla bus terminus; and

the tendency to mix kerosene with diesel so as to save money, to the detriment of people's health and of the environment in general.

Throughout the years, these negative features have given rise to a general lack of faith in the transport service. As a direct consequence of this fact, many residents have been left with no other alternative except that of acquiring their own means of transport. This tendency comes out very clearly in the data obtained in the *1995 Census* in the case of all the eleven localities concerned (Table III.2.16).

From these figures, one notes a number of trends : in each of the eleven localities under investigation, the number of people using the car as a private means of transport greatly exceeds the number of those using public transport. In the case of the localities of Isla, Bormla and Birgu, this discrepancy in figures is rather minimal. Amongst the possible reasons for such a result are :

the fact that a substantial number of people living in these localities work either at Malta Drydocks or at the Ricasoli Industrial Estate, both of which are located in close proximity to these localities;

the fact that many families from these localities do not have enough money to pay for private transport; and

the high urban density and the narrow width of a number of streets which characterise most of these localities create serious parking problems, not to mention a lack of adequate space for garages.

In the case of localities such as Birzebbuga, Xghajra, Zabbar and Kalkara, the number of persons using public transport is roughly equal to that of persons using private transport. The lack of both a terminus and basic public facilities, such as in the case of Xghajra and Kalkara, which every locality ought to have greatly contributed towards such a state of affairs; and the fact that parking space is still available in these localities have induced residents to refrain from using public transport.

In the case of localities such as Fgura, Marsascala and Marsaxlokk, the number of persons using public transport amounts to only a third of those using private transport. In these cases too, the lack of flexibility of the service provided, as well as the higher purchasing power of such residents, has helped to discourage most residents from making use of public transport.

Nevertheless, the considerable increase in the number of private vehicles has brought with it other related problems such as the ever increasing demand for adequate parking spaces. The imposing presence of the bastions, which surround the greater part of Cottonera has, throughout the years, caused serious problems in connection with space availability in this respect. The physical expansion of localities, especially of Birgu and Isla, is not possible any longer, and the ever increasing number of private cars continues to emphasise these limitations.

A typical case is the situation which exists at present in Isla. With the highest urban density in the Maltese Islands, an acute lack of space and serious problems as regards both accessibility and efficiency in the public transport area, the only playing field in the locality was until some time ago used as a parking area.

In this locality, a number of isolated cases emphasising the extent of the problem of space limitation and involving certain behaviour on the part of residents have recently been identified. Old cars, most of which have long outlived their original usefulness, are being used by residents in order to block parts of secondary roads so as to ensure that parking space will be available on arrival from work.

Another matter deserving mention is the negative impact that the increase in the number of private vehicles, such as those belonging to workers at Malta Drydocks, has brought with it. Apart from the congested traffic lanes, which have now become a feature of day-to-day life, vehicle exhaust fumes contain a considerable amount of fine particulate matter and unburnt hydrocarbons. The persons who are most susceptible to respiratory irritations from vehicle exhaust are the elderly and persons suffering from cardio-respiratory diseases. Thus, in areas such as Cottonera, where other factors such as grit blasting and smokestack emissions from the Marsa Power Station must be taken into consideration in addition to vehicle exhaust fumes, the problem may well be more serious than is immediately apparent.

In the case of the Qajjenza area in Birzebbugia, which is increasingly undergoing a demographic expansion, residents must, apart from facing socio-economic and cultural problems, have to do without a basic service like that of public transport. The main reason forwarded by the authorities concerned is the very bad state of roads in the area. Up to now, it seems that the many appeals by both the Local Council and the residents themselves for a solution to this dilemma have passed unnoticed, to the great detriment of all Qajjenza residents.

Marsascala is also facing problems in this respect. Because of the sporadic nature of the rapid development which characterises this locality, the need has long been felt to relocate the bus terminus from its actual site to a site adjacent to the Jerma Palace Hotel : besides the proposed area being more spacious, all residents of Marsascala would be receiving a better service. Unfortunately, bus drivers are quite comfortable with the present state of affairs, and have up to now refused to be moved by the insistent requests of the Local Council and the public in general.

Even the locality of Marsaxlokk is suffering from an inefficient public transport service. As in other localities, residents have to go to the terminus in order to have at least the possibility of making use of the service. For residents from the outskirts of the locality, this entails having to walk a considerable distance. Besides the fact that buses do not always leave on time and that most roads in the locality are in a disastrous state, the fact that the last Valletta-bound bus leaves at 2030 hours in summer and in winter makes the situation even more serious. The same situation applies for most of the other localities in the region. This early cessation of bus trips

to Valletta is perhaps acceptable to residents during winter, but does not make sense during the long, hot summer days when these localities are highly sought by tourists and Maltese till late in the night. It has been estimated that up to 20,000 private cars enter Marsaxlokk for the Sunday market throughout the year, and this in addition to the considerable number of private coaches packed with tourists who visit the locality throughout the year.

2.9.2 Minorities

2.9.2.1 Foreigners

It is essential to distinguish between minorities of Maltese nationality and minorities of foreign nationality. In the case of foreign residents, these are found in a large number of localities in the Maltese Islands. In Cottonera, especially in Isla and Birgu, one encounters an ever growing number of foreigners, many of whom are very wealthy and have bought old houses (mainly with a view of the Grand Harbour) which they have renovated and made them their homes.

In other localities such as Marsaxlokk, persons of foreign nationality have established themselves in a number of villas in the Juno Heights area near the Tas-Silg archaeological site.

At Birgu, there is also a small community of Asiatic descent confined to an area below Fort St. Angelo. The absolute majority of members of these foreign communities hardly mix with the rest of the community in which they live. Most of these people, especially those without a residence permit, prefer to lead a separate secluded existence and are therefore of no help or hindrance to their host communities.

In the case of the Asiatic Community at Birgu, the Local Council has long been lamenting the fact that, besides being careless and dirty, these people are occupying a zone of high potential for tourism, and that therefore no development can take place until they are relocated somewhere else. However, investigations indicate that these people too lead an isolated existence. Unfortunately, an element of racial prejudice is also present in the Maltese Islands, and most of the rumoured shortcomings of these people have turned out to be unfounded.

By contrast, in Marsascala one finds a substantial number of foreign couples, especially English and Iraqi couples. Most of these are retired and have come to Malta because of its typically Mediterranean climate. As opposed to other minorities, these people often go to the Local Council to complain.

In Bormla and Birzebbuga, foreigners are emarginated from society for various reasons. For example, in Triq il-Gendus at Bormla one finds a considerable number of Maltese women who have married Arab men. The absolute majority of these marriages are claimed to be marriages of convenience. In many cases, the women end up alone and are forced to earn their living as prostitutes in order to support their families.

As at Bormla, in the Qajjenza area one finds quite a large number of single parent families. Most of the fathers of these families came to Malta as manual/semi-skilled

labourers on large infrastructural projects such as the Delimara Power Station and the Freeport. Many of these workers married Maltese women for reasons of convenience only to abandon the family soon after. Many women ended up shouldering the burden of the family single handedly and live in sub-standard conditions.

Both at Qajjenza and at Xghajra, one finds a substantial number of illegal immigrants and other lower class residents who presently occupy vacant or abandoned places and many of whom are living in a state of misery. The integration of these minorities with the rest of the community is extremely difficult, all the more so when one considers that apparently neither one nor the other of the parties really want such an integration to take place.

2.9.2.2 Local Minorities

In the local context, when one speaks of local minorities one will usually be referring to a situation where a number of persons from one locality are transferred to another locality *en masse.*

The several Government housing estates in a number of localities such as Zejtun, Zabbar and especially Cottonera provide a clear illustration of such a situation. The present situation is in fact a direct result of the implementation of a number of Government policies on social housing, which were implemented in an attempt by the Government of the day to plug up holes in the social fabric as quickly as possible.

The current situation has its roots in the post-Second World War period, when considerable parts of Cottonera had to be rebuilt after having been demolished by enemy attack. Many residents of the area, who had fled the dangers of the War, never returned to their former homes. Other families, who were still living there, eventually also preferred to go and live in a less congested area.

Cottonera became progressively full of empty houses in great need of adequate maintenance. As time passed, fewer and fewer families were ready to go and live in Cottonera. Thus, many empty buildings ended up occupied by those who, because of social and/or economic problems, had no other alternative.

In these areas, a number of Government housing estates were built in order to alleviate the ever-increasing demand for residential units, as well as to attract 'normal' families to balance out the large number of families with social problems.

Unfortunately, many of the 'normal' families who went to live there found it difficult to accept people with several convictions for theft or drug addicts, as next-door neighbours. Instead, they sought alternative accommodation in a more socially respectable neighbourhood.

The end result was a process of ghettoization with more families with social problems occupying those places which had been left vacant. There was also an *en masse* movement of groups of families from one locality to housing estates situated in other localities. These families never managed to integrate with the rest of the community, because of the strong social and cultural background that they shared.

In fact, the present situation is so serious that there are Government apartments which have ended up occupied by families with at least one member who has been at the Corradino Correctional Facility, or who has some other serious problem.

2.9.3 Persons with Special Needs

Such persons can be found in every locality (Table III.2.17) and are an intrinsic part of every community in every country in the world. Nevertheless, it seems that these persons are still being improperly treated in the local society. In the eleven localities, there are some 825 registered persons with some form of disability, both mental and physical. These persons are also members of society and have as much a right as the rest of society to enjoy the benefits which are part and parcel of being in a community.

It seems that in many localities, the integration of these persons within the community is given more importance by the parish than by the Local Council. Apart from the limited number of activities which take place each year for persons with special needs, physical projects undertaken by Local Councils lack input from the National Commission for Disabled Persons and thus are hardly accessible to all.

2.9.4 Poverty

Material poverty exists in every locality in Malta and Gozo, but is more evident in certain localities than in others. Material poverty primarily afflicts families with social problems who for some reason or other are truly unemployed.

In the locality of Marsaxlokk, a particular type of poverty is evident: apparent poverty. The first impression given by this community of fishermen is that these families are constantly struggling against life's troubles so as to maintain a decent standard of living. Even old people remain active and work unceasingly. However, a thorough investigation of the situation at Marsaxlokk reveals that these people can afford to buy a boat costing many thousands of Maltese liri, and are able to buy their children both a luxury car and a plot of land for their matrimonial house.

In other localities such as Birzebbuga, material poverty is more real, and is found mostly in the Qajjenza residential area where one finds a mixture of single parent families, illegal emigrants, socially emarginated people and unemployed persons.

In the case of Xghajra, which has still to develop in social terms, the locality has over the years attracted both socially emarginated people as well as illegal emigrants, and also families with various problems.

In localities such as Bormla and Birgu, there is also a sizeable number of low-income groups which are characterised by such social traits as illiteracy, prostitution, broken families, low rent and so on. In these localities, one notes that many people apply for jobs at the relevant Government agency. Amongst them are persons who remain registered as job applicants but at the same time work without a workbook so as to evade payment of tax. Apart from Cottonera, this tendency is also common in other localities such as Zabbar.

Other localities such as Marsascala, Marsaxlokk, Zejtun and Fgura are hardly affected by this phenomenon of material poverty.

2.9.5 Public Space and Areas of Recreation

From the investigative meetings which took place with Local Councils, it transpired that each locality has urgent need of adequate recreational facilities which can satisfy the exigencies of the various social elements present in every locality.

In Cottonera, the recreational element has been restricted both by urban development and by the fact that these localities are surrounded by bastions and therefore have no possibility of further expansion. As for Kalkara, although it is not completely surrounded by bastions, in contrast to its neighbouring localities, the long years of neglect have not helped the provision of adequate recreational facilities within this locality.

In the case of Bormla, the recreational facilities of the locality are in a state of total abandonment, especially due to the fact the Local Council is not managing to achieve much in this sector, since it is not finding the required cooperation from the relevant authorities. On the other hand, Kalkara contains a number of active voluntary societies but at present this locality lacks the necessary structural base for the proper functioning of such societies.

In the case of localities such as Fgura, long years of unsustainable development have brought about a situation wherein there is no more unbuilt land available for residential or commercial purposes. The result has been that residents of this locality end up having to go to Marsascala, Marsaxlokk or Birzebbuga to relax and enjoy themselves. Thus, the recreational facilities of the locality have remained undeveloped, unlike in other localities.

Localities such as Xghajra also suffer from a great lack of recreational facilities; however, by contrast to Fgura, the reason in this case is that this locality is still developing and is, up to a certain point, still considered as a summer residence area.

In the case of Fgura, land utilisation has always come first and foremost. This factor is well reflected in the lack of recreational areas and other related facilities. Consequently, many Fgura residents do not actually lead their lives in Fgura except for eating and sleeping.

In great contrast to the above localities, Marsascala's recreational facilities can to a certain extent even compete with those of Bugibba and Paceville. Pubs, restaurants, nightclubs, discos and now even a modern cinema make Marsascala the undisputed mecca of entertainment and leisure in the south region of Malta. In fact, many people who live in localities such as Zejtun, Marsaxlokk, Birzebbuga, Luqa, Paola and Cottonera prefer it to Paceville or Bugibba.

In this locality, the recreational element has developed to the extent that it is ousting the purely residential element which gave rise to Marsascala's leisure facilities in the first place. On the other hand, this locality also has its own limitations. Marsascala does not have any football grounds, nor any youth centres. Another factor is the dispersed nature of the locality, in that it is made up of different areas which do not mix much. The poor state of many of the roads, which are some distance from the sea and out of sight of revellers, does not help in this regard. Many residents leave the locality in weekends to find quieter places where to relax, especially in summer.

On a much smaller scale than Marsascala, there is Birzebbuga. Here, one finds some places of recreation such as pubs, restaurants and local clubs. With regard to other facilities such as football pitches, playing fields and public gardens, this locality has the same problems as one finds in other localities. In Birzebbuga's case, one has to consider the industrial factor, which presently dominates the greater part of this locality. The relatively large number of facilities which have to do with the local industrial sector have taken up a lot of space which could have been utilised for other purposes.

The most classic example is the Freeport complex, which was built on a spacious area of land known as Kalafrana. Under British colonial rule, this area housed army barracks as well as a substantial number of sporting facilities such as tennis courts and football pitches from which Birzebbuga residents used to benefit. With the construction of the Freeport, these facilities were converted into yet another industrial complex within the locality, as a consequence of which that little opportunity for recreation enjoyed by residents was removed.

In localities such as Birzebbuga, Marsaxlokk and Zabbar, the respective Local Councils are aware of the importance of the recreational aspect inherent in local culture; they are thus proposing a number of projects to embellish the environment in their locality and at the same time create an open space for those who desire some respite from the hectic pace of modern life.

To name one example, Birzebbuga Local Council is proposing that a substantial part of Pretty Bay should be turned into a Recreational Park with a number of sporting facilities, benches, trees and other such aesthetical elements. If this project succeeds, it would be enjoyed not only by local residents but also by other residents from other localities of the south region of Malta who frequent the area.

The Marsaxlokk Local Council is also planning an ambitious project so that the locality will finally have a proper recreational area. It is proposing that a sizeable area of the coast in front of the parish church, where the Sunday market is set up, be rehabilitated and pedestrianised. The weekday and Sunday markets would thus no longer obstruct the whole promenade of Marsaxlokk, and would thus allow adequate space for local residents as well as the thousands of Maltese and tourists who flock to the locality to relax together with their families.

The importance of public places of recreation and the effect, both from the physical and the psychological aspect, of the existence or absence of all these social elements on people can never be emphasised enough. Hence, every possible effort should be made by whoever is involved in the process so that all the localities will enjoy areas where one can let off the steam induced by the stressful pace of modern life.

2.9.6 Local Identity and the Role of Clerical and Secular Organisations within the Community

In many of the localities, a great lack of a sense of belonging and of participation in the community on the part of certain sections of the community, especially youths, can be felt. This factor can be linked to the dearth of recreational facilities which characterises all localities in the south region of Malta. Throughout the years, this

lack of a social opportunity for relaxation has created an atmosphere of almost total indifference and forced residents to seek in other places what is unavailable at home.

Those who suffer the most from such a situation are the youths, who are more demanding in this regard and are therefore more susceptible to the presence or otherwise of certain social elements.

The various consultations which have been held, have clarified that many associations are unhappy with the lack of participation and widespread apathy of the community in general. Apart from the political and band clubs, which to a certain extent appeal more to adults and senior citizens, there is another organisation which targets the youthful section of society, and which has branches in almost every locality. This is the M.U.S.E.U.M., which gives children a strong spiritual formation tempered with a number of activities.

However, even in this case, in certain localities the administration of the M.U.S.E.U.M. centre has been entrusted to persons with dated mentality which definitely does not appeal to young people. Apart from this aspect, when youths reach a certain age, the M.U.S.E.U.M. atmosphere does not remain as appealing to them and they therefore seek other experiences which are not necessarily always of a positive nature. In a number of instances, these experiences have to do directly with problem areas of modern society such as theft, drugs, alcohol, gambling and prostitution.

If one takes a few examples from the social scenario of the south region of Malta, one finds for example that the Cottonera area is pervaded by a strong sense of apathy, especially among youths, because of the lack of socio-recreational facilities which can satisfy their general needs. This shortage of facilities is to a certain extent due to the lack of space which characterises these localities and to the very strong impact of family-related problems. Hence, once they reach adolescence, many youths end up absolutely frustrated, with a tremendous amount of anger against the society which to them is the primary reason for their problems. Many of them start frequenting pubs and clubs to the detriment of their social and character formation. By and large, this situation is present in every locality, but the seriousness of the problem varies from one locality to another.

When the feast of the locality's patron saint approaches, the sense of identity comes out more strongly than at other times. In many cases this is probably the only time when the social spirit within the community is clearly apparent. For the rest of the year, many residents are extremely passive and indifferent. On the other hand, in a number of localities, senior citizens have a stronger civic sense than youths.

In every locality, one finds a number of societies whose aim is either purely socio-political or else strictly socio-cultural with an element of religion. The extent to which residents actually participate in these societies and their activities is altogether another thing.

In the case of Marsaxlokk, there are few people who actively participate in activities organised by the few societies of the locality. Many residents prefer to spend their time earning extra income.

On the other hand, localities such as Isla have a very strong civic sense. In this locality, there are an impressive number of societies in which residents actively

participate. However, it must be said that in the majority of cases it is not the youths who participate, since these tend to avoid any kind of voluntary duties. Hence, most of these societies derive their support from people of a certain age, or senior citizens.

In many other localities, lay societies are frequented by a limited number of members, with the rest of the population preferring to live in apathy. In localities such as Cottonera, one must also consider the strong element of socio-cultural blending which characterises specific areas of these localities. For example, people from Bormla who live in Birgu or Kalkara will not mix readily with the rest of the community. They tend to keep on living as a minority, and are therefore considered as outsiders by the rest of the community. At this stage, it is extremely difficult for any concrete form of social integration to take place, apart perhaps from the temporary social integration which takes place during the parish feasts.

In many localities there is also a certain amount of pique between social organisations and groups. Excluding the political element for the moment, one finds that there exists pique of a parochial nature which in certain instances is strong enough to divide an entire community. To this, one may add the fact that for some reason, one does not encounter a lot of cooperation between Local Councils and the parish priests, or between different societies.

At this stage, what is relevant is not who is not helping whom but rather that this discord is generating a lack of cooperation which in turn creates an element of polarisation within the community.

2.10.0 Recreation and Leisure

This section deals with those social aspects, including the existing potential for tourism, which are influenced by the presence or the lack of recreational facilities.

2.10.1 The Impact of Administrative, Commercial, Recreational and Tourist Services on the Social Element

In the case of Cottonera, the existing commercial services consist basically in a number of groceries which are to be found in the principal roads of these localities. In connection with commercial services, one should also mention the Tuesday market at Bormla/Birgu.

There are also a limited number of clothes shops and jewellers' shops, as well as a number of ironmongers. One also finds a limited number of restaurants/pubs generally situated in those locations which are most attractive to prospective clients, such as at Isla marina. Many of these shops, especially the bars and groceries, enjoy quite an established clientele. In fact, in localities such as Isla it is not difficult to find some four groceries in the same road with no detriment to their respective financial viability.

Moving on to administrative services, in Cottonera it is not possible to obtain any of the basic services unless you go to Bormla. Undoubtedly, this is a cause of considerable inconvenience to Cottonera residents who live at some distance from Bormla. If one further considers the inefficient nature of public transport, one will thus obtain a very clear idea of the conditions in which most residents of Cottonera have long been living, and of why an ever increasing number of residents are having to obtain their own means of transport so as to enjoy a better quality of life.

Even the residents of Xghajra have similar problems related to the lack of administrative facilities. Basically, they have to go to Zabbar or Zejtun for administrative services.

Birzebbuga, Marsaxlokk and Marsascala are also suffering the consequences of a largely unplanned form of zoning, dominated by recreational, tourist or industrial elements, or a blend of all three.

As an illustration, the Sunday market at Marsaxlokk has become so large that it is creating serious inconvenience to the residents of the surrounding area, who are not managing to find parking space in the vicinity of their homes. The majority of vendors are not from the locality, and thus in economic terms only the pubs/clubs and restaurants are making some form of profit. The vendors start putting up their stalls at dawn, waking up residents especially children and the elderly.

Apart from this inconvenience, these vendors have the tendency to damage and dirty the place where they set up their stalls. One should also mention the inconvenience caused by the great number of private coaches which bring tourists to the fishmarket, especially as regards parking and the noise from the airconditioning units of coaches.

Insofar as tourism and commerce in this locality are concerned, services connected with these aspects are found, as is also the case in other localities, in the largest and most prominent parts of the locality, that is, by the coast close to the parish church. As one goes further away from the coast, both these aspects lose a lot of their importance for the community. In these areas, the residential element stands out. One should remark that the administrative elements of the locality, with the possible exception of the building housing the Local Council, are gathered within the space afforded by the sizeable square in front of the church.

The same cannot be said for Birzebbuga, where the fact that the church is somewhat removed from the coast has greatly contributed to a situation where the disproportionately large square in front of the church is of no particular utility for the greater part of the year, with the exception of festa time in summer. Both the commercial as well as the recreational, administrative and tourist elements are to be found concentrated by the coast, as at Marsaxlokk.

Together with the above elements one also finds the residential element, which is gradually making way for the commercial and tourist elements, which offer more competitive rates of return. Within the residential zones, one should also note the presence of a number of industrial installations which characterise the locality and which are in the midst of a continuously expanding urban area.

In the case of Marsascala, the urban element of this locality is completely dominated by the tourist and recreational elements, especially close to the coast. As in the case of Marsaxlokk and Birzebbuga (but at a more rapid pace), this type of development is suffocating the residential element, which is being restricted to areas away from the coast. Masascala is going through the same process as that which Qawra and Bugibba went through a few years ago, with a mixed zone of recreational, commercial and tourist services close to the coast, a mixed residential zone further inland and yet another more tranquil area inhabited by a good number of permanent residents.

There is no doubt that the recreational, tourist and commercial elements which are present in these localities offer not only a number of advantages but also a certain amount of inconvenience to residents, especially permanent ones. Aspects of such inconvenience include excessive noise in the evenings, excessive amounts of rubbish, greater levels of air and marine pollution and parking problems at par with those of similar localities in the north region of Malta. One ought also to mention the Sant' Antnin Waste Recycling Plant which, with the strong smells it has emanated, has caused extreme inconvenience to the residents of the area, depending on wind direction.

In the case of Cottonera, one must also mention the strong negative impact of the Drydocks on the urban and natural environment of the area. This is reflected in the high incidence of respiratory diseases, such as asthma, which afflict the surrounding locality. The cause of this type of diseases, especially amongst children and elderly people, may be attributed to the Drydocks, specifically to grit-blasting activities.

There is also the impact of the Drydocks on the water quality in the Grand Harbour which, in many locations, has been classified as unfit for swimming. Hence, one of the most important recreational elements in an area which is sorely lacking in such facilities cannot be utilised by the people of the localities concerned, especially youths. To the above, one may also add the negative impact of the Freeport and the Delimara Power Station on Birzebbuga and Marsaxlokk.

In the case of the Freeport, dredging works carried out therein have changed the morphology of the Bay, and the expansion of the terminals has devoured an area of land which was an invaluable source of recreation to Birzebbuga residents. Moreover, the amount of traffic generated by this industrial complex is having an extremely negative effect both on the state of the local roads, which unfortunately had never been very good, as well as with regard to the noise generated by both the Freeport activities and by the huge trailers and tractors which are continually coming and going to Kalafrana and which often end up passing through the core of Birzebbuga.

As for the Delimara Power Station, the negative environmental and aesthetic impacts of the installation on the surrounding natural environment are evident. Yet, it seems that the installation is a greater source of anxiety to environmental groups and people from other localities than it is to the residents of the locality themselves. Maybe it is still too early for a precise assessment of the impact of the Power Station on the natural environment and the urban area.

As for localities such as Cottonera, Fgura, Zabbar, Zejtun and Xghajra, one can argue more on the effects of a lack of tourist and recreational facilities than on the benefits derived from them. As has been stated out earlier, the negative psychological and frustrating effects which this situation is having on the residents of many of these localities, especially youths, are worrying. Many are the youths who are feeling so frustrated that they have ended up perpetrating acts of vandalism or indulging in drugs/prostitution/alcohol. These problems are more apparent within the localities of Cottonera, where the social problems which characterise many of the families living there further aggravate the situation.

Similar problems are found in all the other localities, but with a differing intensity.

In the tourist sector, all localities (except Fgura) have a lot to offer : some due to the historical element (Cottonera) some from the natural environmental aspect (Delimara) and recreational aspect (Marsascala) and some in connection with traditional culture (Zejtun). However, the tourist potential of these localities is not being properly exploited. Rather, most of the places of historical/cultural value are in a state of almost total dereliction. Many Local Councils complain that because of the lack of investment in the tourist sector, the tourists who visit the localities do not spend more than an hour before leaving. The basic problem remains the lack of funds to adequately restore such places.

In Marsaxlokk, the tourist element focuses mainly on the presence of local fishermen, who attract a good number of guided tours and even Maltese families, whereas in the case of Birzebbuga, Pretty Bay is the most important attraction.

2.11.0 Health

Besides being a fundamental human right, health is also a precious asset; in the absence of health, humankind cannot reach the apex of its development. Consequently, a country which aims to exploit its possibilities of socio-economic development to the full must give importance to health factors. The state of health of a particular group of people determines the quality of life and the progress which may be made by that group of people. This is evident in the so-called third-world countries.

A common but extremely narrow definition of health is the absence of disease. A more holistic definition interprets the concept in the context of all aspects of life.

According to the list of social indicators (Appendix III.A2 refers), the health aspect has been divided into four categories, namely :

1. visual, olfactory, audio, marine and air pollution and their impact on society;
2. frequency and form of diseases/conditions;
3. alcoholism; and
4. drug and other substance abuse.

2.11.1 Pollution and Types of Diseases

From the discussion meetings held with Local Councils, it was discovered that the principal sources of pollution in the south region of Malta are sewage outflows, the Drydocks, scrapyards and the Hompesch Steel installation, the Freeport, the Delimara Power Station and the Sant' Antnin Waste Recycling Plant. At the same time, it was observed that the prevailing type of pollution – perhaps because it is also the most visible – is air pollution. For example, Cottonera Local Councils complained mostly about the effects of grit-blasting at the Drydocks. It should also be mentioned that the Isla Local Council described the primary school at Fuq is-Sur, close to the Drydocks, as a closed greenhouse, without any air. The Council continued to complain that children could not go out of the schoolrooms for their break or for the physical education periods – a limitation which hinders the psychosocial health of the children. Here, a chain reaction of negative effects would be taking place. Apart from the fact that children would not be able to breathe fresh air, which could give them added energy to go through the rest of the school day, they would have to remain behind the school bench within the rigidly formal structure of the classroom – a state of affairs which suffocates creativity and as a consequence hinders the development of a state of autonomy in the child. This is a matter for which urgent remedial action ought to be taken, since the main cause of social problems is the lack of personal autonomy.

People residing close to the Drydocks are very often forced to keep their rooms closed; they might also have to seal ventilators – all this to the detriment of their health (Axiak, 1994). Here, it must also be said that apart from the lack of oxygen in adequate amounts, such sealing brings about a lack of adequate lighting. This could in turn cause certain mental conditions such as Seasonal Affective Depression.

The possibility of fragments of grit reaching the neighbouring roofs and be swept into wells, with concomittant pollution of potable water (Axiak, 1994). Another form of pollution connected with the Drydocks are the chemical fumes (from marine paints, when certain parts of ship engines are cleaned) and other fumes such as those issuing out of the Kordin incinerator. Another environmental danger associated with the Drydocks is that of industrial noises, for instance those caused by air compressors and pneumatic chisels.

As for air pollution, Kalkara has other offenders besides the Drydocks' Ricasoli Tank Cleaning Installation. The people of this locality mentioned the stone chimney (main vent) for sewage which links to the Wied GHammieq sewage outflow. There is also the Pikles scrapyard which is causing visual and respiratory pollution because of the fact that one of the processes used therein involves the burning of tyres, and this is done on a daily basis. Besides, this scrapyard is serving as a receptacle for a lot of rubbish generated in Cottonera, which causes a very unpleasant smell (olfactory pollution).

Moreover, it should be noted that, in respect of air pollution, Birzebbuga has mentioned the unloading of gases and landing aircraft; Marsaxlokk mentioned the pollution caused by the Delimara Power Station, and Xghajra complained of the dust coming from the dump at the Ricasoli Industrial Estate.

Perhaps one would expect Marsascala residents to complain mostly about the Sant'Antnin Waste Recycling Plant – but during the consultations the Plant had been at a standstill. It seems that the Local Council has relegated this issue somewhat to the sidelines, since for the moment it is content to await further developments. In the meantime, it seems that at the very top of the present Local Council agenda there is the preoccupation generated by the social pollution : preoccupation about the places of entertainment which are attracting certain types of people to the locality. The Council mentioned noise pollution caused by youths from outside Marsascala who come to the locality to have fun. The worst places mentioned were the areas where certain pubs/bars/discos, such as Yogies, San Antonio, Knights 2, Mintba Bar, Osiris and Reeds, are situated. Instances have been mentioned where youths, who were having fun in the locality even used the entrances to private residences as toilets. It seems that there is a serious clash between the values of the residents of Marsascala and those of the thousands who frequent the entertainment establishments, especially during summer weekends.

On the other hand Zabbar, Fgura and Zejtun do not seem to be polluted from within but rather are suffering the effects of pollution from other localities. Zabbar and Zejtun have mentioned the recycling plant at Sant' Antnin as a common complaint; Fgura has mentioned the Marsa Power Station, the volume of passing traffic, the Drydocks and the Bulebel factories; Zejtun has also mentioned the Delimara Power Station; Zabbar has mentioned the sewage outflow at Wied GHammieq. However, the problem common to all three localities is that of Hompesch Steel.

Up to now it is apparent that air pollution, although the most out-standing, develops hand in hand with olfactory and visual pollution. It also seems that it is not easy to separate the various forms of pollution. This is due to the fact that very often one source will be causing more than one form of pollution. Hence, for example, the Delimara Power Station is causing air, visual and noise pollution. The same goes for the Drydocks : it is polluting the air, the sea, the cultural and recreational environment and is creating noise even after 2300hours. On the other hand, the sewage is polluting the sea and interfering with people's olfactory sense.

2.11.2 Chain of Interdependent Effects

With the increased importance of modes of relaxation to combat the hazards of a lifestyle which is becoming increasingly urbanistic, pollution which concerns the senses (sight, smell, sound) has become a socio-psychological problem. When the senses receive soothing stimuli, they send messages to the brain to relax – something which cannot possibly take place if one is surrounded by a polluted environment. Thus, there is urgent need to look at a human being as a whole entity : physical health is not extraneous to psychological, emotional, spiritual, intellectual, moral and cultural health. These all depend on each other because they sustain each other. From this perspective, the human being is a bridge between the bodily interior and the external, lived-in environment – a state of affairs which resembles an ecosystem. What happens when one of its component parts is destroyed? The destruction does not stop there but continues to spread through a chain of interdependence. The same applies in the case of persons, health and the environment.

2.11.3 Asthma

It is evident that air pollution features with the greatest prominence in the complaints presented by the Local Councils. As a consequence of this, and unfortunately for the people of the region, these are existing and living in polluted air – that same air which is supposed to soothe and sustain mankind. Human beings cannot live without air. The participating Local Councils have mentioned asthma as the most common disease/condition in their locality. The specific cause of this problem is still unclear. However, since asthma is linked to respiratory problems, and air is the medium through which respiratory gaseous exchange takes place, the several sources mentioned above which are polluting the air may be among the main causes of this physical disease. The Marsascala Local Council has quoted a study which found that the people suffering from asthma in Malta are mainly from Cottonera and Marsascala (Montfort *et al*, 1997).

The Cottonera cities of Isla, Bormla and Birgu were, based on cases reported between 1970 and 1980, are amongst the seven places in Malta wherein the incidence of lung cancer has equalled or surpassed that of breast cancer (Mintoff Bland, 1994).

2.11.4 Abuse of Drugs and Alcohol

Some localities – Birgu, Bormla and Kalkara – have linked drug abuse to criminality. This is due to the fact that whoever indulges in criminal behaviour is usually also indulging in drug abuse. Others, such as the Zabbar Local Council, linked the drug problem to unemployment. A vicious circle can easily be created : unemployed persons may be experiencing apathy and may resort to drugs in order to spice up life; drugs must naturally be bought at considerable expense, and this entails spending large sums of money. However, one cannot spend such amounts of money unless one has an adequate income. There will therefore be a strong temptation to resort to ways of making money quickly, such as by stealing, or through other forms of criminal behaviour. In Marsascala it has been stated that, besides the finding of several syringes in Gnien Sant' Anna, this locality, together with Xemxija, enjoys the dubious privilege of having the highest rate of drug use in Malta. The way the locality of Xghajra has been described as a 'lawless land'

reminds one of the American Wild West, where brigands used to hide to escape the power of the law. The Xghajra Local Council has said that it is here that pregnant girls go into hiding, and that beach posts are used for drug abuse. Fgura councillors have stated that Pjazza Redent Gauci could possibly be functioning as a distribution centre for drugs. Zejtun councillors have drawn specific attention to heroin abuse. It is important to note the following points :

Isla councillors have said that the drug problem seems to have diminished during the last 3 or 4 years – only one syringe has been found.

Birzebbuga councillors did not identify drug abuse as a health problem but linked it instead to the community aspect, where it was mentioned as a social problem amongst a batch of other problems originating in the Qajjenza area – a zone considered as emarginated. Within this complex of social problems, the presence of drug abuse has been indicated.

In Marsaxlokk, the only point where reference was made by the Local Council to drug abuse was under the heading of criminality. Marsaxlokk seems to be preoccupied mostly by the dirt and vandalism left behind by vendors who set up stalls at the local market.

Isla and Zabbar are the only localities which made specific reference to alcohol. Whereas Zabbar councillors said that, as in the case of drug abuse, the vice of alcoholism is caused by unemployment, Isla councillors observed that, very often, the people of the locality use alcohol as a way of showing friendship and hospitality. Besides, Isla, for its size, has a great deal of bars.

2.11.5 Others

Pollution and other forms of disease originate from the breeding of birds and livestock within the bastions and other buildings in inhabited areas, often in quite unhygienic conditions. Some of these activities take place in historic buildings, which are suffering a great deal of damage as a result. In addition to these, one may mention several small-scale industries within huts in inhabited areas, which are dangerous for health, such as upholsterers, sprayers, blasters and mechanics.

Besides the above-mentioned problems, three of the localities have raised matters which were not mentioned by other localities. Fgura councillors spoke of canine excrement in the streets, and the noise emanating from stereos; Xghajra stated that the largest pig farm, known as 'Tal-Laj Laj', was causing sewage problems. Finally, residents living close to the Reeds discotheque at Marsascala have drawn attention to the fact that the empty flats in the vicinity of the discotheque are giving rise to sexual abuse – the same flats mentioned by the Local Council in connection with drug abuse.

2.12.0 Family

This social theme has been divided into five aspects. These are :

a) family problems;
b) single parent families;
c) methods of raising children and parent-child relations;
d) relations between families (between different generations) – modern versus traditional (such as relations with grandparents); and
e) relations within the family (same generation) - modern versus traditional (such as relations between spouses who both work).

The family rivals other institutions such as the school, the Church and the workplace, for its social and formative impact. The family is the source of generation, reproduction and the transmission of those values which unite a society into a whole and which give a sense of direction to the actions of persons living in the same society. Because of this reason, many are those who insist that the family is the foundation or nucleus of society. Hence, the family is a critical section of the human chain.

What makes a family? The functions of the family vary from one culture to another but one can say that they always include procreation, care for children and for their socialisation, the fostering of affection between the members of a family, and sexual relations between couples.

On the other hand, different societies form different family structures which subsequently pass on to family values with different priorities. Naturally, this depends on the social conditions and ideological currents in a particular time and place. Sociology distinguishes between different types of families, such as the so-called nuclear family made up of the father, mother and children; the extended family where some relative/s live with the nuclear family; the conjugal family which consists of a relationship between a man and a woman; and the consanguine family in which persons who are distant relatives of each other mix freely with each other. When the foundations of society are no longer agricultural and rural, and become industrial and urban, the type of family which dominates society can change from a consanguine and extended family to a conjugal and nuclear family. This last involves freedom of choice of partner, setting up a new home, equality between husband and wife, equal rights in divorce and the possibility of marrying again (Abela, 1991). However, the reality in which locals live is made up of a number of types of families. For instance, there is the standard family, that is, the nuclear family; families with one or with three or four parents; childless couples; families where one partner or other has remarried for some reason; unmarried couples living together; and families where marriage has been entered into for a trial period. In other words, the formation, the separation or the change from one type of family to another are no longer controlled by marriage, life or death.

On their part, psychologists look at the family as a community of persons which, like all other communities, has three essential elements : structure, dynamics and development. If one compares the family to a person, one finds that just as a person has a physical dimension –anatomy (structure), so the family has a structure made up of those elements which together make up the same family and give it its identity; just as humankind is imbued with the dynamics of physiological and

psychological needs, thus also a family has relationships and interactions between members; just as a person is born, grows and develops, thus also the family goes through phases of development throughout its life. Like a person, a family has a totality – with a body, mind, heart, soul and spirit. If any of these aspects is neglected, there is a danger that the family will crumble.

It is interesting to observe that whereas previously the structure of the family was the model on which other communities within the same society were to be built, the situation is now the reverse – the family is serving more as a general testing-ground of society.

In the dynamics of the family, there are many levels of relationships, such as the mother-father, parent-child, brother/sister to brother/sister. Within the depths of these relationships lies a fundamental condition, which is communication – a condition which lies at the root of that unity which, from the experience gained from therapeutic exercises involving the family, is often at the centre of family difficulties and breakups.

The development of the family starts with the preparation undergone during the period of betrothal, or the period before a couple starts living together. This development can continue to take place if the factors which can help it along are present among the members of the family. These factors include every member giving his/her share; an effort (concern for each other nurtured through sacrifices and generosity) and love – which generates, kindles and lubricates development.

If one looks at the Maltese context, one realises that what Maltese society is economically going through is having an effect on the family. The family should keep up to date with society, or else there may be a danger that the family will not respond adequately to new social demands. It is well to be aware that the family will not be safeguarded by saying "It was better in times gone by", and try to turn the clock back to those times. The preservation of the family can take place if this social institution is allowed to find its place slowly, while keeping pace with the eternal rhythm of development. But on the other hand, the family ought not to strip itself of traditional and fundamental values in order to find its place in today's society. If this occurs, the family would only be changing rather than developing (Tabone, 1994).

With regard to the makeup of the Maltese family, Tabone (1994) suggests at least five forms : the traditional, the conventional, the modern, the deprived and the progressive family.

When one mentions the traditional Maltese family, certain values immediately spring to mind such as unity and respect, faithfulness in marriage, religion, children, identity and loyalty as well as an extended type of family in which married children remain at home with their parents. Though this is not always the case, the link between them and their effect on each other remain the same as though they were still living under one roof. One of the reasons why this happens is because some children go and live in houses close to their parents' home. The strictly traditional family considers any form of change as a threat to its stability, and thus looks at ancestors as the only and best model. Families of this type are normally found living in zones away from areas of development.

The conventional family is that family which professes belief in the traditional values but which in reality does not abide by such values. Not only this, but members also find themselves influenced by modernism, which includes consumerism. Families of

this type are obsessed with status symbols and appearances. Normally, this type of family frequents affluent places and places popular with tourists – two types of environment which reflect a high but artificial standard of living.

The modern family is that which preaches and lives values which are completely different from those of the traditional family. In fact, members of this type of family would feel backward if they were to agree with or live traditional values. This family is more conscious of change than of development and lets itself be carried away by modernist currents irrespectively of any possible consequences. One usually finds this type of family in areas where the standard of living is very high.

The deprived family is totally different from the traditional family, and is usually found in socially deprived areas. Members of this type of family are aware that they cannot reach the desired standard of living. They consequently adopt a set of values which are very different from traditional ones, and may even come to cherish values which are the exact opposite of traditional ones.

The progressive family is a family which manages to adapt to development whilst still cherishing traditional values. This type of family does not blindly accept all that contemporary society has to offer; it is wise enough to distinguish between genuine development and mere modernism.

From meetings held with the Local Councils, the following information came to light :

causes of separation;
social intrusion/emargination;
marriages of convenience - jobless illegal immigrants- emargination;
the geographical location is attracting people with social problems;
is social housing solving problems or is it creating them ?;
ways of raising children;
family relationships;
a stereotyped/stereotypical society;
lack of sense of community; and
model society.

2.12.1 Causes of Separations

The parish priest of Marsascala commented that separations could be caused by the fact that the couple does not find time to communicate and grow together. However, he also said that this could be due to not knowing how to communicate properly.

2.12.2 Social Intrusion/Emargination

Some of the localities have complained about social intrusion into their locality due to demographic movement, with the locality serving to shelter a population imported from slum areas or families with a low standard of living due to their very unfavourable social situation. The Local Councils mentioned how this mixing with local society is having negative effects. In this context, it seems that Local Councils are worried about the state of preservation of the human culture of the locality. Among the localities who mentioned this reality there are Birgu, (a particular block on the Tal - Hawli Housing Estate), Kalkara (Tas - Salvatur Housing Estate),

Birzebbuga (Qajjenza, near the Enemalta Gas Tanks), Zabbar (Pirella Housing Estate) and Zejtun (Qasam Hal-Tmiem, Ta' Ganza and Gebel San Martin). The Local Councils explained how these people who came from outside the village brought their social problems with them into the area, problems such as prostitution, single parent families where the couple is separated or where there are children from outside marriage, unemployed persons, criminality, drug abuse and child abuse.

Regarding this issue, Local Councils are clearly worried by the fact that needy families (in a wide sense) could negatively affect stable families in the locality, for example through the mixing of children and youths from these two types of family. In spite of such fears, one must keep in mind that families with social problems are made up of humans and not just creative who require some form of quarantine treatment. Regarding this danger of emargination, individuals from the Centru Fidi u Gustizzja, run by the Jesuits in Zejtun, were consulted. Social problems may escalate if whoever is experiencing such problems feels that he or she is being shunned by the rest of society. Thus, the wound becomes a sore. As happens in the case of deprived families, when such emarginated persons realise that the standard of living of their families will never be able to match that of stable families, they might be seized with a sense of frustration which could be vented by indulging in values which are totally the opposite of traditional ones – a rebellion takes place as a coping mechanism.

2.12.3 Marriages of Convenience – Jobless Illegal Immigrants - Emargination

Birzebbuga and Xghajra are two *sui generis* cases. At Qajjenza, Birzebbuga, there are sub-standard houses inhabited by foreign workers (Indians, Yugoslavs, Arabs) who work at the Delimara Power Station. Some of these have married Maltese from the locality. It should be noted that some of these marriages are entered into for reasons of convenience. Such circumstances give rise to separated families with financial problems. There are also isolated cases of persons who are unemployed because they are illegal immigrants or families with one parent. The problems at Qajjenza appear so extreme that, according to the Local Council, even the public transport buses sometimes avoid the area. The very mention of this fact indicates that the situation is worrying, since emargination is openly taking place.

2.12.4 The Geographical Location is Attracting People with Social Problems

As has been stated above, Xghajra has been described as a "lawless land", perhaps also because of its geographical location, which is rather isolated, and it therefore attracts people who feel isolated from and by the rest of society. The Local Council has mentioned the fact that inside the shanty huts and in the original area live families made up of people described as unsettled (*mhawwda*), lovers and pregnant girls.

2.12.5 Is Social Housing Solving Problems or Is It Creating Them?

Here, one finds the same concept of emargination, where the emarginated person continues to be further put aside due to the piling up of challenging situations. Even the way Councillors spoke of the problem indicates the need for an adjustment of the mentality through which the Maltese in general and local councillors in particular consider such persons. Without realising it, society itself could be oppressing these persons in such a manner as to force them into a situation which socially appears degrading and inhuman.

2.12.6 Ways of Raising Children

The Kalkara Local Council has remarked that family problems impinge on the behaviour of children, who end up running about all the time in the streets and on the church parvis, drinking and lacking interest in anything. However, these are not part of the general scenario at Kalkara. A similar situation has been mentioned by the Centru Fidi u Gustizzja with reference to Zejtun. The Centre noted the existence of a vicious circle because of an element of frustration. An example is an unemployed father who indulges in alcohol, ending up beating his wife who in turn ends up beating the children.

Another observation regarding the bringing up of children was obtained in an interview with a family doctor who worked for two years at Zejtun. He stated that this locality still harbours old-fashioned parenting styles which involve shouting at children and beating them.

A phenomenon which seems to be uniquely prevalent amongst families in Marsascala, and possibly also among those of Fgura, is the presence of children alone in the house for long periods (latchkey children). The Zejtun Local Council too has drawn attention to the fact that situations where both parents work have negative consequences on children.

Undoubtedly, preoccupation about latchkey children is a consequence of the economic circumstances of the family which, in certain cases, are genuine but in others are less so. Whatever the case, in some way or other this aspect is a reflection of the progressive family where, whilst both the husband and the wife go out to work, they try to raise a family at the same time. Couples of this type still acknowledge the value of parenthood; but what happens when parents have no-one with whom to leave their children? The children end up having to spend long periods of time without supervision. One can interpret this situation as a positive one which serves to instil a sense of independence in children; but before jumping to any conclusion, there are actually many factors which must be examined and considered.

2.12.7 Family Relationships

Insofar as family relationships are concerned (relationships across generations) – modern versus traditional (such as relationships with grandparents), Birgu Councillors have commented that such relationships are solid, especially those between youths and grandparents. Isla Councillors also referred to grandparents, saying that these have an active part in the bringing up of children, especially in families with working mothers.

To confirm this familial aspect, one may refer to research carried out among the women of Isla (O'Reilly Mizzi, 1981, 1997) which found out that :

a high percentage of married women from Isla choose to live close to their mother;

relations between mothers and daughters have tended to grow stronger in recent years because of the fact that the children have been able to visit their mothers more often; and

mothers and daughters help each other in matters of everyday life such as shopping, taking care of children, provide support during bouts of disease and with the onset of old age.

2.12.8 A Stereotyped/Stereotypical Society

Isla Councillors have depicted a stereotypical society where sexual segregation still seems to be the order of the day. In the words of the Local Council, "mothers stay with the children and husbands pass the time in clubs (*kazini*) after work". The family is completely in the wife's hands, even working wives.

This picture naturally reflects the traditional family. In fact, both at Isla and in the rest of the region, except for Birzebbuga, Marsascala and Marsaxlokk, there are few tourist influxes, whether domestic or foreign.

2.12.9 Lack of a Sense of Community

In the words of the Fgura Local Council, the family is absolutely non-traditional since the great majority of the people literally reside rather than live in the locality. The said Local Council goes on to point out that this state of affairs is leading to great indifference and individualism. Nevertheless, it has been mentioned that some aged people have come to live with their children. In fact, Fgura seems to have adopted a lifestyle which does not seem typically Maltese. This could be due to the fact that Fgura has never had the physical structure normally found in a Maltese village – with the church as the centre of the village, from which centre radiate a number of narrow streets in all directions. Fgura has apparently come to exist due to overflows from the surrounding villages such as Paola, Cottonera, Zabbar and Tarxien, such that one could say that Zabbar Road led to Fgura and not the reverse. Thus, Fgura is being hemmed in by the surrounding villages not merely physically but also as regards the culture of its lifestyle.

2.12.10 Model Society

Marsaxlokk again deserves singling out for the kind of society it hosts. The Local Council gave a picture of a locality which induces mental relaxation. Unity, or a close-knit society, is still a characteristic of families in the locality. The Local Council has stated that if one investigates the genealogical history of Marsaxlokk, one would find that there are four principal families who came from Zejtun. Throughout the years, these intermarried again and again until, at the present day, they constitute the core of Marsaxlokk society. Amongst the youths of these families, it is typical to own land. There is also a tendency for these people to settle relatively early. For

the most part, these families earn their living by working as full-time fishermen. It is true that they have a hard life, staying for long periods out at sea whilst their wives have to sell the fish they catch as well as taking care of the children. One may also mention the fact that the grandparents usually live in extended families.

2.13.0 Education

Education affects and is, in turn, affected by certain social aspects. Sometimes there is a scenario of cause and effect; sometimes a spiralling of actions, effects and yet more effects on the original actions. Definitely, education plays an important and crucial role in any plan to ameliorate the situation in the south region.

2.13.1 The Part Played by Schools within the Community

In some localities, attendence at the post-secondary level is increasing : a high percentage make it to the Junior Lyceum (from Kalkara, Zabbar, Marsaxlokk and Birzebbuga). The staff at school take a strong interest in their work (Kalkara, Xghajra, Fgura, Birzebbuga). The School Council appears active and industrious (Kalkara, Birgu, Isla, Marsaxlokk, Birzebbuga). In Bormla and Isla, places have been identified where new schools could be set up, since the school premises currently available are not of an acceptable standard.

2.13.2 Illiteracy[14]

Illiteracy is a problem which has different aspects, sources and effects :

part of the problem is the lingering effect of the past absence of obligatory education, and is thus linked to particular age groups and areas. These include the old part of Xghajra and Zejtun, because of the lack of opportunities to receive schooling. They also include Xghajra, Zejtun, Kalkara, Zabbar and Marsaxlokk, because of the high average age;

it is also caused by absenteeism and playing truant : Bormla, Isla, Zabbar – children playing on videomachines in bars during school hours. These same children may later on turn to drugs /vandalism /alcoholism /criminality /unemployment culture;

there are children who are left at home and are not allowed to go to school since both parents work (Bormla and Kalkara);

child labour (Bormla, Marsaxlokk and Zabbar);

family problems such as separations, debts/finances, drugs/lawbreaking (Zabbar); and

lack of encouragement from parents (Bormla, Zabbar).

The problem of illiteracy among adults should be better addressed by the Education Division. There are no classes for the teaching of writing and reading skills to adults in most schools within the south region of Malta in spite of such localities having a very high illiteracy rate (Table III.2.19). A greater number of informal locations (parish halls, band club halls, commercial premises) could be used, and a counselling service could be started specifically aimed at adult students.

2.13.3 School Structures (Buildings)

The following aspects were noted :

some schools are very old :
Primaries – Bormla; Zabbar – but in good condition; Zejtun; Isla;
Despott Junior Lyceum in Bormla consists of ex-warehouses of the British Navy; and
an ex-Naval Hospital (Bighi) serves as a regional educational centre.

others are new : Xghajra, Marsascala.

a number of the new schools already do not have room for further pupils and must be enlarged in the light of demographic projections (Table III.2.20) :
Xghajra, Birzebbuga (soon);
the Zejtun kindergarten; and
Marsaxlokk and Fgura schools have recently been enlarged.

lack of a hall : Marsaxlokk

maintenance problems : Xghajra, Birzebbuga.

2.13.4 The Image of the Locality as a Depressed Area

The following aspects were noted :

Xghajra and Kalkara : children lacking in initiative;

anger because a plan for the teaching of adults which was supposed to be implemented by the Education Division came to naught (Bormla); and

at Zabbar adult literacy evening classes have come to a standstill.

2.13.5 Other Aspects

Other aspects which were noted are the following :

difficult access to school transport;

a shortage of welfare services;

absenteeism : Bormla;

the number of children suffering from dyslexia is unknown : Birgu;

a shortage of remedial teaching : Years 4,5 and 6 and Bormla Secondary;

lack of security in schools : Bormla, Zabbar;

lack of hygiene (lorries loaded with animal manure pass through the Despott Junior Lyceum in Bormla);

lack of air/ventilation : Isla;

lack of space for recreation : Isla, Fgura; there is a stable containing animals within the confines of the Fgura school;

parents keep children from going to school: Bormla, Kalkara;

need for a cycle lane near Bighi;

Birgu school has too small a population; streaming is not well implemented; teachers are not trained to teach mixed ability classes; it is said that this state of affairs is disrupting those children who have the potential to make progress;

Marsascala : the school population is too small; only one student qualified for enrolment in Junior Lyceum; teaching is of rather low quality;

distractions/suspension of teaching because of noise at the Drydocks : Isla;

lack of interest in reading, and libraries are scarcely used : Kalkara, Birgu, Zabbar; Birzebbuga : could get better;

attendance by children of another locality :

Xghajra school is attended by children from St.Peter's Housing Estate of Zabbar, who do not feel at one with Xghajra children;
children from Bormla attend school at Isla : conflict of identity;
some children from Marsascala attend school at Zabbar but are in a minority and their presence is therefore not felt; and
some children from Marsascala even go to school in Fgura.

2.13.6 Special Educational Projects

Some of the localities appear to require strong and long-term action in order to start a process of development and inject new energy into schools (especially in Cottonera), a process which should eventually arouse even the same communities of the south region. This project could take the form of Special Educational Projects which would have been planned at an inter-institutional level and would also involve the participation of both the same inter-institutional protagonists as well as Non Governmental Organisations and local communities in their implementation. A Special Educational Project seems to be required for Cottonera, especially Bormla.

This Project would require a broad analysis of the problems which are impinging on the educational process and on children's social development. This analysis would be carried out through wide and interdisciplinary consultations, utilising a holistic and integrated approach. The model/s which would be created would need to take the following aspects into consideration :

The problems facing the schools of Cottonera in trying to obtain the services of qualified teachers. Officers at the Education Division insist that the Cottonera, and the south region in general, have – proportionately speaking - teachers which are less qualified (for example, there are more instructors/instructresses) than those in other regions.

The numerous and complex social problems which affect the behaviour of parents and children who attend the schools of Cottonera, which behaviour in turn increases the load of stress on teachers/administrators, thus affecting their performance.

The age of the buildings housing the schools of Isla and Bormla is the source of deficiencies in such buildings (lack of light, stairs, lack of space for recreation in Isla). The problem of lack of space for recreation applies also to Zabbar and Zejtun schools (Table III.2.21).

The problem of schoolage mothers is acute in Bormla (Table III.2.23).

The lack of spirit and lack of initiative in the cultural, sports, political and civic participation sectors in Cottonera.

The high rate of illiteracy spread amongst all ages in Cottonera, Xghajra, Zabbar and Zejtun (Table III.2.19).

The plummeting rate of children who qualify for admission to Junior Lyceums (Table III.2.22).

Hence, Special Educational Projects require that :

Educational initiatives be directed not only towards children who attend schools up to the secondary level but also towards post-secondary students and adults. The initiatives have to be planned so as to affect modes of reasoning as well as information and aptitudes, both individual and collective, in the economic, cultural and social spheres, and during free time.

A Special Long-Term Plan be developed which will provide for the building of new schools as well as for incentives to attract the best teachers and university students. All this would result in smaller classes, as well as in more specialised teaching which would incorporate the study of psychology, stress management, communication, counselling etc. for teachers, and which then would translate into incentives allowing more advantageous work conditions.

More numerous and effective welfare, counselling and other services be made available to parents and children together, as a family.

The length of time for which school premises are available should be extended through After School Activities (homework, clubs, study support for children) and Community Use (Sports, Cultural Clubs, Parent Education, Adult Education).

University students be encouraged to enrol in a project through which they would be able to provide individual support to children attending schools in Cottonera and in After School Clubs to help children in homework, studies, social skills and recreation.

To draw up a project of Community Development with the aim of building up the self-esteem of the Communities of Cottonera and thus combat apathy, alienation and loss of heart. This project should be planned with the active participation of the Communities, who should be the ones to identify their priorities and should take part in making the required decisions.

The Project of Community Development be based on schemes of Community Education, which would take place in the locality, if possible in informal places accessible to everybody. At such fora, the necessary economic, social and cultural aspects can be addressed so as to enable adults from Cottonera to acquire the necessary managerial and entrepreneurial skills for future initiatives :

1. courses by the Employment and Training Corporation in Office Skills, Trades and Front Office Skills.

2. courses by professional associations (banks, Malta Institute of Management, Malta Development Corporation, Cooperatives) for the setting up of Small and Medium Enterprises.

3. courses by agencies of the Education Division (Parenting Skills through Guidance and Counselling; Child Care through the Schoolgirl Mother Unit/ Welfare/Psychology Service; car maintenance, electricity, etc. from Trade School Instructors; the teaching of musical instruments and choir singing by the School of Music, courses by the Arts and Design Centre, etc.

4. activities by Non Governmental Organisations which vary from support activities, for battered wives, drug addicts, ex-convicts, single parents and schoolgirl mothers (Table III.2.23), to educational and cultural activities in a broad sense.

Any Community Development Project will treat as a priority the training of Youth Leaders to lead the many Youth Centres in Cottonera (and other localities in the south region of Malta). Today, these Youth Centres are abandoned and vacant. After training the Youth Leaders, an administrative structure will have to be created to enable them to be paid, regularly retrained and assessed by being obliged to give an account of their performance. They will have to be Youth Leaders who inspire enthusiasm and encourage new initiatives in the sports, cultural and social spheres.

There be a Centre of Information and Counselling in respect to Educational and Economic Services and Opportunities for young adults and adults (with information about apprenticeship schemes; the Mature Student Scheme of the University; etc.) in Cottonera and other central localities (Zabbar, Zejtun and Paola).

Community Development Projects be specially designed for rural communities such as Zabbar and Zejtun; and for communities with a large proportion of fishermen (Marsaxlokk, etc.). These projects would translate into encouragement for the establishment and consolidation of Cooperatives for Young Fishermen, Stonemasons, Farmers, etc.

2.14.0 Criminality

There is a belief that many problems have reached serious proportions due to people from outside the locality. Thus, criminality is born and starts to spread due to a clash between "our" and "their" ('the outsiders') values. The sources and main effects of such a situation are :

1. the lack of presence of police :
   Xghajra is a "lawless land";
   closed police stations, police patrols which are few in number or quite predictable as regards time and route (Bormla, Xghajra);
   Birgu, Isla, Marsascala : one policeman;
   Marsaxlokk, Fgura, Birzebbuga (Qajjenza) : a few.
   Only in Kalkara, it has been stated that the police are available and do their work well, including patrols. Comments have been made to the effect that this favourable situation is due to the fact that a minister resides at Kalkara.

2. abuses by youths /adults from outside the locality :
   beach posts at Xghajra,
   convicts living at Bormla,
   Arabs in Triq il-Gendus run a prostitution racket,
   vandalism, drug and child abuse at Kalkara,
   Birgu : prostitution at the Fishmarket,
   Marsascala : vandalism/hooligans in weekends,
   Birzebbuga : vandalism, fighting and drugs at Qajjenza, and vandalism at the shoreline.

3. the drug problem :
   Xghajra : pushers,
   Bormla and Marsascala : pushers and addicts (the highest rate is in Marsascala : drug barons),
   Kalkara, Isla : problem is slight,
   Zabbar : has greatly decreased,
   Marsaxlokk : causes delinquency.

4. residents go to other areas and abuse of drugs : Xghajra : go elsewhere.

5. theft :
   because of drug abuse : Kalkara, Marsascala;
   one theft reported at Isla in the last 6 years – could be due to a lack of confidence in police, or to difficulty in contacting police in order to file a report, or else there really are no thefts taking place;
   Marsascala : stealing from the aged;
   Marsaxlokk : from fishing boats;
   Fgura : to pay for drugs : theft of motorcycles and theft from private residences in daytime.

6. vandalism :
   Kalkara, Birgu, Zabbar, Fgura, Marsascala : because of drug abuse;
   Marsaxlokk : by vendors;
   Birzebbuga : because of drug abuse and alcoholism.

7. hooliganism :
   Marsascala : urinating by doors/vandalism and breaking of tree branches and road signs, gangs picking up fights

8. Alcohol abuse : selling and drinking of alcohol by youths and some adults: Marsascala in weekends.

9. rape, sometimes with violence : Marsascala

10. cockfighting : Zabbar, Fgura

11. Other aspects :

    A place where illegal immigrants embark and disembark : Xghajra.

    Many convicts live in Bormla, but where not born there. When caught, they are referred to as being from Bormla, and this further serves to put the locality in a bad light.

2.15.0 Recommendations

2.15.1 Work and Economy

There is a need for specific investment with respect to the relatively low number of self-employed residing in the south region of Malta, so that they will consolidate their position.

2.15.1.1 The Fishing Industry

Incentives need to be created for Marsaxlokk fishermen so that they will be better able to enjoy the harvests of their fishing activity. These aids have to be considered whilst, as time passes, the need is increasingly making itself felt of taking decisive action with respect to the fishing industry, since the Mediterranean's stocks of fish are dwindling, due to uncontrolled pollution and over-fishing. Incentives could include :

The construction of cold stores for the keeping of sea produce, in which individual fishermen, or their representative cooperatives, will have a share.

The commissioning of a feasibility study with regard to the participation of fishermen and their children in the aquaculture industry, and also with regard to more dependable and scientific methods of catching and storing fish.

An effort should be made to iron out disagreements between the two fishing cooperatives; there has never been the need for two fishing cooperatives.

The Marsaxlokk market should once again revert to being a fishmarket. Access by vendors will have to be more restricted than at present[15].

The Marsaxlokk community is receiving thousands of tourists because of the Sunday market, without deriving any profit. The tourist-attracting potential of the fishing industry should be investigated.

2.15.1.2 The Farming Sector

Another important community of self-employed people is the farming community. The project effecting the conduction of treated water from the Sant' Antnin Sewage Treatment Plant could be strengthened and extended to cater for the needs of other farmers within the region. In places such as Tas-Silg, all the required canals have been completed but the connection with the Sant' Antnin Plant has yet to be carried out[16]. In the meantime, it would be wise to commission a scientific study on the effects of such water on the fruit and vegetables watered by it.

2.15.1.3 The Self-Employed

A sizeable number of self-employed in the south region of Malta consist of owners of small shops (corner grocers). The future of these establishments could be threatened by the advent of large supermarkets. On the other hand, those who purchase from supermarkets are those people who least mind having to go far from their homes to do their shopping. Hence, they would not really expect a

supermarket to be close-by. On the other hand, a spread of small shops would satisfy the requirements of many residents of the south region of Malta, and would help boost a certain kind of business within the locality. Hence, the establishment of megamarkets in the heart of the south region should be curbed.

2.15.1.4 The Salt Industry

A traditional industry, which in the south region of Malta is on the verge of extinction, is that of the salt pans, both at Marsascala and at Delimara. In both cases, everything depends on the endeavours of two old people who are coming to realise that there is no longer a viable future for their industry. An effort should be made by the Malta Development Corporation to restore the viability of such industries, as soon as possible.

2.15.1.5 A Socio-Economic Study on Entrepreneurship in the South Region of Malta

The Institute for the Protection of Small Enterprises (IPSE) at Marsa could commission a critical socio-economic study regarding the relative characteristics of entrepreneurship in the south region of Malta. Amongst other things, it could seek to verify whether the inclination for private enterprise is weaker in the south region because of a more pervasive presence of the Maltese State.

An effort should be made to build a small enterprise industrial estate, preferably close to or within other established industrial estates. It would provide the infrastructural services which are necessary for the establishment and operation of these types of small enterprise, whilst concentrating them in one area[17].

2.15.1.6 Educational Projects

Educational projects such as Scoops : Cooperatives for Schools at the secondary educational level and Young Enterprise at the post-secondary level should be better utilised by teachers as experiences which could encourage a greater sense of enterprise and responsibility in their future work. At the same time, an effort should be made for this educational experience to foster greater cooperation between the school, students, parents and the Local Council, in the planning, production and selling of products or services on the part of students.

2.15.1.7 Social Housing

Even from the economic point of view, the concept of social housing as understood today should be abolished :

it merely serves to increase dependency on the State for every need that arises, and thus has the effect of killing off initiative;

it brings about the physical and social identification of an 'inferior' category of people with low purchasing power;

it causes an inward shift in a certain type of investment as well as out of the locality;

it leads to an artificial but substantial movement of persons from one locality to another, a process which does not allow such persons to integrate into their new community; and

the community very often regards such 'intruders' as a threat and as 'outsiders', since they are numerous and grouped together. These 'intruders', on the other hand, feel a cultural barrier opposing their efforts to integrate, and feel rejected, emarginated and accepted.

Such social problems can be found in every area of the Maltese Islands where housing estates were built *en bloc*, or where residents have been imported *en masse* after the rehabilitation of buildings which, for example, were formerly in use by British Forces, such as Dockyard Terrace at Isla. No city, town or village has been spared the implementation of this policy. All the south region of Malta has been affected – except for Fgura and Marsascala : the former because it is entirely populated by newcomers; the small housing estate in the locality has coincided with this influx of people from outside, and therefore did not encounter any cultural barrier of the type usually constituted by the presence of established residents; as for the latter, the housing estate at Tal-Bujar in Marsascala consists of only two small blocks.

The above housing policy should be substituted by a serious and discreet exercise in a flexible kind of means testing which could lead those who pass the test to benefit from a subsidy on market price rates. This should be linked to a housing policy which does not lead to certain types of people colonising specific parts of a town or village. Whatever the social category – immigrants, single parents, youths, aged persons or widowed persons – it is never congenial to put into practice a scheme of segregation in a part of the town or village. That would create a process of ghettoization which would disrupt the very natural way in which a community is able to live as a blend of different persons and households.

Studies can be commissioned which would document the social results of the 'intrusion' of 'outsiders' into established communities through the setting up of, for example, housing estates.

2.15.1.8 Cottonera

The Cottonera shoreline is the key to a renewal of this locality. With its enormous potential, the shoreline – extending from Kalkara to Isla – can give a totally different and attractive appearance to these cities :

1. it could attract investment,
2. generate work,
3. raise the value of property, and
4. attract a certain kind of residents to come and settle, or to remain, in the area.

Sustainable development of this shoreline could lead to that much-desired snowball effect which should help to limit the extent of the many social problems present in the Cottonera[18].

An integral aspect of the development of the Cottonera shoreline are the surroundings of the Drydocks' Dock No. 1. This is the oldest dock at the Drydocks, and in its heyday could boast of the most advanced technology in drydocking. The

Social Issues Working Committee agrees that Dock No. 1 should not continue to be used for repairs and grit-blasting of ships by the Drydocks – in fact, it is the least

used of all available docks[19] – but be preserved as a monument to the ship-repairing trade and be incorporated in any scheme for the embellishment of the area. There appears to be a definite potential for new investment in this prime site, where the Drydocks could remain as the major partner or operator of the new project. We must keep in mind that the Malta Drydocks is to this day the major employer in the country after the State, and is definitely the main centre of jobs and industrial trades for the people of the south region of Malta. It is a pity that in the Cottonera area the Drydocks has recently developed a negative image because of grit-blasting and the way in which it seems to be restricting environmental and commercial development in the region. The Drydocks is the natural sponsor of the Cottonera, and should participate wholeheartedly in any project that will promote sustainable development in the locality whilst offering ways of much-needed diversification away from the traditional work of this enterprise[20].

2.15.1.9 Community Empowerment Schemes

Community empowerment schemes should be commenced with the aim of doing useful work for the community. Precise and concrete targets should be developed, accompanied by the setting up of a network of volunteers, Non Governmental Organisations and local leaders. With the help of sponsors from the locality, these should attain the aim of mobilising a good number of residents participating in a number of spheres to take part in a variety of local initiatives yielding concrete results. Amongst these 'outreaching' initiatives are the Teatru tat-Triq, the work of the Social Welfare Development Programme and the work of the Jesuits among children of Rahal t'Isfel in Zejtun. There is also the need for regular coordination of all these groups with the aim of leaving a better and more effective social impact, as well as in order to lead to a better use of human and material resources.

No action of an educational nature must be taken out of an attitude of cultural arrogance or charity. The temptation is to adopt a 'deficit' perspective which would lead to a kind of cultural dumping. This kind of intervention is culturally violent, and will definitely lead to a negative reaction. If possible, educational work should be done by people hailing from the same locality.

2.15.1.10 Employment Training Corporation

Together with the Employment Training Corporation, persons from the locality who are applying for work should be identified. These should be encouraged to work a certain amount of hours at a nominal rate of payment in order to reconstruct and embellish the locality, for a period of about six months, without losing their unemployment benefit[21].

The Employment Training Corporation should consider hiring a number of job monitors or job coaches whose work would relate to the acquisition and keeping of jobs by persons who have been registering for a lengthy period (long-term unemployment). This is because the keeping of a job requires a certain amount of ability to adjust as well as a disciplined lifestyle. These job coaches will be on a performance contract, directly linked to the success of their placements. Together with the above, the availability of a professional occupational counselling service by the Employment Training Corporation is also vital.

2.15.1.11 Better Use of Infrastructural Facilities

There is a need for a better utilisation of the infrastructural facilities which are already in existence in Maltese towns and villages over a longer period of time. It is not acceptable for a small country like ours to have a duplication of facilities if these already exist in the same locality. In particular, it is understood that several educational, social, recreational and sporting facilities already exist in the region, but are situated in the buildings and in the grounds of local, private and non-private schools.

Consequently, better management of these resources is being suggested. Where State schools are concerned, a suitable arrangement should be created which permits residents of the locality to utilise school premises over a longer period of time (and not merely during formal school-time). This applies especially to facilities such as sports grounds, theatres, gymnasia and classes which may serve as venues for meetings or for adult/continuing education. This would also help to build a closer relationship between the school and its host locality, a feature of local educational system with regard to which there is great room for improvement[22].

Where there are Church or private schools, a similar arrangement is suggested, or other arrangements which would enable such schools to offer their facilities for a nominal fee.

2.15.2 Demography

2.15.2.1 Services for the Aged

More infrastructural and community services for the aged, including amongst other things, day and night centres, in order to ensure a better quality of communitarian life.

An increase in activities with a greater degree of collaboration between the State, Non-Governmental Organisations and Local Councils so that old people will feel that they are an active part of the community.

Projects, such as Info-Anzjan, should not stop at the administrative level but should also involve the participation of the public so as to foster the creation of a stronger awareness of the need for support within the locality.

2.15.2.2 Community Facilities

More recreational/sporting facilities and community services for children in localities with a high birth rate such as Fgura, Marsascala and Birzebbuga.

The undertaking of a study regarding the capacity of primary schools and catechism centres of the locality to absorb the projected increase in children, as well as the ability of such centres to offer catechism services to children living at the periphery of the locality.

2.15.2.3 Rehabilitation of Houses

There should be more incentives addressed to young people for the rehabilitation of

houses, so that localities such as Cottonera will once again enjoy a situation of demographic balance.

2.15.2.4 Analysis of Population Dynamics

The internal movement of the population should be analysed and quantified so as to enable the identification of this movement (the push and pull factors) and in order to verify the validity of certain statements, such as statements to the effect that there is an exodus of people from the south region of Malta.

2.15.3 Housing

2.15.3.1 Community Impact Assessment Study

There is a need to introduce a Community Impact Assessment Study for every housing project as well as other infrastructural projects so that the impact of such projects on the social environment of the locality will start to be reckoned with.

The impact assessment of each project should not only offer an analysis of the pevailing social situation but should also be able to anticipate the requirements that certain changes, for example, demographic ones, could bring in the future.

2.15.3.2 Social Accommodation

A type of social accommodation, which is more diversified in its allocation, should be created in order to provide room for different types of families from different social backgrounds, thus mitigating the effects of the socio-economic zoning which exists in many localities.

A revision of the system of allocation of State-provided accommodation should be made, and the label 'social accommodation' – giving the impression of residences for families at a low social level – should be dropped.

Government should provide accommodation which is closer to the core of the locality, and which includes rehabilitation of existing housing stock and conservation of the public space existing in the locality.

There is need for more attention to Housing Estate zones. For this to take place, administrative structures should be strengthened by providing more people trained as social workers to analyse and help fulfil the needs of people living in these dwellings. A social embellisment project should be set up to help determine the needs of these people in relation to the surrounding environment.

2.15.3.3 Vacant and/or Leased Property

There is need for a detailed survey of vacant houses and houses leased to tenants. The aim should be to create :

a) an inventory of every vacant or rented habitation and to gather information, by means of surveys, about the reasons which have led to the creation of the existing conditions in connection with infrastructure, etc.;

b) a competent committee with the ability to coordinate similar surveys with a more active participation by Non Governmental Organisations, such as the Cottonera Rehabilitation Project and Din l-Art Helwa, so that rehabilitation works will not remain the sole responsibility of central Government.

2.15.3.4 Rehabilitation

The rehabilitation of slums (*kerrejja*) should be one of the priority projects in the cities of Cottonera. Rehabilitation should not have the effect of letting residents remain passive and without any role in the transformation which their residence is undergoing; on the contrary, it should take place with the active participation of such residents. Proposals, such as those for

a) the buying and rehabilitation of buildings rented from Government,
b) rehabilitation grants to owners and/or tenants, and
c) collective action by tenants who will purchase an entire block and carry out the necessary repairs

should be carefully examined so as to ensure a balance between the interests of tenants and those of owners.

The standards that qualify slum areas should be identified before embarking on slum clearance projects, since such projects cannot proceed on an *ad hoc* basis.

The aim of every slum clearance project should also be that of bringing about an improvement in community life within the village core. Hence, it is important to have a good social perception of the environment which is to be rehabilitated before drawing up similar projects.

2.15.3.5 Housing Standards

It is necessary to enforce the policy on accessibility and to introduce standards of accessibility (such as the Lifetime Home Standards) in housing projects, so that such projects may provide easier access and a more fitting and comfortable standard of living for the aged and disabled members of the population.

A study project should be drawn up which would provide a clear picture of the level of accessibility in existing housing stock and provide solutions through the effective implementation of the above-mentioned standards in rehabilitation projects.

Organisations such as the National Commission for Disabled Persons and the Accessibility Unit of the Works Department should have an important role in the introduction of these accessibility policies.

2.15.3.6 Rehabilitation for People with Special Needs

It is also fitting to review the existing subsidies allocated for the rehabilitation of premises due to disability, so that the amount of subsidy required can be determined by the type of disability, thus satisfying individual needs.

2.15.3.7 Incentives

Incentives which encourage the buying of more land for development in the south region, especially at the periphery of localities, should be minimised.

The provision and/or consolidation of incentives for youths in rehabilitation schemes, so as to permit an urban and even a demographic regeneration in localities such as Cottonera.

2.15.4 Community

2.15.4.1 Public Transport

2.15.4.1.1 Roads

The disastrous state of many roads in the region is certainly not helping to improve the public transport service. Hence, there is a need for proper maintenance of the principal roads as quickly as possible. There is also a need to draw up a long-term plan for the maintenance of secondary roads. Furthermore, situations where freshly asphalted roads are trenched due to infrastructural problems can no longer continue to be tolerated. Hence, an alternative solution should be found so that such work will not compromise the physical condition of local roads.

It does not make sense for some roads to fall under the competence of the Roads Department and for others to be the responsibility of Local Councils. One cannot have more than one entity in charge. Hence, there should either be total cooperation between the parties involved or else Local Councils should be given the necessary funds to see to the maintenance of all roads forming part of their locality.

It is essential that maintenance work on roads be of a fitting standard; road pitting after the first rains is not indicative of serious workmanship. Thus there must be continual monitoring by the authorities concerned to ensure that contractors do their work to the required standards. A financial guarantee extending over a number of years should also be introduced in order to compensate for any work which is not of acceptable quality.

2.15.4.1.2 Public Transport Service

There is a need for more discipline on the part of bus drivers and greater control by the Public Transport Authority; if anything, this should increase the respectability of the work being done.

The Public Transport Service time schedule for bus trips to Valletta from the various localities, especially Marsaxlokk, Birzebbuga, and Marsascala, should be revised, in particular reference for the last trips, to accommodate the needs of residents and of the tourist sector.

In order to improve the transport service in the south region of Malta, the Local Councils of Marsaxlokk and Birzebbuga are proposing a circular route which would link the Qajjenza residential area at the limits of Birzebbuga with Marsaxlokk and Valletta. A route is also being proposed which would join Cottonera and localities

such as Fgura to localities such as Birzebbuga and Marsaxlokk, especially for the summer months. Proposals such as these are very important from the social point of view and should be given the importance they deserve.

The project of the Public Transport Authority to provide a mini-bus service to meet the needs of Isla, Bormla and Birgu residents should be implemented in the shortest time possible.

Circular routes should be planned in other localities so that the public would be better served, especially those residents who live at a considerable distance from the terminus. Areas such as Ricasoli Industrial Estate, the studios of the Malta Film Facilities, limits of Kalkara, and a number of residential areas such as that at Qajjenza, limits of Birzebbuga, and at Zonqor, limits of Marsascala, respectively are not well served by the public transport service, and this is creating serious inconvenience to those who work and live in the said areas.

Localities such as Kalkara, Xghajra, and Fgura require a better public transport service. Furthermore, an alternative location should be found for the Marsascala bus terminus in order for it to be of service to the whole community.

2.15.4.1.3 Construction of By-passes and Roads

There is need of a by-pass which would skirt the sensitive residential areas of Birzebbuga and be used mainly by large lorries on their various trips to and from the Freeport. The same may be said in the case of Marsascala where there is need of a by-pass leading from near the Razzett tal-Hbiberija to the Jerma Palace Hotel. This would reduce the large volume of cars passing through the coast road.

The ring road linking Triq il-Qadi to Triq San Klement should be finished so as to reduce the pressure from the principal roads of Zejtun.

Asphalting work on roads in a number of housing estates, such as the one at Tal-Papa in Birzebbuga, should be continued so as to permit the complete integration of these residential zones with the rest of the locality.

The authorities concerned should also adopt a system through which any infrastructural element directly linked to a project could be completed before commencement of the project itself. This policy was followed in the case of the San Raffaele Hospital but not in the case of the Freeport. A bypass should have been built to absorb most of the transport of an industrial nature which is generated from and towards the Freeport, but this has remained pending. This lack of planning has had a negative effect on the basic and inadequate infrastructure which is present at Birzebbuga, as well as on the residents themselves.

2.15.4.1.4 Parking Meter System

No problems would be solved by merely providing more suitable parking spaces in every locality; on the contrary, such a measure would only be aggravating the existing problem since it would encourage more people to acquire private transport. What are needed are policies which have the reverse effect – encouraging the use of public transport and discouraging the use of private transport – provided however that public transport becomes truly efficient and is turned into a genuine alternative to private transport. To this end, one should start thinking of introducing a parking meter system.

2.15.4.2 Social Minorities/Poverty/Persons with Special Needs

2.15.4.2.1 Studies of Minorities

In order to solve the various problems of a social nature associated with minorities in the various localities of the south region of Malta, it is essential to know how widespread the problem is and what its implications are, both on the economic as well as on the social level. Thus, there is a need for a detailed study of these minorities. Little is known about these communities, both because of the lack of interest from the competent entities as well as because of the fact that such persons are extremely reserved and diffident. If, for example, the Birgu Local Council feels that the Asiatic community should be relocated so that the zone underlying Fort St. Angelo may be developed, one will have to see where these families are to be relocated. One must not forget the mistakes which were made in the past, with the relocation of whole ghettos from one part of Cottonera to the other. An effective relocation of these minorities cannot take place unless one gets to know more about their lifestyle.

2.15.4.2.2 Families with Social Problems

There is also a need for more qualified social workers and for greater endeavours by Non-Governmental Organisations and by Government itself so as to help the ever increasing number of single-parent families and families with social problems. The principal causes should be identified and the necessary measures should be taken so that certain social environments such as at Qajjenza and part of Cottonera, will not be recreated in other areas to the detriment of the families involved and of the community as a whole.

2.15.4.2.3 Social Housing

En masse relocation of families from one locality to another, especially in Cottonera, cannot continue to take place if there is to be any hope of solving the considerable social and economic problems which are hindering the development of the concerned localities. The concept of social housing in itself is a positive one, but local practice is not appropriate. It would make more sense to leave families in the same location and make the necessary arrangements - particularly, infrastructural arrangements – so that these families can continue to live in a more fitting socio-cultural context.

2.15.4.2.4 Sensitivity Towards Persons with Special Needs

There is a need for society to become more aware of the requirements of persons with special needs. In particular, the communities within which such persons live should be more sensitised to their needs so that it will be easier for these persons to integrate themselves socially.

2.15.4.2.5 Abuse of Social Welfare System

In a number of localities in the Maltese Islands, the social welfare system is being abused of. In a number of localities such as Isla, Bormla, Birgu and Zabbar, there are a considerable number of persons who are applying for work. How many of these persons are actually unemployed is another issue. All this amounts to a theft

of resources which could otherwise be used for more deserving aims. Hence, a method should be found to stop this abuse once and for all – not only by effecting the necessary controls on persons receiving social benefits but also by obliging applicants to carry out certain work/training if they are to be eligible for benefits.

2.15.4.3 Local Identity – Role Of Organisations

2.15.4.3.1 Preservation of Local Identity

Local identity is an essential part of Maltese culture, a culture which is all the time becoming increasingly imbued with foreign values which are destroying this identity. The organisations that one finds in the localities of the Maltese Islands – irrespectively of whether they belong to the Church or are secular – should be aided in keeping alive the traditions of a thousand-year-old culture which is fast disappearing.

One of the principal reasons for this is that many youths are not able/ready to appreciate the socio-cultural heritage bequeathed by past generations. Modern youths are too susceptible to the tendencies which they see, hear about or experience. Hence, it is necessary that future generations are encouraged to be more appreciative of the local and national heritage.

2.15.4.3.2 Cooperation between Social Entities

The existence of a lasting and total cooperation between the various social elements in a community is essential in order for everyone to work for a more unified society with firmer values.

2.15.4.3.3 Recreational Facilities as Antidotes to Social Afflictions

In order for this recommendation to be implemented, effective action must be taken against drugs, especially with respect to its trafficking, and against other abuses such as alcoholism. Such abuses have their toil on many youths who lack options of alternative recreational activities. The more recreational facilities and the more the educational system is equipped to meet contemporary needs (such as the introduction of teaching of life skills which initiative commenced recently), the less is the risk that youths give in for such abuses.

Meetings should be held, possibly in seminar format, on both a regional and a national scale between organisations which have some form of contact with society, in order to identify recurring problems and tendencies in various localities and in order to allow an exchange of ideas so that the role of organisations in general within the community will continue to grow stronger.

The social implications of socio-recreational projects such as that proposed by the Birzebbuga Local Council for Pretty Bay, should be carefully analysed. This Bay has the only sizeable sandy beach in the south region of Malta, and it is thus essential that no project should in any way hinder the general access to this Bay.

Acts of vandalism perpetrated by irresponsible persons in the area between the archaeological sites of Borg in-Nadur and GHar Dalam, limits of Birzebbuga, as well as in other localities, should be controlled in an effective manner. There is need for more environmental wardens to ensure that such sites are not vandalised.

Because of problems of accessibility in the locality of Birzebbuga, children and youths from the areas of Qajjenza, the Tal-Papa Housing Estate and Benghajsa find it very difficult to frequent the Civic Centres within the parish without putting their lives at risk; the problems are caused by :

i) the considerable increase in traffic, and
ii) the inefficiency of the public transport service.

Hence, more zebra crossings/pelican lights should be introduced, and pavements should be mended and, if necessary, widened in order to ameliorate pedestrian facilities.

12.5.4.3.4 Senior Citizens

Many are the senior citizens in the south region of Malta who are not aware of day-care centres and the service they offer. The only Civic Centre of this type in the region is that of Zejtun, which cannot keep up with the ever-increasing demand from interested persons. Hence, each locality should have its day care centre incorporated within a Civic Centre. Other facilities that such a Civic Centre should include are :

1. a health centre,
2. a post office branch,
3. a youth centre,
4. an open police station situated in the vicinity if not within the complex itself, and
5. an administrative centre for the Local Council of the particular locality.

At Zejtun and in a number of other localities there is a considerable percentage of old people living in unpleasant environmental conditions, and who are very diffident of any help which is offered to them from outside. There is need for a study regarding the actual number of old people who are in this situation, the conditions in which they are living and the principal reasons leading to this situation. In this way, it would be possible to find a proper solution in order to alleviate the suffering of such persons in need.

2.15.5 Public Spaces/Recreation/Leisure

2.15.5.1 Embellishment Tax

One of the main problems faced by Local Councils when proposing local embellishment projects are inadequate funds. There is a sort of paradox in what is said about Councils needing to be more autonomous and the fact that they are not given the tools which are essential in order for them to be truly more independent/enterprising. So long as the funds allocated to them by Government are inadequate, Local Councils will not be able to contribute the share that society expects them to contribute.

The time has come for the principle of embellishment tax, a less controversial variation of the Polluter Pays Principle, to be put into effect in the local commercial and industrial sectors. At present, the Malta Freeport is financing a project at Birzebbuga which is expected to cost about Lm 40,000 and which will consist in the

refurbishment of the promenade at Wied il-Buni, which is a very popular area for recreational purposes. The Delimara Power Station is also an installation which warrants some form of aid from Enemalta to make up for the number of inconveniences of an environmental nature caused by the same project. With regard to Cottonera, the contribution of Malta Drydocks towards the amelioration of the surrounding environment may certainly be much greater. Elements such as grit-blasting and noise pollution which has to be endured by residents of the surrounding area are surely very valid reasons for such contributions.

All entrepreneurs carrying out their business in a given area should be involved in projects to embellish the area.

2.15.5.2 Protection of Undeveloped Land from Urban Expansion

Valleys and areas of undeveloped land – most of which act as buffer zones between one locality and another – should be protected from urban expansion and irresponsible actions. In many cases, it is this land which delimits the confines of each locality. Hence, such land should not be used for harmful development or dumping. Where such land is almost non-existent, as in Cottonera, these buffer zones have an even greater significance. For example, the area in the vicinity of the Rinella Film Studios, formerly used for recreational purposes, has recently been used, due to lack of law enforcement and an absence of serious endeavour by the concerned authorities, for illegal dumping and hunting/trapping.

2.15.5.3 Prominence of Communal Facilities

Both in the *Marsaxlokk Local Plan* and the *Grand Harbour Local Plan*, considerable importance has been given to facilities of a social nature due to the fact that these have an essential role in the development of every community. In fact, the principal aim of Local Plans is ultimately that of promoting development which benefits human beings.

Nevertheless, it must be remarked that, even though these Local Plans give a very detailed picture of what can be done on a sustainable level in the various areas of development of these Islands, it is essential that there be full cooperation between the various Government departments and voluntary organisations where the social element is concerned. There is a need to increase cooperation between the Local Councils, the various Government/private entities and the citizens themselves, so that whatever is done will truly benefit all communities.

It should be noted that in many of the localities in the south region of Malta, there are a number of facilities on Government land, the social potential of which is not being properly exploited. In every locality, one finds areas which are supposed to embellish the environment but which are in a state of neglect. These should be rehabilitated and kept in decent condition. In a small country with very limited resources, there is no room for waste and carelessness.

One cannot help mentioning the poor state in which a number of schools in these localities have found themselves, especially with regard to recreational facilities such as tennis courts, football grounds and gymnasia. Hence, there is a need for these facilities, which exist expressly for the benefit of children, to undergo the necessary maintenance work.

For example, is it acceptable to have two football pitches, situated next to each other, simply because they are run by different organisations? Where the interests of the community in general are concerned, there should be no room for pique but only for high levels of cooperation between all interested parties. Mismanagement of such facilities should not be justified by any means whatsoever.

There is immediate need of a playing field in the Tal-Hawli Housing Estate, because this estate is totally bereft of any form of recreational facility. The same thing applies for a number of other housing estates scattered in other localities.

On a regional level, the shortage of sports/recreational facilities can be mitigated by a better utilisation of existing facilities. For example, the idea of building a sports complex in front of De La Salle College, in one of the few areas which have remained undeveloped is not sustainable. Hence, it is essential to upgrade existing facilities in the schools of the localities concerned so that they may be used by the whole community and not only by a limited number of people.

The Birgu ditch and the ditch situated below the Santa Margherita bastions at Bormla should be developed for recreational purposes. In this way, the limited resources of these localities would be better utilised and, at the same time, the relative areas will no longer remain a haven for illicit activities such as prostitution and drug trafficking.

2.15.5.4 Fort St. Angelo

The possibility of turning Fort St. Angelo over to the Sovereign Order of the Knights of St.John should be carefully weighed. If it were to take place, our country – especially Birgu and the surrounding areas – would benefit in various ways :

1. an effective restoration of Fort St. Angelo would be undertaken;
2. the prestige of Birgu and of Cottonera in general would increase; and
3. it would be a very effective way for Malta to publicise at an international level all that it has to offer in terms of historical and cultural heritage.

2.15.5.5 Delimara National Park

The idea of creating a national park at Delimara should be given a boost forward. Such a project would serve as one of the recreational areas for all the families resident in the south region of Malta.

2.15.5.6 Dock No.1

The project relating to Dock No.1 at Malta Drydocks should be started as soon as possible so that all concerned entities will be able to show their strong commitment to put Cottonera on the right footing. Together with other development proposals, put forward in the *Grand Harbour Local Plan*, such as the building of yacht marinas and the complete regeneration of the Cottonera waterfront, and various projects by the Local Councils themselves, such as the proposal by the Isla Local Council to rehabilitate the Macina Complex and use it as a civic/recreational centre, the Dock No.1 Project would be the first step in the direction of a lasting solution for the alleviation of the various economic and social problems which characterise these localities.

2.15.5.7 Rehabilitation of Cultural/Historical Places

There should be a substantial contribution by persons who provide some form of commercial service, especially persons involved in the tourist industry, in order to help Local Councils in the rehabilitation of cultural/historical places.

2.15.5.8 Shielding of Residential Element from Commercial and Industrial Activity

In localities such as Marsascala, the residential element should be shielded from the rapid expansion of the commercial and recreational facilities, keeping in mind that it is the former which keeps the locality alive.

In other localities such as Birzebbuga, the possibility of relocating the present industrial facilities within the locality, which have become surrounded by buildings, should be seriously investigated. The primary consideration is that the safety element which used to be provided by buffer zones, no longer exists. An accident at one of these facilities could have extremes negative consequences on the surrounding environs.

The impact which the regeneration of the Cottonera waterfront, as part of the *Grand Harbour Local Plan*, could have on the concerned communities, should be accurately explored. The aim of such a project should be to alleviate the grave social problems afflicting the region rather than creating other potential conflict zones on the social level.

The development of these localities, both in the case of Cottonera and even more so in the case of the other localities (where there is more room for development) should be based on a system of planning through which a stable balance is reached between various interests, whether they be commercial, administrative, leisure, tourist and economic interests. However, it is acknowledged that, without residents, these localities will cease to exist, and hence the human and communal elements should prevail over other interests and not vice versa, as often happens in Malta.

There is need to find a solution to the problem of the smells which are regularly generated by the Sant' Antnin Waste Recycling Plant and which are causing serious inconvenience to the residents of the area, especially those of Marsascala, Zabbar and parts of Zejtun.

Both the Freeport and the activity at the Malta International Airport are causing serious inconvenience as regards excessive noise at various times of the day.

The existing scrapyards at Kalkara and at Wied Zembaq in Birzebbuga should be relocated as soon as possible so as to reduce the extremely negative environmental impact that they are having.

2.15.6 Health

2.15.6.1 Pollution Monitoring

The adoption of a system to monitor environmental pollution, especially air and marine pollution, in the region. Residents would have a right to be informed of the findings.

The carrying out of a scientific study of the level of grit contamination in rainwater which is collected in underground cisterns from residential roofs in Cottonera.

2.15.6.2 Alternatives to Grit-blasting

Efforts should be made to find alternatives to grit-blasting which would be less detrimental to health. Before deciding which methods should be employed in its commercial activities, the Drydocks should consult competent people in the field of health and environmental awareness.

2.15.6.3 National Health Monitoring and Epidemiological Studies

Medical records should be kept in order to permit the carrying out of a scientific study about industrial activities and their consequences. Research should be made about the incidence and causes of respiratory diseases (such as asthma) and also of allergic conditions in Malta.

A study should be carried out on dockyard and quarry workers so as to check the possibility of a link between working conditions and lung cancer.

There should be a research department falling under the Ministry of Health which would work hand in hand with hospitals, clinics, private medical practitioners and social workers so as to set up a continuing and up-to-date national health monitoring system.

The definition of health should be expanded (beyond what is usually referred to mean by the term 'physical well-being') and a study should be made of the most prevalent diseases/conditions in the region and of their principal causes. Particularly, the effects of the following should be noted :

lack of space,
lack of aesthetics,
lack of suitable architectural planning,
high levels of particulate matter in air, and
the effects of social surroundings.

2.15.6.4 Environmental Stewardship

Laws relating to the environmental stewardship should be rigorously implemented and enforced. Instead of the burning of tyres, the possibility should be considered of recycling such material, for example in order to provide exotic building material (say, for the building of fences) as is the practice in some other countries.

2.15.6.5 Police Presence

All Local Councils of the south region of Malta, except for the Kalkara Local Council, have complained about the lack of an effective police presence. At Marsascala, the police should strengthen its presence, especially in the more popular entertainment venues, and should also keep noise down at certain hours of the night.

2.15.6.6 Vehicle Testing

M.O.T.-type vehicle testing should be introduced, whilst the use of catalytic converters should be enforced.

Public buses should be regularly examined and checked for any pollution they might be causing.

2.15.6.7 Health Promotion

An increase in public conveniences to upgrade public hygiene.

The stepping up of health promotion campaigns in schools and on the broadcasting media so as to boost disease prevention and also to encourage a healthy lifestyle and the acquisition of health skills as well as the creation of an environment which promotes health at home, at school, in the streets and at the workplace to create an awareness amongst employees and employers.

A system of silent hours when aeroplanes cannot take off or land; or else, a policy favouring aeroplane engines which make as little noise as possible.

Area-based social work will help investigate housing conditions.

2.15.6.8 Hal Far Promoted as a Regional Recreational Centre

Hal-Far should be established as a regional recreational centre, affording suitable recreation opportunities to families from the surrounding areas. Similar projects should be made for Ta' Qali in the north region of Malta. At the same time, Hal-Far should also be developed so as to be able to host activities such as Maltafest.

2.15.6.9 Health Inspections of Ships

Inspections of ships entering the region's ports should be made; for example, a law that every ship should declare the condition of its human waste facilities (slops) immediately on berthing, and no ship should be allowed to empty such waste into the waters of the port. Occupational classes and professional counselling for the unemployed.

2.15.7 Family

2.15.7.1 Preparation for Marriage

Preparations for marriage should become even more professional thanks to competent counsellors and facilitators. If need be, psychological tests should be carried out which may serve as a guide in choosing a partner.

In the broadcasting media, more promotion should be made to raise awareness of the need for a thorough period of preparation before a couple can decide to have children – possibly in the form of spots produced by Non Governmental Organisations such as the Kana Movement and Sedqa, as well as by the Ministry responsible for family affairs.

There should be a wider and more intensive range of skills training, as well as live-ins specifically designed for couples so that they may become more proficient in communicating with each other. Dialogue, rather than an attitude of high-context communication should be emphasised.

2.15.7.2 Multicultural Interaction

Regarding the matter of emargination, multicultural interaction is important. This can be promoted through activities for children at a local level. Parents would be invited to watch their children participate in periodic entertainment productions. Activities may be organised which would enable parents to meet, even through participation in games. Many consider games as child-related activities, but they can be one of the ways through which cultural, racial, and national frontiers may be transcended.

There seem to exist certain instances of prejudice which are giving rise to often unfounded speculation in relation to persons who are married to Arabs or who have embraced the Muslim religion. It is important for one to be more cognisant of the challenges which such Maltese have to face. Together with this awareness, there is an equal need for persons who are about to marry foreigners to receive adequate preparation; this applies especially in cases where the future spouses do not profess one of the Christian religions. Very often, such persons experience a feeling of emargination from a society incapable of tolerance. These factors create social problems which will undoubtedly leave their impact on future generations.

Consequently, the primary and secondary school curriculum should include cross-cultural appreciation studies, especially in the teaching of religion.

2.15.7.3 Social Housing

An adjustment of mentality is a complex process, but one which may take place through new concepts linked to social housing. Up to now, this concept appears to be resolving problems through the creation of new, even more significant ones.

An impact assessment of social housing should be made through a qualitative study.

In Maltese, there is a saying *l-ezempju jkaxkar* which may be loosely translated as "people tend to act on the example given by others' behaviour". The veracity of this saying is in fact also corroborated by the work of researchers, who have discovered that people learn more from what they see than from what they hear or what is lectured to them. Hence, the concept of social housing, where people with social problems are allocated residences, is compounding the problems of the respective host communities. When people are encouraged to mix and are exposed to different cultures, the exercise serves as an eye-opener for whoever is not living in conditions which offend human dignity. Through modelling, solidarity and stability may indeed be promoted amongst communities. In 'normal' housing conditions – that is, where there are different types of families – support families of an informal kind may be created through training which such families are given. The same reasoning applies for other families such as those with members having special needs, members of foreign nationality or with widows and aged persons.

The creation of residential blocks, especially for families with social problems, has led to such areas becoming magnets for the proliferation of more problems, and laboratories for the creation of social difficulties. Consequently, the stigma attached

to these areas is enhanced. This serves to further condition social interaction. In places where, in a row of houses, there is only one family in crisis – a housing situation which is here being referred to as 'normal' housing – the situation is more amenable to control and the community will probably be able to take and absorb such a challenge.

2.15.7.4 Parenting Skills

The vicious circle referred to by the Centru Fidi u Gustizzja should start being eliminated through educational interventions which utilise means that can be understood by the families involved. It is useless to broadcast a programme on the radio if the language used is not easily comprehended by listeners. The continuation and consolidation of courses in parenting skills offered by Sedqa and Non Governmental Organisations such as the Kana Movement is important. The logic behind this training is that a person, biologically ready to generate offspring, does not mean that s/he has the skill to be an effective parent. There is need of refresher courses in parenting skills.

In the curriculum of the senior classes at secondary level, lessons about parenting should be introduced as part of the curriculum for personal and social education.

There should be a consolidation of the counselling services offered in school to help the parent-child relationship to face the challenges they encounter. Support groups for parents who meet on a regular basis should be created.

2.15.7.5 Community and Social Work

Community work and local social work should be implemented, as is being done at the Social Work Development Programme's Dar Bina and by the Sisters of Mother Theresa at Bormla.

All societies of the region should be consulted so that initiatives in the social sector may be better coordinated. Thus, services may be utilised more judiciously and without wastage. It is important that the principal aim in such initiatives are the interests of the persons being helped rather than the prestige of the particular organiser involved.

For the proposals being set forth to merge together into a cohesive whole, there is a need for community leaders to promote formal education; for example, teachers should be trained to encourage autonomy in children.

2.15.7.6 Latchkey Children

Research should be carried out about latchkey children, in which the different age groups and the reasons for such behaviour are analysed. One should also emphasise the need for Child Day Care Centres and the possibility of longer periods of unpaid parental leave.

The conditions of work as regards working hours should be developed in such a way as to be pro-family. Government should give an example to private enterprise by taking the initiative in support of the family. Here, supporting the family should be understood as referring not only to relations between couples but also to the parents-child relationships and the bringing up of children.

2.15.7.7 Social Salary

There should be a regular revision of the social wage so as to enable the keeping of a proper standard of living. A proper salary would avoid situations where spouses are both forced to go to work, or where one spouse is forced to spend extra hours working away from the family – an element which could negatively affect a couple's relationship with each other as well as with their children.

2.15.7.8 Poverty Monitoring

Through consultations with social workers working in deprived areas of a locality, adequate social security measures should be taken with respect to those families whose standard of living is relatively poor, such as families who are living in sub-standard housing. A monitoring system could be devised for the type of poverty which exists in Malta so that the necessary steps may be taken to initiate effective action. Here, it is important to emphasise the human aspect of those person/s living in ways unbecoming to human dignity.

2.15.7.9 Family Education

There should be promotion of a symmetrical family based on equal partnership. This can take place both at a formal level, such as the legal level, and also with regard to the raising of children both in the home and at school. The setting up of a commission for children is a praiseworthy initiative.

The promotion of adult education should be strengthened further in order to reduce the difference in the level of education of members of the same family.

A person-centred rather than problem-centred family therapy service should be provided.

To take care of the family is to take care not only of emerging generations but also of future ones. The family is the birthplace of the coming generation. In this respect, educating the family is crucial because it is the primary tool for fashioning a society with few social problems.

2.15.8 Education

2.15.8.1 Sensitivity to Local Culture in Educational Programmes

It is strangely true that, very often, the best teachers are found amongst those teaching the best students. The Social Issues Working Committee recommends that competent teachers, counsellors and child psychologists from the Education Division be given the opportunity to help students and parents from the south region of Malta, especially Cottonera.

The physical environment in schools very often puts off certain teachers and other human resource practitioners from fully participating in the educational programmes of the locality. Hence, it is important to effect a rehabilitation of Government schools; certain schools should be relocated to other sites while others should be freed from offending inconveniences[23].

A fundamental problem of the region is the attitude against school and teaching. This leads to added stress amongst teachers, and ample conflicts between parents and teachers. It is important to understand that such an attitude is actually a reaction against educational institutions, which very often demonstrate insensitivity to the local culture in approach and content. An educational system must be created which is not intended merely to lead a small proportion of its students on to the highest educational institution of the country and subsequently to a very specific type of work. The curriculum should be flexible and imaginative enough to arouse and maintain the interest of all students; this may be made by educating students in the methods and about the subjects which they find most interesting. This strategy should also help to alleviate other problems within the region which are linked to education, such as absenteeism, illiteracy and lack of interest in reading.

The services of counsellors and psychologists are also important so that parents may be encouraged to participate in this educational programme and understand its aims.

2.15.8.2 Latchkey Children

There are several schoolchildren who have to spend many hours each day alone at home, as both their parents work. The phenomenon of latchkey children has not been adequately researched in Malta, and there are some who opine that this experience of solitude exposes children prematurely to responsibility. The Social Issues Working Committee encourages the participation of students in the After School project launched by the Ministry of Education. It also encourages the setting up of child day care centres[24] where, for a nominal fee, parents may leave their children for a certain amount of time under professional supervision.

2.15.8.3 Statistical Data at a Local and Regional Level

To carry out this study, the Social Issues Working Committee has had to refer to various sources of statistical data; however, it was discovered that the keeping of statistics on a locality or regional basis is not a well-developed practice. This comment applies for all the social sectors and not only for education. For example, the Working Committee was astonished to discover that no breakdown by residence of the marks obtained by students who fail their entry examinations for the Junior Lyceum is available. Nowadays, with the computerised systems in every Government Department, it should not be difficult to produce such statistics and make them available.

2.15.9 Criminality

2.15.9.1 Coastal Surveillance

The dis/embarkation of illegal immigrants is a problem which could aggravate the situation within the locally small and sensitive employment market. Coastal surveillance by the Police and the Armed Forces has to be intensified[25].

2.15.9.2 Study on the Outside Criminality Phenomenon

An interesting result of the research carried out by the Social Issues Working Committee has been the discovery that, in the opinion of Local Councils, those who carry out acts of vandalism or criminal acts in a particular locality do not tend to come from that locality[26]. Perhaps the forces of socialising and of social pressure are still strong enough to ward off vandalistic and criminal acts by locals in communities where people know each other and see themselves as part of the locality; in other areas, a person is more anonymous and less known, and there are no identity ties – hence, such persons will have more freedom and find it easier to commit offences and undesired acts. This phenomenon deserves to be studied in more detail.

2.15.9.3 Police Corps

Faith in the Police Corps is not always present. It is easy for familiarity to creep in between the forces of law and order and those whose acts destroy such order, leading to a deterioration of discipline and to continued criminal acts. In a small island state like Malta, where there is no anonymity, especially for those who don a uniform, perhaps the only way to have a truly professional Police Corps is to recruit foreign nationals for a definite period of time (say, three years).

2.15.9.4 Socially Accepted Alcohol Abuse

Although alcohol is today considered as a substance which may be abused, this fact is still accepted at a cultural level. In certain localities more than in others, the consumption of wine, beer or whisky is an integral part of social behaviour, a demonstration of hospitality and of sociability. There is consequently a need for educational projects, with the involvement of Sedqa, to provide information on the effects of alcohol in schools.

2.15.10 General Recommendations

2.15.10.1 Urban Integration of Fgura

In the south region of Malta, Fgura is the locality with the biggest projected increase in population and the biggest influx of traffic, but is nevertheless also the locality with the least amount of open spaces. Fgura is without sea or countryside, and its expansion was due to the development of a main road. Hence, Fgura has to this day remained a dormitory town, a place to eat and sleep in as opposed to a place to live in.

Whilst agreeing in principle with a project to provide a bypass for Fgura, the width of Vjal Kottoner can provide a unique opportunity to start a process through which even Fgura will have its own core and centre.

A study by traffic engineers is recommended in regard to the rerouting of traffic through Vjal Kottoner in such a way that part of Hompesch Road extending from the corner with Triq il-Karmnu (that is, from near the Keyhole Bar) to the Hompesch Arch would become a traffic-free zone. Certain administrative services could be relocated to this part of the parish.

2.15.10.2 The Setting Up of a Regional Development Board

A Regional Development Board should be set up. Its aim would firstly be to effect regular and co-ordinated monitoring of the way in which the implementation of the Regional Socio-Economic Development Plan is taking place. This could be a function to be undertaken by the Planning Council itself, with the help of several sub-committees. A second function of the Board would be to overcome the limitations of individual Local Councils, avoid the squandering of precious resources in the duplication of a lot of small projects and to copy the regional model which, in these Islands, has up to now been implemented solely in Gozo. Regionalisation should be recognised in Malta at an intermediate level which incorporates the will of the citizens on a scale which is meaningful both in economic and in administrative terms, especially where projects meant to benefit the whole region are concerned. In the long term, it is expected that all Government organisations will accept this reality and incorporate its implications in their territorial departmentalisation – an area which, to date, has been governed by anarchy.

2.15.10.3 Social Impact Assessments

Since the ultimate aim of every development is to affect people and better their standard of living, it is the Social Issues Working Committee's belief that, for the future, a decision should automatically be arrived at to take into consideration the social effects of every infrastructural project in the most organised and systematic manner. The Social Issues Working Committee therefore suggests that the principle of evaluating the social consequences on individuals and groups of persons should be introduced as an integral part of the drawing up of development projects and policies. Past experience highlights the need to treat development not solely as a mere technical project but, at the planning stage, view it also in its broad social context. The country cannot keep going on from one project to another, only to suffer the social consequences of every project when it is too late to take remedial action. The adoption of a list of social indicators is thus being suggested with this aim in mind, as well as to promote greater inter-disciplinary interaction between the teams which prepare development briefs and effect impact assessments.

2.15.10.4 Sustainable Energy Production

Finally, it must be appreciated that every new development very often means that a greater pressure will be brought to bear on sources of energy. The consumption of energy, such as electrical energy, is considered as a quantitative indicator of the level of development reached; the significance of such an indicator is dubious for Malta where 40% of the total electricity generated is effectively used in the production of water. The geography of the Maltese Islands is such that sunlight hours, although with varying periods, are present throughout the year. Thus, one should seriously investigate the possibility of investing in solar energy as an alternative, environment-friendly form of energy. Instead of expanding the power station (and adding two new chimneys for a total of three), one should invest in this source of clean energy such as many neighbouring countries. Enemalta should be given clear instructions by Government with fixed deadlines for the setting up of an alternative energy programme. Could Reverse Osmosis Plants which are self-sufficient as regards energy consumption be projected?

2.16.0 Final Comments

A pressing national problem is the lack of unobstructed and open space for recreation. There is a strong demographic pressure within the country, especially now that the population is increasing at an average rate of 0.7% per *annum* without emigration opportunities. Malta has the second highest national population density in the world, preceded only by Singapore. This situation creates many problems, some of which are obvious, such as the increase in traffic in urban area, and others less so, such as the erosion of the local sense of community. The south region of Malta suffers from this situation too, also due to the fact that it has a high population density : the highest population density in the Islands is to be found in Cottonera.

A high population density calls for an efficient public transport system. In the case of Cottonera, a more practical and efficient transport system should be found. For example, use of mini-buses should be made in order to bring people over from a number of areas within a locality on a regular basis, and take them to a terminus with a waiting bus ready to take them to their destination. It is also required that certain routes be modified and others added to existing routes so that everyone will be better served, leading to a decrease in the demand for private transport. However, for these proposals to make sense, the roads, at least principal ones, in many localities will need to be given a thorough overhaul.

The Local Councils of the south region of Malta feel the need for better planning so that past mistakes may be avoided. This country seems to have an obsession for considering every piece of unbuilt land as having development potential only; as if an expanse of garigue was only a spot which is solely suitable for growing worthless plants, and it would therefore be a good idea to remove the plants and build structures.

2.16.1 Principal Kinds of Resources

In the most concrete manner, any planning initiative should recognise the value of six principal kinds of resources :

1. Firstly, spaces within the core of a locality which are relatively free of traffic and offer adequate space for persons to meet in, be they children or adults. This space is very often found by the church parvis. The presence of certain outlets which provide services – such as bars, post-offices, clubs (*kazini*) and Civic Centres – will lead to greater amounts of people gathering in the place and interacting. Few localities in the south region are lucky enough to have the above advantage; the main roads of Xghajra, Zejtun, Zabbar, Kalkara and Isla effectively carve up such space; an opportunity to allocate the last piece of undeveloped land near Fgura Church for such a purpose has perished; at Marsaxlokk, the available space has become a parking area for tourist coaches. The struggle to find parking space for cars is such that a space intended as a square soon ends up as a parking area which discourages and precludes social interaction and all social life; for example, Pjazza George Stevens (Fgura), Misrah Francesco Zahra (Isla) or Pjazza Medjatrici (Zabbar).

2. The second resource consists in other public spaces which evade the clutches of private developers and remain allocated for recreational

purposes – such as gardens, playing fields, promenades and football grounds. Misdeeds in this respect are also present. The Isla football pitch is ludicrous; it is not even squarely shaped and is moreover ruining the nearby trench; the Kalkara football team is close to disbanding; the Fgura pitch is also situated under the bastions, and will probably have to be shifted elsewhere; Marsascala has no football pitch whatsoever; in other localities such as Bormla, the football pitch is in need of extensive maintenance. Moreover, people using the playing field at Isla have to compete with car owners who use the place as a parking area; the Marsascala playing field is squeezed between commercial outlets; and the one at Kalkara is not adequately safeguarded from the threat of traffic hazards. Space should also be provided for the creation of centres of administration where these are non-existent. It must be remembered that the sole creation of a physical space is not enough; it has to be accompanied by a conscious effort to make that space fulfil social, recreational or administrative functions.

3. Thirdly, the countryside should not be ignored. The little countryside remaining in the region should be preserved. The proposed national park at Delimara should help in catering for another means of relaxation. One should perhaps consider making available instructive information about the potential of walks and picnics in the areas of Wied il-Qoton, Wied iz-Ziju and Wied GHar Dalam. Possibly, there is also the potential to free a currently built-up site between the Kottoner and Margerita bastions in Cottonera, as well as to utilise what little green area remains between Zabbar, Fgura and the Santa Liena Gate.

4. Fourthly, one should keep in mind the subconscious link between this region and the sea. The sea is not a frontier or a kind of natural border; it is a communal natural and cultural resource. An important measure to complement this heritage is the construction of a marina and of an attractive promenade along the coast of Cottonera extending from Kalkara, along Birgu and Bormla, and, possibly, along the rest of the coast up alongside the two gates of Isla and as far as Senglea Point[27]. The other 'Berlin Wall' at Bormla should be demolished, and the area at Dock No.1 should be opened in such a way as to remain faithful to local history. This move could immediately change the opportunities of Cottonera and assist the area in achieving a rise in national social status. It is a move which could help in the creation of a sustainable form of local or foreign tourism. It could also lead to a revaluation of the buildings and housing stock of the locality, in such a way as to once again promote a better filtering of residents. Equally important is the possibility of indulging in recreational activities at Munxar promontory, St. Thomas Bay, Xrobb l-GHagin and the coast linking Xghajra to Marsascala. One should note the fortresses positioned along the coast : Sant' Anglu, San Anard, Ricasoli, Madonna tal-Grazzja and Santu Rokku which deserve better marketing as historical attractions. Unfortunately, the San Tumas and San Lucjan Towers are crumbling, the former due to total abandonment and the latter due to misuse.

5. Fifthly, and equally importantly, is the creation of a structure permitting the locality itself to participate in the planning and development of its spaces and the progress of its inhabitants. Traditionally, all initiatives linked to local or regional developments have always been taken by central Government, whether Maltese or Colonial. With the setting up of

the Local Council, there is now another level of administration below central Government – one that is much closer to the people, and thus in a better position to allow the same people to be involved in decisions which affect them. One could follow the example of several other countries and islands which, faced with problems of a socio-economic nature, have learnt – often at their own cost – that the best policies are those which emerge from the grassroots, spurred by the needs of the area and not those policies which have been imposed from above.

One of the objectives of the Regional Socio-Economic Development Plan is specifically, that, if possible, it will not have to be reworked. This is also an opportunity for socio-economic planning to go deeper down, reaching the people who are affected.

Hence, the creation of a Regional Development Board for the south region of Malta is being recommended. Such a Board should bring together members of the various Local Councils, workers' representatives, representatives of the commercial community, representatives of Non Governmental Organisations who have headquarters or branches in the region – and this with the aim of themselves monitoring the socio-economic situation and suggesting solutions which could be put into practice by Central Government. On the other hand, several public and parastatal corporations, such as Enemalta, Maltacom, the Police and Water Services Corporation, could acknowledge this initiative by organising themselves into a structure which appreciates the local and regional reality of the country. If such an initiative is heeded by the authorities, it would lead to a devolution of power and would further assist the building of a culture based on self-sufficiency and autonomy, instead on dependence and irresponsibility.

6. The sixth resource is that which has to do with the manner in which implementation is undertaken. An initiative such as that of a regional plan leads to the coordination of many resources as regards its short-term planning. However, very often such an initiative subsequently peters out, whilst the executive immediately starts and continues its implementation. Hence, it is important at this stage to recognise at the outset the importance of clear standards for performance measurement in the implementation of any recommendations which are adopted. Amongst these standards, the following are being suggested :

   The recognition of the ultimately social aim of every development, and hence the official acceptance of social indicators in the planning of every infrastructural project. Most probably, this would require a broader mingling of expertise insofar as the persons commissioned to work on development briefs and impact assessments are concerned.

   Measurement of the effectiveness of every infrastructural project by comparison with the progress registered on the same social indicator.

   The setting up of the Regional Development Board as outlined above.

In this way, central Government, Government Departments and Local Councils create clear and transparent mechanisms for constructive and effective consultation and co-decision-making which operate between themselves and the people they represent in the implementation of policies which, after all, are going to affect them all. The idea is still rampant among the populace that it is not so much the objective value of the substance of a project or policy that is important but rather the personal element (whom and how many such people you know).

People are social and political animals – created to live and decide together with others of their species. Consequently, when prevented from expressing this natural tendency, humankind suffers from repression which it promptly seeks to manifest in other ways. In the case of Fgura – one of the localities most deprived of open space in all the south region of Malta – the richer, better educated and middle class section of the population spends its leisure time indoors – studying, reading, watching television, playing computer games; it indulges in educational and informative investment which however does no good to the health of the body or to the creation of a communal life. In the case of Cottonera, one encounters the other extreme where there is not a substantial culture of computers, reading or study, but rather a considerable amount of unemployment and illiteracy, the people indulge in drinking at bars, gambling and experimenting with drugs. Otherwise, it would be necessary to go elsewhere, to Marsascala, Birzebbuga or even Paceville where even here, however, one finds the same alienation-inducing activities. In the meantime, people continue grumbling about what the Government should do; shameful situations and conditions within the respective localities are continually stressed. What is never considered is what the individual in the street could do about it!

The demand for development in the south region of Malta is great. However, it is a demand for a particular type of development. Substance is important, but equally important is the way in which development takes place. The community is already regarding those persons who speak about development of the region with apathy and scepticism. In the past, such words could often turn out to be an attempt to persuade residents into accepting the dumping of industries or persons who cause problems in the locality, and also plans which have tended to aggravate rather than mitigate the effects of a number of problems. Not only that, but the community is also looking sympathetically at the role of Local Councils. These, on an individual basis, do not have the means to effect the sweeping reforms needed in these localities, but citizens nevertheless keep hoping that Local Councils will at least do something. When results do not arrive, apathy continues to consolidate its hold on residents and will be extended also to the Local Councils[28].

The country cannot possibly keep going through the same experience. There has to be an end to the vicious circle which consists in dependency on the State or on Local Councils which gives rise to increased apathy and fatalism when the above organs fail to do what should be done or, even worse, succeed only in worsening the situation. Families keep leaving, investment keeps decreasing, the image of a depressed area, a social dump, keeps growing more powerful.

Neither is it possible to keep on looking at the south region of Malta in such a way, which viewpoint thus justifies the noble intervention of experts and consultants. All initiatives should achieve the aim of helping the south region of Malta shed this negative image. They should lead to a new definition of how development is undertaken and thus enable one to better qualify the meaning of the much abused 'sustainable'. As such, one would not be helping to create a paradise on earth but, at least, one should lead the south region to be no longer considered, and more

importantly, not to consider itself, as inferior to other regions of the Maltese Islands. In this way, the Regional Socio-Economic Development Plan for the south region of Malta will have truly achieved its main aim.

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Alfred Camilleri, Director, Central Office of Statistics
Maja Miljanovich Brinkworth, Consultant, Central Office of Statistics
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Sue Vella, Management Efficiency Unit Consultant
Carmen Camilleri Ciantar, Secretariat for the Elderly
Noel Zarb Adami and Vincent Azzopardi, Chairman and Vice-Chairman respectively, Malta Drydocks Council

Appendix III.A2

III.A2.0 List of Social Indicators

III.A2.1 Work and the Economy

1a - patterns of income and expenditure
1b - location and social effect of polluting industries
1c - industrial estates and their effects
1d - unemployment patterns
1e - aspects of child labour
1f - entrepreneurship patterns
1g - economic sectoral concentration of full-time work force
(such as, manufacturing, tourism, agriculture, etc.)
1h - economic sectoral distribution of part-time work force

III.A2.2 Demography

2a - age distribution
2b - social mobility in/out of council territory
2c - social mobility within council territory
2d - patterns of immigration and emigration from council territory
2e - markers of social class/status/ social prestige
2f - ageism and issues related to old age

III.A2.3 Health

3a - visual/olfactory/audio/marine/air pollution and social impacts
3b - propensity and patterns of ill health
3c - alcoholism
3d - drug abuse

III.A2.4 Housing

4a - level, quality and adequacy of housing stock
4b - patterns of property and land tenure
4c - impact of housing estates (if any)

III.A2.5 Education

5a - levels and patterns of literacy
5b - levels and patterns of post-secondary education
5c - extent of professionality among working population
5d - usage and state of library facilities
5e - state and adequacy of schools
5f - location of schools and school transport arrangements
5g - effectiveness and activities of school councils

III.A2.6 Community

6a - public space availability, encroachment and access

6b - the village/town identity and extent of such awareness
6c - role and activities of the secular voluntary sector
6d - role of church/religious groups - impact on community
6e - role of bands and other social clubs
(football/hunting/*bocci*/ political party....)
6f - meeting places for youths; children; elderly; women...
6g - minorities and their integration in community life
6h - type and manifestation of poverty: social repercussions
6i - social impact of public transport provision

III.A2.7 Crime

7a - juvenile delinquency
7b - level and pattern of vandalism
7c - police presence/absence
7d - patterns of locality crime

III.A2.8 Leisure and Recreation

8a - impact of tourism and zoning of related services
(such as catering; hotels; souvenirs; museums...)
8b - impact of commercial services and zoning
8c - impact of administrative services and zoning
8d - impact of recreational/sport facilities and zoning
8e - traditional versus modern forms of leisure; character and impact

III.A2.9 Family

9a - marital problems
9b - single parent households and non-traditional 'families'
9c - parenting styles and parent-child relations
9d - intra-family relations (multi-generational) - traditional versus modern (such as relations with grandparents)
9e - intra-family relations (mono-generational) - traditonal versus modern (such as relations with both spouses working full-time)

III.A2.10 Any other social issue...

[1] This same situation also explains the reason why no villages exist in Gozo, and why, apart from Rabat, the first parishes were only established in the seventeenth century.

[2] The first two Government primary schools were set up in Valletta and Isla in 1819. More than 80% of the children of Cottonera used to attend school in the 1930s, though attendance was not obligatory (Abela, 1993, p.4).

[3] Vide for instance Boissevain (1986).

[4] According to Joe Mizzi MP (reported in *It-Torca*, 3.5.1992), 4.3% of Cottonera were living on social welfare benefits in 1992. According to the *Census* of 1985, more than 74% of the buildings in Cottonera are leased for less than Lm 50 per annum.

[5] In fact, the *1995 Census* reported 64 and 75 full-time farmers from Zabbar and Zejtun respectively, together with some 300 part-time farmers. A third of the milk produced in Malta comes from these areas.

[6] Statistical data gathered by the Infrastructure Working Committee shows that in 1990, 43% of households in Bormla and Birgu, 34% of households in Birzebbuga, and 33%, 30% and 29% of

households in Kalkara, Zejtun and Isla respectively still lacked a private car. The national average at the time stood at 24% of households.

[7] The meaning of 'fit' (*tajba*) is debatable – situated very close to this bay is the tank cleaning facility of Malta Drydocks. At Rinella Bay, high levels of the toxin tributyltin have been found (Axiak, 1994, pp.35-36).

[8] These ideas are corroborated by interviews with various resource persons as well as by A. Abela in interviews made to Members of Parliament (Abela, 1993, pp.39-45).

[9] The percentage of working women as based on the number of households in the Maltese Islands is 32.2%. In Fgura, the percentage rate is 36.4%; in Marsascala, 36.3%.

[10] In Bormla, the percentage rate is 23.4%, in Isla 24.4% and in Xghajra 26.5% (Source: *1995 Census*).

[11]The percentage of working men as based on the number of households in the Maltese Islands is of 86%. In Bormla, the rate is of 74%, in Isla 76.3% and in Birgu 82% (Source: *1995 Census*).

[12] As is the case in certain areas of Birgu, Triq is-Sirena in Isla and Juno Heights in Marsaxlokk.

[13] By contrast with the more affluent community of foreigners at Marsaxlokk, who mix and participate in many activities of the locality.

[14] According to the *1985 Census*, the nine highest rates of illiteracy were all to be found in the south region of Malta (except for Valletta and Marsa).

[15] A project is being planned by the Marsaxlokk Local Council in this regard.

[16] Could this be due to the development of the Delimara Power Station, and thus be a means of promoting the industrialisation of the area?

[17] The Social Issues Working Committee agrees with the proposal regarding the setting up of this Industrial Estate at Kordin, contained in the *Grand Harbour Local Plan.*

[18] The agreement regarding the management of Fort St. Angelo by the Order of the Knights of St. John could also lead to the same snowball effect, especially at Birgu.

[19] As established by the study carried out by Blohm & Voss (1992).

[20] On a comparative note, the Freeport is accepting to be a sponsor for Birzebbuga. This responsibility comes out even if one accepts the polluter pays principle.

[21] This would be a Job Motivation Scheme, the launch of which has been recommended by the Employment Training Corporation in a report commissioned recently by the Ministry of Social Welfare.

[22] Reference is made to the project *L-Iskola fil-Komunita`*, which is organised by the Faculty of Education of the University of Malta.

[23] For more detailed recommendations regarding this subject, vide Mintoff (1995).

[24] A project which has been conceived by the Parliamentary Secretariat for Women's Rights.

[25] Such surveillance is also needed on account of the employment of seagoing vessels for drug trafficking.

[26] This affirmation has yet to be confirmed by statistics.

[27] The *Appledore Report* (1997) suggests that the whole of the Drydocks area situated around Isla (Docks 1, 2 and 3 as well as the Hamilton and Somerset Wharfs) could be rehabilitated.

[28] This is perhaps the reason why during the last Local Council elections at Bormla only 44% of the electorate cast their votes, and why in 1995 only 55% of the Isla electorate cast their votes.



Table III.2.1: Economically active population by gender and locality (Males)

(Source : Central Office of Statistics, *1995 Census*)

	Total		*Professional & Technical*	*Administrative & Managerial*	*Clerical & Related*	*Sole Workers*	*Service Workers*	*Agriculture & Fisheries*	*Production & Transport Operators*	*Others*
Males	*102,913*		*12,403*	*9,971*	*8,328*	*14,564*	*7,111*	*2,344*	*36,850*	*11,342*
Percentage			*12.1%*	*9.7%*	*8.1%*	*14.2%*	*6.9%*	*2. %*	*35.81%*	*11.0%*
Birgu	860	9.4	81	20	61	125	52	6	413	18 + 84
Bormla	1592	6.3	100	20	131	311	94	7	674	43 + 212
Isla	962	5.9	57	19	73	157	64	2	445	32 + 113
Kalkara	804	12.6	101	36	52	105	55	9	349	13 + 84
Fgura	3282	12.4	408	277	335	413	253	17	1269	58 + 252
Xghajra	208	7.2	15	10	7	33	10	4	102	4 + 23
Zabbar	4091	11.2	460	139	293	588	228	64	1860	74 + 385
B'Bugia	2143	10.9	233	102	166	268	146	11	984	39 + 194
M'Scala	1370	20.3	278	230	126	116	70	28	392	10 + 120
M'Xlokk	791	10.0	79	58	37	77	36	116	323	7 + 58
Zejtun	3123	9.7	302	99	200	422	178	75	1551	45 + 335

Table III.2.2 : Economically active population by gender and locality (Females)

(Source : Central Office of Statistics, *1995 Census*)

	Total		*Professional & Technical*	*Administrative & Managerial*	*Clerical & Related*	*Sole Workers*	*Service Workers*	*Agriculture & Fisheries*	*Production & Transport Operators*	*Others*
Females	*38,510*		*6,563*	*1,463*	*8,229*	*5,799*	*1,676*	*99*	*7,355*	*34 + 7292*
Percentage			*17.0%*	*3.8%*	*21.4%*	*15.1%*	*4.35%*	*0.02%*	*19.1%*	*19.0%*
Birgu	310	14.2	44	3	31	47	14	0	124	0 + 47
Bormla	499	12.2	61	1	83	98	18	0	153	1 + 84
Isla	307	7.8	24	1	51	63	7	0	112	0 + 49
Kalkara	278	13.7	38	5	47	54	6	1	83	2 + 42
Fgura	1172	17.9	210	25	274	120	36	1	287	2 + 217
Xghajra	59	10.2	6	0	6	8	2	1	23	0 + 13
Zabbar	1309	14.1	184	16	255	225	40	2	378	0 + 209
B'Bugia	731	16.6	121	8	150	94	29	0	187	0 + 142
M'Scala	562	22.8	128	30	147	46	30	0	79	0 + 102
M'Xlokk	292	16.4	48	9	40	36	13	1	78	0 + 67
Zejtun	1117	11.6	129	21	191	201	45	0	378	0 + 152

Table III.2.3 : Private households by annual gross income

(Source : Central Office of Statistics, *Census 1995*)

Locality	*Maltese Islands*	*Birgu*	*Bormla*	*Isla*	*Kalkara*	*Fgura*	*Xghajra*	*Zabbar*	*B'Bugia*	*M'Scala*	*M'Xlokk*	*Zejtun*
Total	119479	1049	2134	1260	884	3224	223	4258	2400	1547	839	3441
Lm 1500	9055	125	296	161	66	124	19	268	175	78	61	255
Lm 1501- 1999	8912	85	217	95	75	145	12	300	170	81	56	264
Lm 2000- 2499	10348	109	247	146	83	219	24	430	216	111	82	337
Lm 2500- 2999	10449	73	227	120	72	288	17	397	228	117	81	355
Lm 3000- 3499	11211	117	185	111	93	357	21	463	280	149	104	329
Lm 3500- 3999	9567	67	140	92	78	309	17	387	237	131	68	307
Lm 4000- 4499	7300	65	120	71	65	201	10	261	160	89	52	224
Lm 4500- 4999	6995	50	83	79	53	209	17	245	138	98	36	170
Lm 5000- 5499	6061	48	84	52	51	180	8	196	113	88	39	206
Lm 5500- 5999	4729	47	77	50	28	154	9	177	101	69	34	149
Lm 6000- 6499	5049	21	53	42	28	174	8	179	100	69	51	127
Lm 6500- 6999	3949	30	46	33	30	127	8	144	74	53	24	119
Lm 7000- 7499	3689	35	53	30	23	103	7	124	63	56	25	92
Lm 7500- 7999	2954	21	28	18	23	99	2	103	53	52	19	82
Lm 8000- 8499	2683	21	24	18	13	73	6	98	57	50	25	77
Lm 8500- 8999	1966	17	22	15	12	60	3	63	26	26	9	50

Table III.2.3 (contd.) : Private households by annual gross income

Locality	*Maltese Islands*	*Birgu*	*Bormla*	*Isla*	*Kalkara*	*Fgura*	*Xghajra*	*Zabbar*	*B'Bugia*	*M'Scala*	*M'Xlokk*	*Zejtun*
Lm 9000- 9499	1889	12	16	12	11	63	1	49	32	36	10	53
Lm 9500- 9999	1762	15	18	8	9	48	2	55	28	32	4	23
Lm 10000-10499	1238	9	9	10	6	39	0	44	20	19	8	28
Lm 10500-10999	1156	3	9	4	5	39	1	29	26	26	8	35
Lm 11000-11499	858	3	12	3	5	34	0	25	10	7	8	16
Lm 11500-11999	659	4	10	1	1	18	0	27	10	11	4	13
Lm 12000-12499	773	4	5	3	5	21	0	14	5	8	12	14
Lm 12500-12999	456	1	4	1	3	15	1	16	6	9	1	13
Lm 13000-13499	399	2	2	0	3	11	0	14	8	6	2	12
Lm 13500-13999	347	2	4	1	1	7	0	8	8	7	0	6
Lm 14000-14499	325	2	2	1	3	11	0	6	5	5	0	10
Lm 14500-14999	204	1	1	2	0	4	0	2	6	0	0	4
Lm 15000+	1518	6	7	4	6	41	0	25	11	24	6	23
Non-Respondent	*2978*	*54*	*133*	*77*	*33*	*51*	*30*	*109*	*34*	*40*	*10*	*48*
Lm 12000 or more (%)	*3.37*	*1.72*	*1.17*	*0.95*	*2.38*	*3.41*	*0.45*	*2.00*	*2.04*	*3.81*	*2.50*	*2.38*
Less than Lm 2500 (%)	*23.69*	*30.41*	*35.61*	*31.90*	*25.30*	*15.10*	*24.66*	*23.44*	*23.34*	*17.45*	*23.72*	*24.88*

Table III.2.4 : Demographic changes (1931 - 1995)

Locality	*Population*					
	1931	*1948*	*1957*	*1967*	*1985*	*1995*
Zejtun	8731	11980	11665	10440	11321	11379
Zabbar	8003	11726	11005	10167	12869	14138
Fgura		*	*	2737	8254	11042
Vittoriosa	6573	3816	4242	4017	3572	3069
Cospicua	12163	4822	9095	9123	7731	6085
Senglea	7683	2756	5065	4749	4158	3528
Kalkara	1899	2068	2101	1945	2086	2833
M'Scala		*	888	876	1936	4770
M'Xlokk	829	1431	1469	1462	2405	2857
Xghajra			*		*	685
B'Buga	1724	5339	5297	4876	5668	7307
Total	*47605*	*43938*	*50827*	*50392*	*60000*	*67693*

Table III.2.5 : Population density in the south region of Malta

(Source : Central Office of Statistics, *Census Reports (1985-1995)*)

Locality	*Area (km²)*	*Population per km²*	*Area (km²)*	*Population per km²*	*Change (%)*
	1985		*1995*		
Kalkara	1.328	1571	1.765	1605	2
Vittoriosa	0.522	6843	0.517	5931	-13
Senglea	0.179	23229	0.155	22744	-2
Cospicua	0.931	8304	0.854	7124	-14
Zejtun	5.18	2185	5.367	2120	-3
Zabbar	7.069	1820	5.757	2456	35
Fgura	0.871	9477	1.153	9574	1
M'Scala	5.628	344	5.376	887	158
M'Xlokk	5.259	457	4.717	606	33
B'Buga	8.728	649	9.166	797	23
Total	*35.695*	*1681*	*34.827*	*1944*	*15.6*
Maltese Islands	*315.591*	*1094*	*315.121*	*1200*	*9.6*

Table III.2.6 : Birth and death rates (1964 to 1994)

(Source : *Demographic Reviews (1964-1994)*)

Locality	*Birth Rate*				*Death Rate*			
	1964	*1974*	*1984*	*1994*	*1964*	*1974*	*1984*	*1994*
Cospicua	23.0	21.5	14.2	8.9	9.2	9.5	7.6	5.4
Senglea	21.0	20.7	16.2	9.2	7.5	7.1	7.6	6.1
Vittoriosa	16.5	20	7.5	7.8	9.1	11.4	10.1	7.5
Kalkara	19.7	17.5	14	15.6	5	13.1	11	5.8
Fgura	*	55.9	35.4	17.4	*	5.3	5	3.5
Zabbar	15.8	19.5	22.7	15.8	8.4	8.8	9.6	5.3
B'Buga	25.4	20.5	20.4	18.9	5.6	8.8	6.3	5.3
M'Xlokk	16.8	19.8	20.4	17.1	5.8	8.9	11.1	7.4
Zejtun	15.7	17.7	17.2	10.3	9.9	10.3	7.6	7.7
M'Scala	*	24	19.6	37	*	12.6	4.9	4.6
Mean	*19.2*	*23.7*	*18.8*	*15.8*	*7.6*	*9.6*	*8.1*	*5.9*
Maltese Islands	*19.8*	*18.3*	*16.8*	*13.1*	*8.5*	*9.2*	*8.7*	*7.3*

Table III.2.7 : Change in residence (between Nov 1994 and Nov 1995)

(Source : Central Office of Statistics, *Census Report 1995*)

Locality	*Local Mobility*				*Regional Mobility*	
	Emigration	*Immigration*	*Remaining in Locality*	*Total*	*Remained in the south region (%)*	*Emigrated from the south region (%)*
Birgu	82	56	48	130	70.7	29.3
Birzebbuga	125	244	120	245	60	40
Bormla	265	88	122	387	57.9	42.1
Fgura	223	309	133	356	64.3	35.7
Isla	74	47	38	112	77.7	22.3
Kalkara	38	60	32	70	75.7	24.3
Marsascala	131	306	116	247	64	36
Marsaxlokk	45	53	45	90	72.2	27.8
Zabbar	130	212	136	349	55.9	44.1
Zejtun	143	177	123	266	94	6
Xghajra	37	30	12	49	67.3	32.7
South region	1293	1582	925	2301	69.1	30.9

Table III.2.8 : Change in residence in the south region of Malta (between Nov 1994 and Nov 1995)

(Source : Central Office of Statistics, *Census 1995*)

Residence	*Residence 1995*											*Total*	
1994	*Birgu*	*B'Buga*	*Bormla*	*Fgura*	*Isla*	*Kalkara*	*M'Scala*	*M'Xlokk*	*Zejtun*	*Zabbar*	*Xghajra*	*Remained in the south region*	*Entered the south region*
Birgu	48	1	9	7	2	5	6	1	2	11	0	*92*	*24*
Birzebbuga	0	120	5	5	0	0	8	7	1	1	0	*147*	*180*
Bormla	22	6	122	0	8	11	18	2	12	16	7	*224*	*33*
Fgura	4	20	5	133	3	6	37	0	2	19	0	*229*	*244*
Isla	0	3	14	5	38	5	16	0	1	4	1	*87*	*27*
Kalkara	2	1	0	2	0	32	3	1	2	6	4	*53*	*25*
Marsascala	0	5	4	5	4	0	116	0	13	10	1	*158*	*141*
Marsaxlokk	0	3	0	8	0	0	0	45	9	0	0	*65*	*35*
Zejtun	0	14	0	5	0	2	37	3	123	10	1	*195*	*130*
Zabbar	4	11	15	26	3	6	39	4	4	136	2	*250*	*121*
Xghajra	0	0	3	2	0	0	1	0	1	14	12	*33*	*14*
Total	*80*	*184*	*177*	*198*	*58*	*67*	*281*	*63*	*170*	*227*	*28*	*1533*	*974*

Table III.2.9 : Percentage of emigrants (1954-1994)

(Source : *Demographic Reviews (1954-1994)*; *Demographic Reviews (1969-1971)* were not available)

Locality	*Emigrants (%)*		
	1959-1968	*1972- 1982*	*1983-1994*
Cospicua	25.2	13.3	8.9
Senglea	14.3	8.4	4.3
Vittoriosa	10	6.6	7
Kalkara	3.5	4.3	3.4
Zabbar	17.3	15.6	14.6
Fgura	0.7	16.6	23.9
B'Buga	12.3	13.9	19.4
M'Xlokk	1.4	1.3	3.9
Zejtun	13.9	17.7	10.3
M'Scala	1.4	2.3	4.3
Regional Percentage	*18*	*14*	*14*

Table III.2.10 : Returned emigrants in the south region

(Source : Central Office of Statistics, *Census Report 1995*)

Locality	*Returned Emigrants (%)*		
	Total	*Regional*(1)	*Local*(2)
Birgu	185	5.5	5
Bormla	256	7.5	4.2
Isla	180	5.4	5.1
Kalkara	137	4	4.8
Marsascala	339	10	7.1
Marsaxlokk	140	4.1	4.9
Birzebbuga	410	12.1	5.6
Xghajra	31	0.9	4.5
Zabbar	502	14.8	3.5
Zejtun	442	13	3.9
Fgura	771	22.7	7
South region	3393	100	5.1

(1) *Regional : according to population of returned emigrants to the south region*
(2) *Local : according to population of residents of each locality*

Table III.2.11 : Household distribution by locality and date of construction

(Source : Central Office of Statistics, *Census 1995*)

Locality	*Period of Date of Construction*							
	Before 1920	*1921-1945*	*1946-1960*	*1961-1970*	*1971-1980*	*1981-1985*	*1986-1990*	*1991-1995*
Birgu	244	143	420	41	140	32	28	1
Bormla	340	481	979	107	191	13	12	11
Kalkara	138	211	82	40	106	64	152	90
Marsascala	87	60	47	128	123	255	493	354
Marsaxlokk	108	42	43	89	183	158	136	80
Birzebbuga	145	448	315	218	307	349	346	272
Xghajra	49	15	25	17	32	21	27	37
Zejtun	854	483	240	291	590	488	308	185
Zabbar	918	418	364	305	760	622	477	389
Fgura	48	83	279	693	949	529	407	236
South region	*2931*	*2384*	*2794*	*1929*	*3381*	*2531*	*2386*	*1655*

Table III.2.12 : Percentage of households according to date of construction and locality

(Source : Central Office of Statistics, *Census 1995*)

Locality	*Period of Date of Construction*							
	Before 1920	*1921-1945*	*1946-1960*	*1961-1970*	*1971-1980*	*1981-1985*	*1986-1990*	*1991-1995*
	%	%	%	%	%	%	%	%
Birgu	23.3	13.6	40	3.9	13.3	3.1	2.7	0.1
Bormla	15.9	22.5	45.9	5	8.9	0.6	0.6	0.5
Isla	15.8	24	53.9	1.7	1.3	0.9	0.9	1.4
Kalkara	15.6	23.9	9.3	4.5	12	7.2	17.2	10.2
Marsascala	5.6	3.9	3	8.3	7.9	16.5	31.9	22.9
Marsaxlokk	12.9	5	5.1	10.6	21.8	18.8	16.2	9.5
Birzebbuga	6	18.7	13.1	9.1	12.8	14.5	14.4	11.3
Xghajra	22	6.7	11.2	7.6	14.3	9.4	12.1	16.6
Zejtun	24.8	14	7	8.5	17.1	14.2	9	5.4
Zabbar	21.6	9.8	8.6	7.1	17.8	14.6	11.2	9.1
Fgura	1.5	2.6	8.6	21.5	29.4	16.4	12.6	7.3
South region	*14.7*	*12.6*	*16.3*	*9.2*	*16*	*12*	*11.3*	*7.9*

Table III.2.13 : Spatial distribution of sub-standard and inadequately occupied dwellings and their ranking

(Source : Central Office of Statistics, *Census 1995*)

Rank	*Locality*	*Percentage (%)*	*Absolute Number*
2	Bormla	17.62	376
3	Isla	16.67	210
4	Birgu	15.63	164
11	Xghajra	8.97	20
13	Kalkara	7.35	65
15	Zejtun	7.18	247
21	Zabbar	6.60	281
34	Marsaxlokk	4.53	38
39	Birzebbuga	3.96	95
45	Marsaskala	2.59	40
47	Fgura	1.67	54

Compiled by : Sue Vella , MEU

Table III.2.14 : Percentage of households according to locality and ownership

(Source : Central Office of Statistics, *Census 1995*)

Locality	*Total*	*Owned by members of household*	*Rented Furnished*	*Rented Unfurnished*	*Used free-of-charge*	*Non-respondent*
Birgu	1049	25.8	5.1	67	1.9	0
Bormla	2134	21.3	2.7	72.3	3.7	0
Isla	1260	21.7	2.2	73.4	2.6	0
Kalkara	884	62.7	0.9	34.4	2	0
Marsascala	1547	83.8	4.6	6.8	4.6	0
Marsaxlokk	839	80.4	2.4	12.3	4.9	0
Birzebbuga	2400	70.7	3.6	21.5	4.2	0
Xghajra	223	65	0.9	29.6	4.5	0
Zejtun	3441	71.9	2.3	21.5	4.2	0
Zabbar	4258	72.8	1	23	3.2	0.1
Fgura	3224	82.3	0.9	13.9	2.8	0
South region	*21259*	*72.4*	2.3	*30.2*	*3.5*	*0.01*
Malta	*110291*	*66.5*	*2.6*	*27.4*	*3.5*	*0.04*

Table III.2.15 : Household distribution by ownership and locality

(Source : Central Office of Statistics, *Census Report 1995*)

Locality	*Total*	*Owned by members of household*	*Rented Furnished*	*Rented Unfurnished*	*Used free-of-charge*	*Non-respondent*	*Rank*	*Locality*	*Total*	*%*
Birgu	1049	271	54	704	20	0	1	Zabbar	4258	20
Bormla	2134	454	58	1543	79	0	2	Zejtun	3441	16.2
Isla	1260	274	28	925	33	0	3	Fgura	3224	15.2
Kalkara	884	554	8	304	18	0	4	Birzebbuga	2400	11.3
Marsascala	1547	1297	72	106	72	0	5	Bormla	2134	10
Marsaxlokk	839	675	20	103	41	0	6	Marsascala	1547	7.3
Birzebbuga	2400	1698	87	515	100	0	7	Isla	1260	5.9
Xghajra	223	145	2	66	10	0	8	Birgu	1049	4.9
Zejtun	3441	2475	79	741	146	0	9	Kalkara	884	4.2
Zabbar	4258	3099	44	978	135	2	10	Marsaxlokk	839	3.9
Fgura	3224	2654	30	449	91	0	11	Xghajra	223	1.1
South region	*21259*	*13596*	*482*	*6434*	*745*	*2*		*South region*	*21259*	*19.3*
Malta	*110291*	*73301*	*2826*	*30242*	*3878*	*44*		*Malta*	*110291*	*100*

Table III.2.16 : Population distribution according to type of transport used to and from place of work

(Source : Central Office of Statistics, 1997)

Locality	*Total*	*Public Transport*	*% of Total*	*Car Driver*	*Car Passenger*	*% of Total*	*On Foot*
Birgu	2486	404	16.3	457	76	21.4	127
Cospicua	4753	690	14.5	756	140	18.9	251
Isla	2780	478	17.1	451	91	19.5	123
Kalkara	2128	286	13.4	495	73	26.7	62
Fgura	8134	1104	13.5	2324	388	33.3	450
Xghajra	497	75	15.1	111	19	26.2	9
Zabbar	10554	1560	14.8	2510	392	27.5	284
Birzebbuga	5490	792	14.4	1417	190	29.3	156
Marsascala	3498	334	9.5	1201	175	39.6	50
Marsaxlokk	2061	222	10.8	510	90	29.1	111
Zejtun	8778	1383	15.8	1848	251	23.9	258

Table III.2.17 : Persons with special needs in the eleven localities

(Source : Kummissjoni Persuni b'Dizabilita : Centru Hidma Socjali, Hamrun, 14-6-1997)

Locality	*No. of Persons with Special Needs*
Birgu	43
Bormla	85
Isla	42
Kalkara	39
Birzebbuga	88
Marsaxlokk	38
Marsascala	46
Xghajra	9
Zabbar	180
Fgura	135
Zejtun	177

Table III.2.18 : Illiteracy[1] in the south region of Malta

Locality	*Illiteracy (%)*[2]	*Adult Education Centres*	*Remarks*
Birgu	15.70%	Primary B	Access is difficult; distant : advantage : anonymity; disadvantage : discourages initiative.
Birzebbuga	11.66%	/	No evening adult classes
Bormla	20.43%	Primary B	Access is difficult
Isla	16.75%	/	No evening adult classes
Kalkara	11.67%	/	No evening adult classes
Marsaxlokk	13.88%	/	No evening adult classes
Xghajra	18.97%	/	No evening adult classes
Zabbar	17.73%	/	Classes stopped some time ago but will soon commence again
Zejtun	16.87%	Carlo Diacono School	Distant from *Ir-Rahel t'Isfel* where there is illiteracy problem; advantage : anonymity; disadvantage : discourages initiative.

(1) *Illiteracy here means not knowing to read or write in Maltese*

(2) *Average national illiteracy percentage is 11.66%.*

Table III.2.19 : Literate and illiterate people in the south region

(Source : Central Office of Statistics, *Census Report 1995*)

Locality	*Population*	*Literate*	*Illiterate*								
			10-19 years	*20-29 years*	*30-39 years*	*40-49 years*	*50-59 years*	*60-69 years*	*70+ years*	*Total*	*Percentage of Population (%)*
Birgu	2750	2318	20	29	66	93	63	83	78	432	15.70
B`Buga	6089	5379	26	31	102	148	103	161	139	710	11.66
Bormla	5625	4189	82	114	162	204	158	202	154	1076	20.43
Fgura	9275	8559	40	59	117	181	101	121	97	716	7.00
Isla	3109	2588	31	39	77	114	75	78	107	521	16.75
Kalkara	2398	2118	24	22	61	51	39	40	43	280	11.67
M`Scala	3845	3564	16	22	48	61	38	43	53	281	7.00
M`Xlokk	2348	2022	13	15	46	69	65	55	63	326	13.88
Xghajra	564	457	12	12	14	33	16	13	7	107	18.97
Zabbar	11948	9829	136	167	317	498	332	331	338	2119	17.73
Zejtun	9755	8109	98	110	237	331	232	332	306	1646	16.87
Malta	*322728*	*286284*								*36444*	*11.29*

Table III.2.20 : Primary attendance (Kindergarten to Year 6) (1988/89 to 1996/97)

(Source : File PRC [Longdata/Prim] Educ Div Planning & Dev Dept)

Locality	*88/89*	*89/90*	*90/91*	*91/92*	*92/93*	*93/94*	*94/95*	*95/96*	*96/97*	*Remarks*
Birgu	272	263	233	223	213	207	200	195	206	decreasing
B'Buga	699	650	646	635	680	719	735	797	835	increasing
Bormla	824	779	733	723	622	577	558	523	545	decreasing
Fgura	1033	1076	1068	1025	1098	1116	1169	1132	1176	increasing
Isla	515	494	466	450	378	354	324	331	351	increasing ?
Kalkara	275	256	294	325	314	312	302	291	282	decreasing
M'Scala	211	214	222	236	265	269	299	309	329	increasing
M'Xlokk	305	315	308	332	323	302	290	298	293	stable
Xghajra	0	52	81	86	119	131	144	163	161	increasing
Zabbar	1499	1477	1461	1403	1356	1451	1343	1383	1369	stable
Zejtun	1373	1383	1346	1323	1217	1161	1103	1088	1083	decreasing

Table III.2.21 : Population density in schools and compared with school density in Italy[1]

(Source : Mintoff, E., 'Planning in Education : Local School Buildings', In : *Education*, 1995, Vol .5, No.3 , pp. 31-44)

Primary	*Number of pupils 1996/7*[2]	*School Area (± 25 m²)*	*Pupil Density (m⁻²)*	*Number of Pupils in Italy*[1]	*Number of pupils per 10 m²*
Birgu	206	3200	0.06	174	0.8
B'Buga	526	?	?		?
Bormla	545	925	0.59	50	8.6
Fgura	1176	10200	0.12	497	1.1
Isla	351	1500	0.23	82	3.2
Kalkara	281	5675	0.05	250	0.5
M'Scala	329	4900	0.06	238	0.4
M'Xlokk	293	7925	0.03	373	0.4
Xghajra	161	3400	0.04	185	0.2
Zabbar A	566[3]	2675	0.21	146	3.4
Zabbar B	803[4]	2300	0.35	125	2.7
Zejtun	309	?	?	?	?

(1) *In Italy, the standard is 0.5 students per 10m² (2295 m² for every 125 students)*
(2) *Education Statistics for the South of Malta, pp 2-3*
(3) *775-209 (year 3) = 566*
(4) *594+209 (year 3) = 803*

Secondary	*Number of Pupils 1996/7*[2]	*School Area (± 25 m²)*	*Number of Pupils in Italy*[1]
Bormla Erin Serracino Inglott	595	5200	211
Birgu Lorenzo Gafa	179	?	?
Bormla Junior Lyceum Verdala	596	52900	?
Zejtun Junior Lyceum Carlo Diacono	1236	17900	?
Kalkara Trade School Abram Gatt	488	?	?

Table III.2.22 (a) : Successful candidates to Junior Lyceum by type of school

Year	*1993*	*1994*	*1995*	*1996*
From State Schools	44.69%	50.59%	49.00%	51.20%
From Other Schools	61.75%	65.17%	66.50%	69.10%

Table III.2.22 (b) : Comparative analysis of successful candidates and actual applicants to Junior Lyceum by locality as compared to national average

Locality	*1994 (%)*	*1995 (%)*	*1996 (%)*
National Average	*50.59*	*48.97*	*51.20*
Birgu	39.47	29.60	27.30
B'Buga	63.20	58.00	63.20
Bormla	34.70	31.40	20.00
Fgura	43.00	44.70	51.30
Isla	28.60	23.30	19.60
Kalkara	44.40	43.80	47.10
M'Scala	14.30	3.80	27.80
M'Xlokk	61.90	57.90	51.10
Xghajra	0.00	12.50	44.40
Zabbar	45.60	40.80	45.00
Zejtun	38.00	46.60	38.70

Table III.2.22 (c) : Results of candidates for Junior Lyceum 1997 Examination

(Source : *Junior Lyceum Entry Exam Report*, Education Division, annual)

Locality			*Passed*	*Failed*	*Total*	*Local Total*
Birgu	Girls	State	2	8	10	28
		Non-State	0	1	1	
	Boys	State	5	12	17	
		Non-State				
B'Buga	Girls	State	18	17	25	94
		Non-State	8	5	13	
	Boys	State	24	25	49	
		Non-State	6	1	7	
Bormla	Girls	State	7	16	23	62
		Non-State	2	1	3	
	Boys	State	8	23	31	
		Non-State	2	3	5	
Fgura	Girls	State	24	29	53	151
		Non-State	7	2	9	
	Boys	State	33	42	75	
		Non-State	10	4	14	
Isla	Girls	State	10	7	17	42
		Non-State	3	1	4	
	Boys	State	6	13	19	
		Non-State	1	1	2	
Kalkara	Girls	State	5	8	13	36
		Non-State	1	1	2	
	Boys	State	9	9	18	
		Non-State	3	0	3	
M'Scala	Girls	State	14	14	28	66
		Non-State	2	3	5	
	Boys	State	17	8	25	
		Non-State	7	1	8	
M'Xlokk	Girls	State	16	2	18	56
		Non-State	2	0	2	
	Boys	State	20	9	29	
		Non-State	3	4	7	
Xghajra	Girls	State	5	0	5	10
		Non-State	0	0		
	Boys	State	3	1	4	
		Non-State	0	1	1	
Zabbar	Girls	State	56	41	97	211
		Non-State	3	1	4	
	Boys	State	46	64	110	
		Non-State	7	3	10	
Zejtun	Girls	State	37	44	81	166
		Non-State	8	3	11	
	Boys	State	28	35	63	
		Non-State	8	3	11	

Notes :

(1) The regional trend appears similar to the national one, that is, more candidates fail than pass. However, there are schools in other regions of Malta where more candidates pass than fail.

(2) In the Bormla, Birgu and Marsaxlokk schools, the percentage of successful candidates is always decreasing.

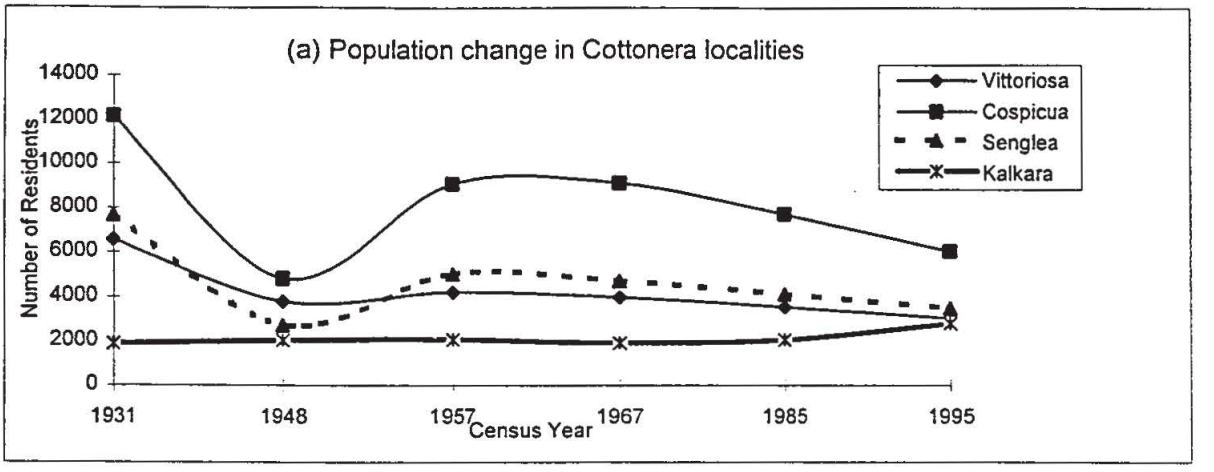
(3) In Birzebbuga and Marsaxlokk, the percentage was regularly higher than the national average; in Marsaxlokk this is decreasing.

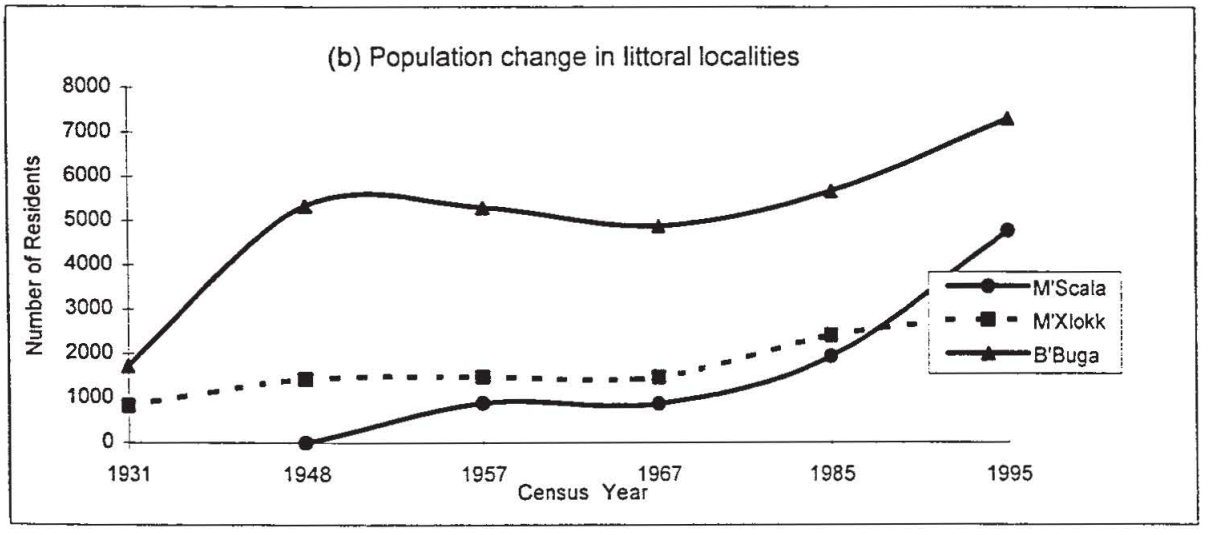
Table III.2.23 : Distribution of school mothers (under 16 years) by locality and scholastic year

(Source : School Girl Mothers Unit, Education Division)

Locality	*1989/90*	*1990/91*	*1991/92*	*1992/93*	*1993/94*	*1994/95*	*1995/96*	*1996/97*	*Total*
Birgu		1				2	3	2	8
B`Buga			1	1	1	1	1	1	6
Bormla	2	1	2	1	2	3	7	2	20
Fgura				2			3	2	7
Isla						3		1	4
Kalkara				1		1			2
M`Scala							1		1
M`Xlokk				1	1				2
Xghajra							1		1
Zabbar			1		2		3	1	7
Zejtun			2				6	4	13
Bir id-Deheb		1							

Figure III.2.1 : Population change in the south region





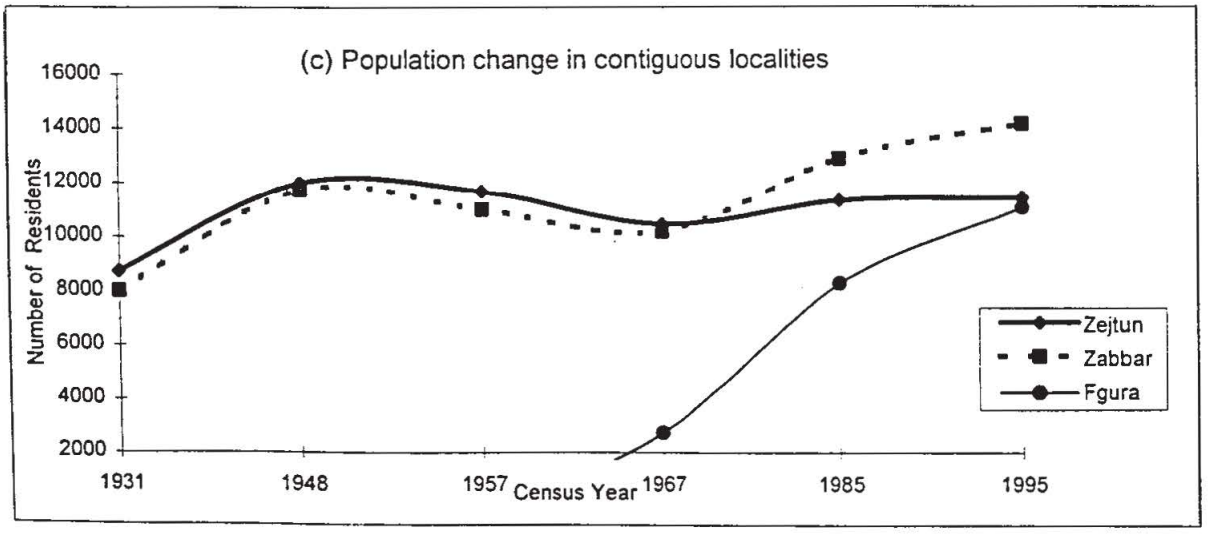
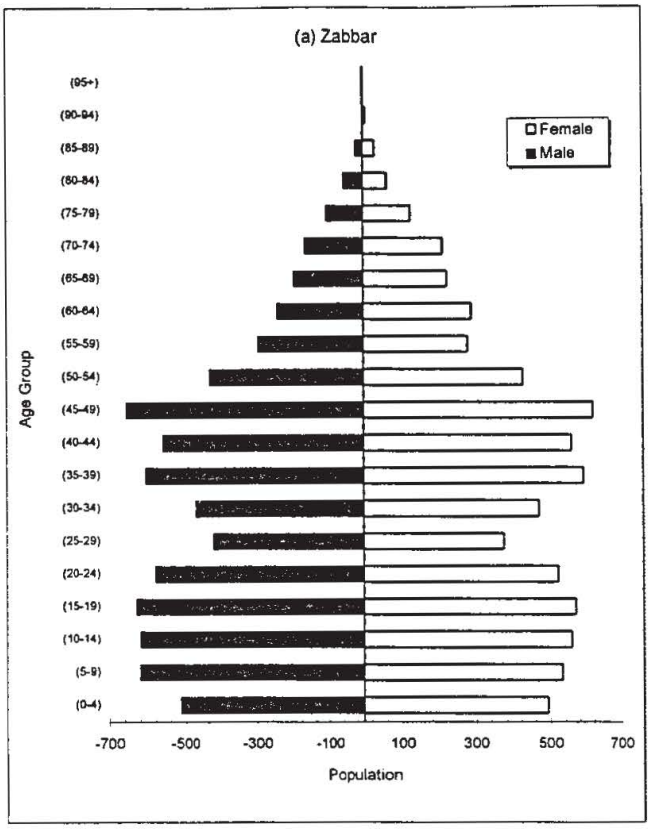
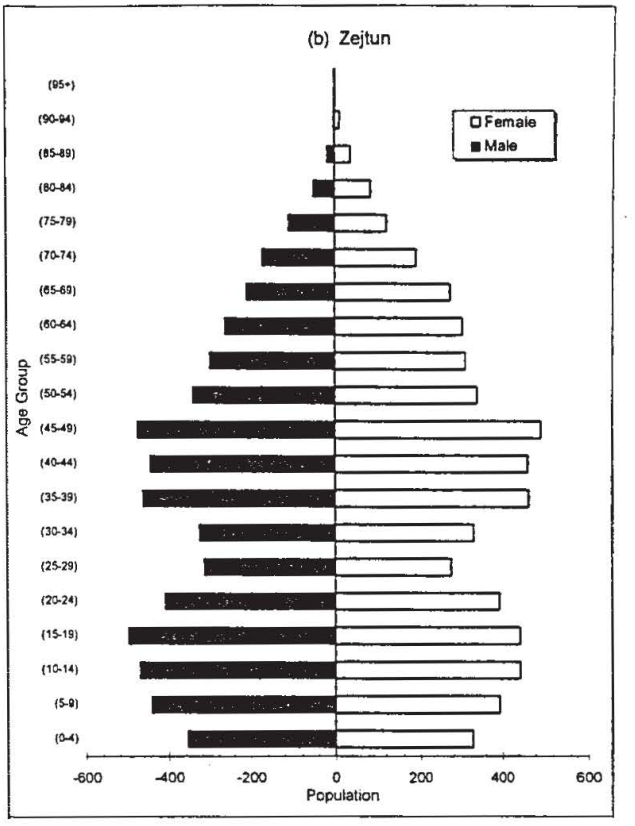


Figure III.2.2 : Age-sex structures for the contiguous localities





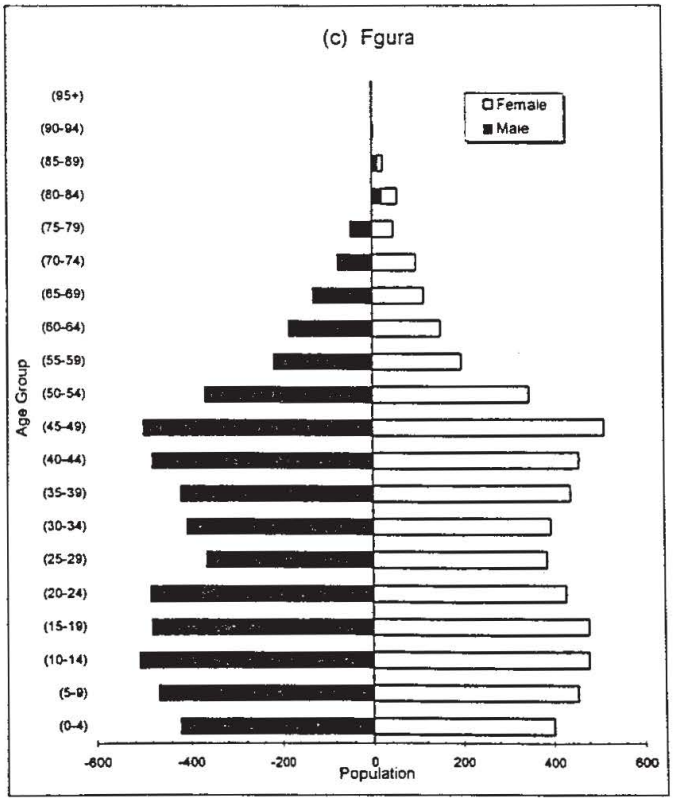


Figure III.2.3 : Age-sex structures for the littoral localities

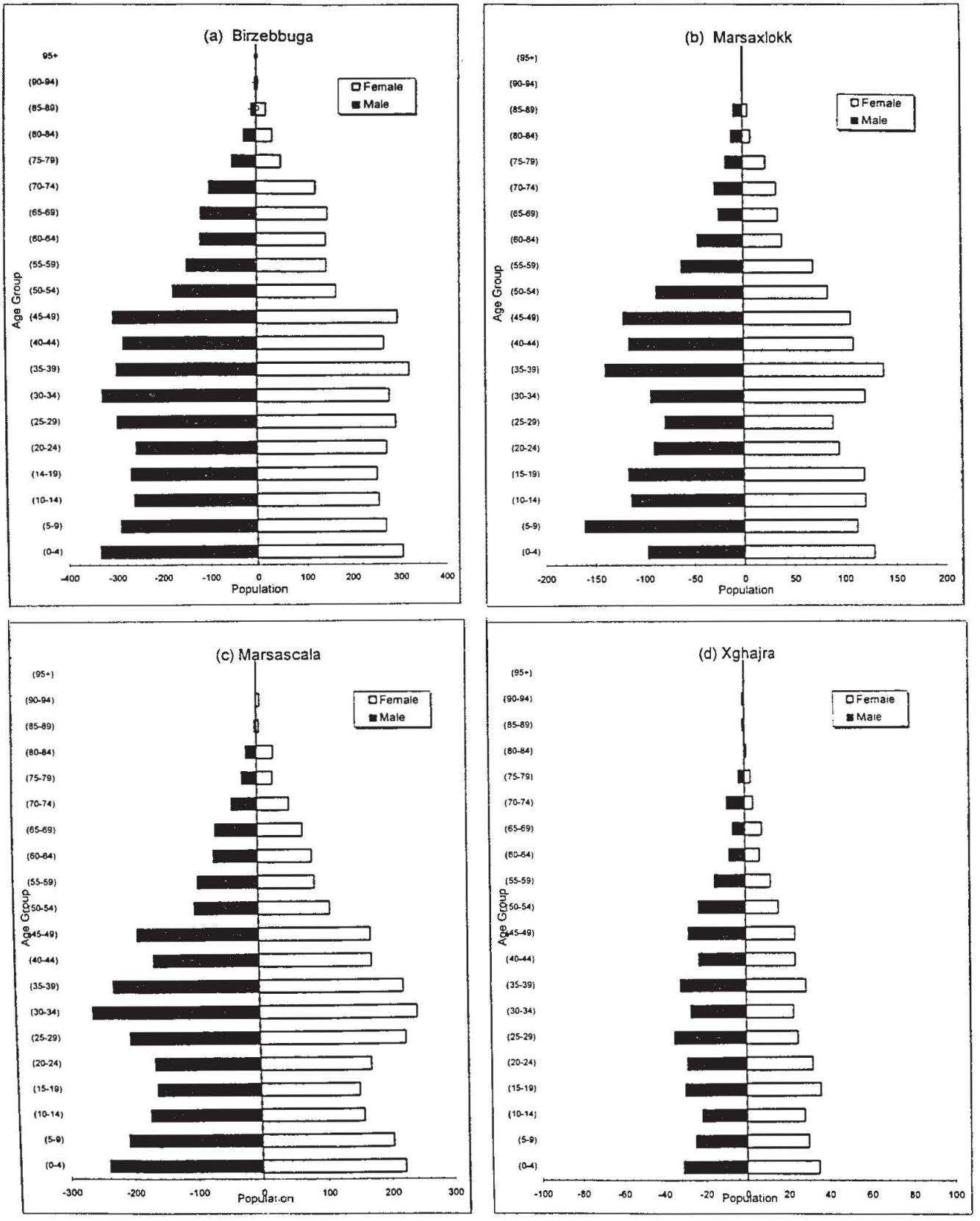


Figure III.2.4 : Age-sex structures for Cottonera localities

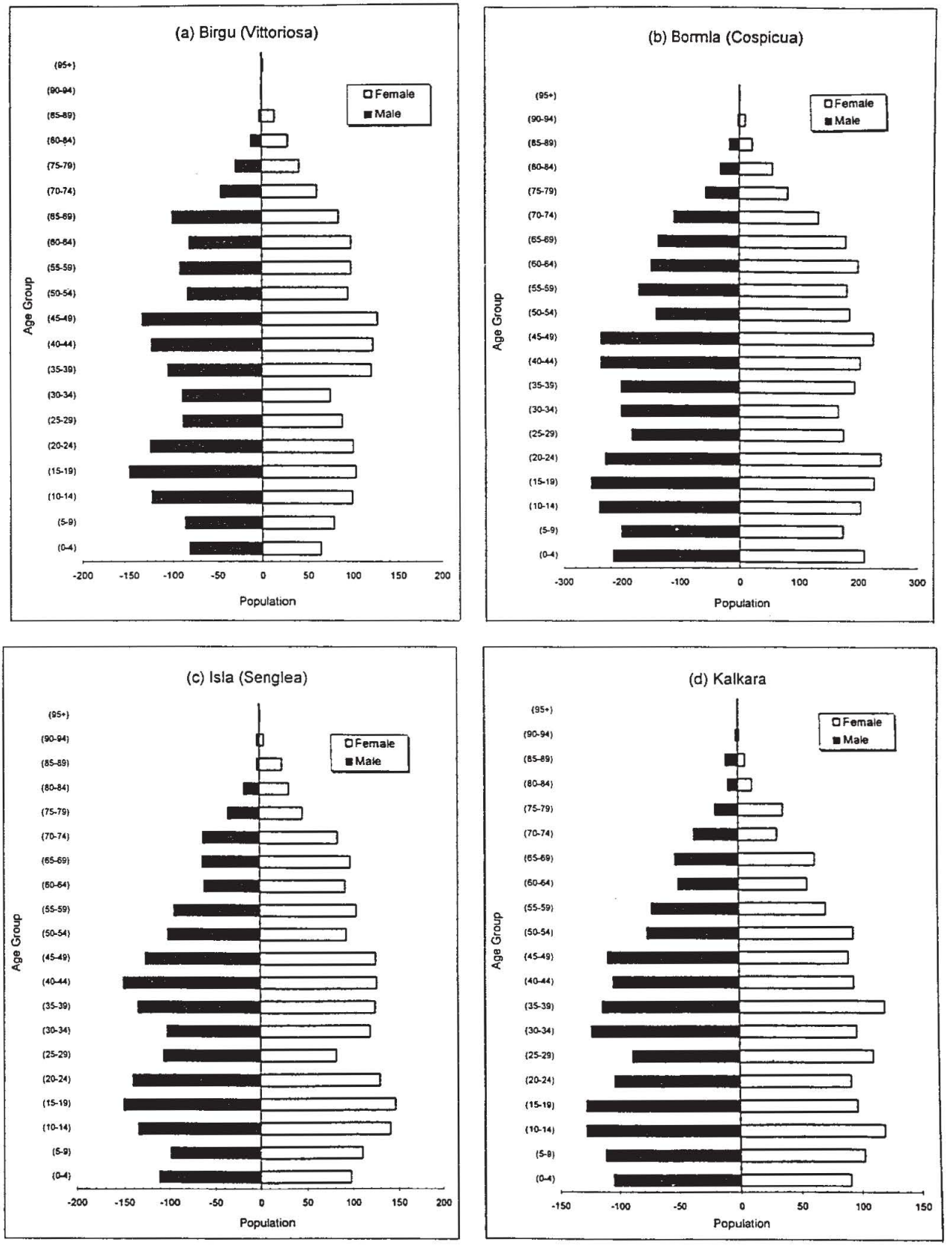
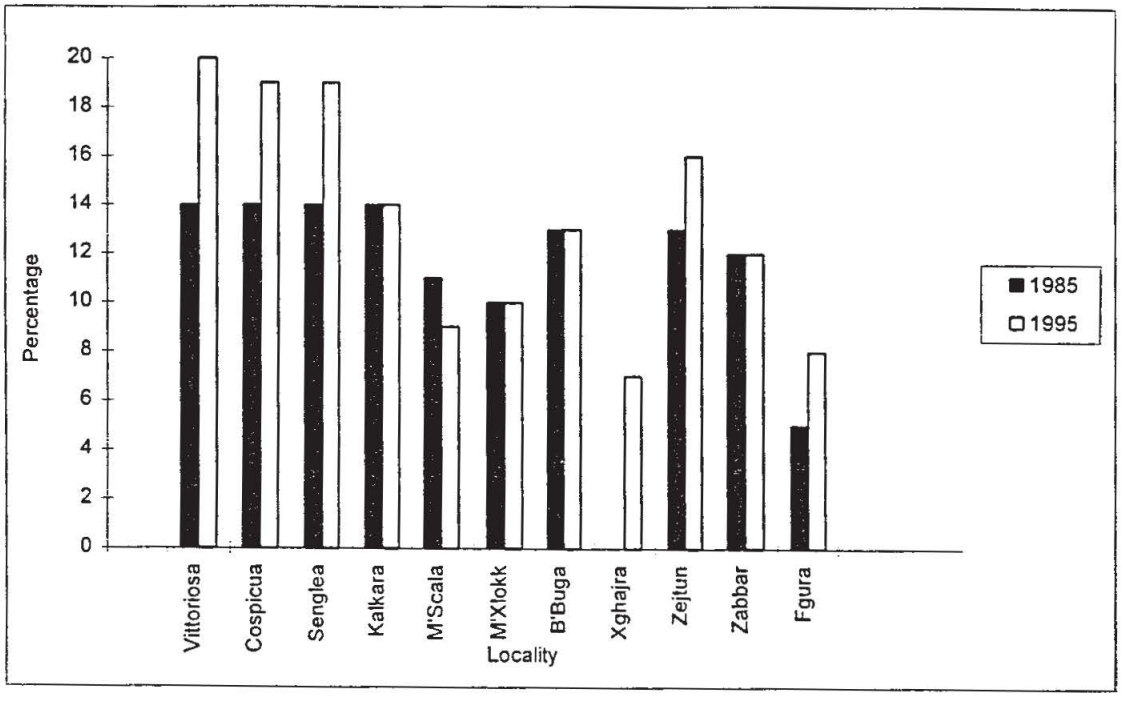


Figure III.2.5 : Percentage of population above 60 years of age

(Source: 1985 & 1995 *Census Reports*)



III.3.0 Economic Issues

Executive Summary

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Agriculture

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Main References Consulted

Appendix III.A3

3.1.0 Executive Summary

3.1.1 Agriculture

The issues identified in this report as inhibiting agricultural and livestock management development in the eleven localities covered by the Regional Socio-Economic Development Plan may be summarised under five main categories, namely :

lack of resource management (particularly in the use of second class water in agriculture);

ineffective land tenure conditions;

lack of investment mentality within the farming community;

lack of awareness/knowledge of best practice techniques; and

inappropriate siting of livestock farms in residential and other areas of cultural significance.

This section on agriculture puts forward the following main policy recommendations :

the redrawing of land tenure conditions to encourage investment in the farming sector; and

the development of the concept of sustainable agrotourism for the south.

More specifically the report suggests :

the enhancement of the second class water distribution system; and

the drawing up of an educational programme for farmers/breeders and other persons with particular interest in this sector.

3.1.2 Fisheries

Although the fishing industry is small and relatively insignificant in terms of the economic development of the Maltese Islands in the local context, its social and political importance far outweighs its economic output.

The main problems with the fishing industry are its traditional and seasonal nature as well as the structure of the fishing fleet with a predominance of small vessels and small numbers of full-time fishermen, lack of investment as well as the gradual depletion of wild fish stocks due to over fishing as well as increased pollution. This situation has been mainly due to the limited demand and therefore market prices of fish for local consumption, a situation which has improved slightly by the increase in the tourist industry, and the recent openings for export of certain high value species.

This has brought about a change in the fishing methods and efforts of local fishermen with more fishermen choosing to concentrate on catching high value species with the consequent improvement in fishing vessels and size, to be able to exploit fishing grounds further away.

For the fishing industry to survive and develop, one should encourage the improvements in the fleet and fishing vessels to render them more efficient and effective. The setting up of an agricultural bank with grants and loans provided by government being channeled into such a bank, as well as setting up of marine insurance cover and reduction in the rate of depreciation of their vessels, would all help in ensuring that fishermen are granted the same opportunities to obtain credit and invest.

Upgrading of existing facilities and the introduction of new ones are essential especially with reference to safe mooring places, slipways and allocation of areas where fishermen can do the necessary maintenance and repairs on their boats in Marsaxlokk as well as a cold store and ice making facilities. Financing for these could be a joint effort between Government, local fishing cooperatives as well as private investment.

Market policies should be reviewed to determine whether export of high value species and imports of low value convenience fish for the catering industry and local consumption would benefit the fishermen and local population. The local market needs to be studied to determine constraints and possibilities for diversification of fish products and outlets. Export markets should be encouraged and the framework required for acceptance of local products established. The issue of the 15% tariff imposed on exports to European Union countries should be addressed urgently especially for the survival and development of the aquaculture industry.

Their is an urgent need for the Fisheries Department to upgrade and improve the accuracy of its current system of catches and wholesale value recordings so that future policies on market and regulations regarding fishing of various fish species can be made. The need for fishery stock assessment is also important in determining potential yields and the degree of exploitation of marine resources in order to take the necessary action.

International collaboration is also a must given the dependence of the local industry on migratory species which are a common resource to neighbouring Mediterranean countries.

3.1.3 Industry

Industrial activity, in its various forms, occurs in the eleven localities covered by the Regional Socio-Economic Development Plan. In this Report, treated issues include:

1. small scale industrial forms that affect the immediate residency, or the general public, due to its unconformity or misplacement;

2. destructive impacts on traditional forms of industry due to modern commercial values and practices; and

3. the awareness that residents do not have to endure negative effects of large scale industry forms, but can actually benefit from their presence.

The following main policies are being put forward :

the boosting up of law enforcement with the strategic participation of Local Councils;

the extension of Government's aid to industry to include a wider bracket of industry forms; and

the participation of Local Councils in stakeholder management with reference to industries with negative effects.

Specifically, the report suggests how

the residential streets can be freed from unnecessary garage-type industry to the benefit of small, self-employed tradesmen;

how Marsaxlokk can revitalize its fishing village atmosphere, also for the benefit of its fishermen; and

how industrial estates can be better furnished and can, in the process, cater for neighbouring communities.

3.1.4 Tourism

The south region of Malta has missed out on much of the tourism development that has characterised the rest of the archipelago over the past four decades. It has missed out both in terms of accommodation developments and also in the attraction of visitor flows and the economic benefits associated with them.

The tourism potential of the south region is very much in line with Malta's future positioning in the international tourist market. Tomorrow's tourist will want to experience the unique characteristics of a destination, in a world where standardisation is fast becoming the norm. The south region of Malta contains an unbroken line of historical activity dating from the first cave dwellers to the present day. In short, it possesses all the raw material necessary for an authentic and previously untapped Malta experience.

This does not mean to say that there are no problems associated with tourism development in the region. The south region of Malta has been burdened with most of the country's modern-day undesirable by-products ranging from power generation to organic waste and sewage treatment. Its socio-economic profile shifts towards the lower end of the national spectrum. The tourism trade has grown accustomed to ignore its existence but for a few exceptions.

However, tourism may hold the key towards the renaissance of the region. It can help direct investment in projects which will also give an economic contribution to the localities. Almost all the localities involved in the study have a strong but latent tourism potential. Such potential ranges from the cultural to the monumental and from the natural to the man-made environment.

Given the diversity and fragility of the region being discussed, care has been taken to make suggestions and recommendations which aim to make full use of what is readily available rather than propose new and alien developments. Thus, tourism development in the Cottonera should centre on its maritime and fortress tradition, whilst that of Marsaxlokk should have the fishing industry as its central theme. Characteristic villages such as Zabbar and Zejtun should exploit their authenticity while a town like Birzebbuga should emphasise its archaeological heritage and its massive sandy beach. Xghajra's military heritage and rural charm are generally

undiscovered, while Marsascala should strive to continue and improve its role as the area's main leisure resort.

3.2.0 Methodology

The Economic Issues Working Committee embraced agriculture, fisheries, industry and tourism. The Committee adopted the informal meetings method in order to establish an open exchange of views with the Local Councils concerned. Part of this process also involved getting written feedback from the Local Councils for inclusion in the recommendations. In the case of fisheries, the following were specifically consulted :

Birzebbuga, Zejtun, Zabbar, Marsaxlokk and Fgura Local Councils;
Kooperattiva Nazzjonali tas-Sajd;
GHaqda Kooperattiva tas-Sajd; and
Joe Galea, Director of Fisheries.

When the first draft of this report was prepared it was circulated to the Local Councils and a final meeting was organised during which reactions to the document were discussed. As a result of amendments and additions made to the draft text, there was a general consensus amongst the Local Councils about the acceptance of the document.

3.3.0 Aims and Objectives

3.3.1 Agriculture

This report identifies problems and issues related to agriculture, horticulture and livestock keeping in the area covered by the eleven localities covered by the Regional Socio-Economic Development Plan, and suggests ways in which to enhance these activities for the benefit of the region.

3.3.2 Fisheries

The aim of this section is to better understand the fishing and aquaculture industry as well as the development of the industry in recent years, together with problems and constraints which the industry faces, and then to come up with recommendations for the improvement and development of the industry.

Since the fishing industry is small it is very difficult to discuss fishing in the south region of Malta as separate from fishing in general since most of the problems inherent to fishing are of national importance whilst other issues are more localised. Therefore most of the issues discussed and recommendations made are for fishing in general with special reference made to the south region wherever possible.

3.3.3 Industry

Forms of industry vary considerably in the south region of Malta, and the aim of this report is to adopt a wide and encompassing approach so that solutions would contain most benefits.

The objectives of the report are :

1. to put forward regional policies for the resolution of realities posed by the present forms of industry; and

2. to suggest plausible projects, on a local scale, that are felt to be necessary according to the requirements of industry and of the residents of the localities in the south region.

3.3.4 Tourism

The purpose of this report was primarily to investigate what type of tourism development is compatible with the south region of Malta, and to make recommendations about the specific initiatives necessary to introduce tourism to the region.

A successful program of tourism development can only be undertaken as the culmination of a wide ranging development in a region. It will need to build upon the progress registered in other areas of development rather than take place in isolation and oblivious to its surroundings.

For this purpose, most of the recommendations have been submitted as ideas without going into specifics. Preference was given to this visionary approach because, at this stage, what needs to be established is the general philosophy governing tourism development in the south region. Once there is a general acceptance of this philosophy, what will follow will be specific proposals in line with the original brief.

This study has aimed at helping the different localities identify unique selling propositions within their boundaries. This with a view to help them maximise their tourist receiving potential by marketing the very characteristics which make them unique. A spin-off of this would be the further diversification and amelioration of the overall Maltese tourism product.

3.4.0 AGRICULTURE

3.4.1 Background

3.4.1.1 Agriculture

Agricultural land is classified under two main categories: irrigated land and dry land (that is, land watered by rainfall only).

Statistical data based on the unpublished *1991 Agricultural Census* clearly indicates that agricultural activities in the region under review are centred mostly in the Zejtun, Zabbar and Marsaxlokk areas. A point worth making is that the *Census* includes Xghajra with Zabbar (see Table III.3.3).

3.4.1.2 Livestock Management

3.4.1.2.1 Cattle and Swine

Figures based on the *1991 Agricultural Census* and data kept by the Department of Veterinary Services show that Zejtun and Zabbar have the largest number of cattle and pig farms.

The legislation regulating the swine industry following in the wake of the devastating Foot and Mouth Disease in the late 1970s and the African Swine Fever in 1978 have put the industry on a sound basis. Pig breeders are now better organised and represented through their Cooperative K.I.M. (Kooperattiva ta' Min Irabbi il-Majjal).

3.4.1.2.2 Ovine and Caprine

There was a drastic decrease in farms carrying ovines and caprines (Table III.3.2) between 1991 and 1997. However, the current ovine and caprine population in the area under review, which total less than 230 heads, are housed in cattle farms.

3.4.1.2.3 Poultry

There is a total of 56 registered poultry farms in the south region of Malta out of which 28 are sited at Zejtun. At the time of drawing up of this report, a physical check on poultry farms is being carried out as there is a tendency to hold on to a licence even if poultry is no longer kept.

This sector is almost self sufficient and is mostly run along commercial lines.

3.4.1.2.4 Rabbit

Production of rabbit meat, as indicated in the *1991 Census*, is mainly carried out in small units at Zabbar, Birzebbuga and Zejtun. No Local Council received any serious complaints against this activity, which is also definitely practised in many urban households not registered in the Census, but on a smaller scale.

3.4.1.2.5 Equine

An increase in equine owners since the introduction of agricultural machinery in the middle of this century, was registered in the *1991 Census*. Keeping equines for leisure or sport is increasing in popularity, as reflected by the heavy participation of equine owners in competitions, shows and village races organised at both the local and the national level.

3.4.2 Issues

3.4.2.1 Ineffective Resource Management

3.4.2.1.1 Low Yield Per Hectare

The south region of Malta contains 217 hectares of irrigated land out of a total of around 731 hectares throughout Malta. This is almost five times as much as Gozo. Yet, a random spot check indicates that the Gozitan farmer is producing more per hectare than the farmer in the south region of Malta.

3.4.2.1.2 Limited Second Class Water Distribution

Irrigated land in the region is serviced mainly by the Sant' Antnin Waste Treatment Plant. Whereas Zabbar and Zejtun are the largest beneficiaries of the Plant (Table III.3.3), Marsascala, where the Plant is situated, is very poorly serviced due to the ineffective water distribution system.

3.4.2.1.3 Wastage of Cheap Second Class Water

Holdings served by the Sant' Antnin Waste Treatment Plant pay a low fixed rate per hectare. Such a system is not inducive to good water management since, human nature being what it is, people tend to waste what comes cheap or free.

3.4.2.1.4 Underutilisation of Wind Energy

Wind energy for drawing water through windmills is under exploited in the south region and out of proportion to the number of deep water pumps (Table III.3.5).

3.4.2.1.5 Lack of Investment in Protected Cropping

Data gathered from the *1991 Agricultural Census* (Table III.3.4) shows that the south region is far behind the national average in protected cropping even though land orientation and irrigated land areas stand at an advantage. The scope of the greenhouse is to market 'out of season' vegetables, soft fruits, flowers and pot plants at a higher, more cost-effective price.

The *Structure Plan* lays down conditions for greenhouse erection as these are considered as structures (*Structure Plan* Policy AHF5). However, greenhouse /protected cropping is more land-use intensive, gives a better return per square metre of land and generates more economic growth. Its food import substitution capability should not be overlooked.

3.4.2.1.6 Soil Depletion

Soil, a national commodity, is fast disappearing in spite of the legal framework which exists for its protection through the *Soil Preservation Ordinance* (1973). Water and

wind erosion of soil due to the breaking down of retaining walls and the absence of an adequate ground cover, is a common occurrence.

3.4.2.1.7 Disappearing Rubble Walls

Rubble walls damaged over time, or dismantled by snail picking hordes, are not being repaired. Lack of maintenance work encouraged by poor tenancy conditions adds to the damage. Rubble walls make important boundaries and are sites of specific ecological communities. If set up properly, they prevent soil erosion and soil displacement by surface runoff.

3.4.2.1.8 Mismanagement of Citrus Orchards

The citrus orchards found in the Cottonera ditches are all government owned and leased out to private entities, but not all of them are properly managed.

3.4.2.1.9 Depletion of Agricultural Land Within Valleys

Agricultural activity in valleys has a long tradition simply because the valleys are a good source of water. Unfortunately, more land is being asphalted or sacrificed for buildings at a rate that has not only made inroads in agricultural land but caused disruption to the runoff water system.

3.4.2.1.10 Decrease in Bee Population

The *1991 Census* shows the poor condition of the apiculture sector in the south region of Malta (Table III.3.5) despite the existing opportunities offered by crops growing on irrigated land which provide a longer foraging period for the bee. This could be one of the reasons why horticultural production is not as efficient as in Gozo since the pollinating agent, the bee, is in short supply.

It is feared that the situation worsened following the 1993 bee disease (Varroa) which had a disastrous effect on Malta's bee population.

3.4.2.1.11 Decrease in Varieties of Dry Land Crops

Hardy fruits such as carobs, olives and figs are commonly noticed in the south region but others like pomegranates, jujube, mulberries and sweet almonds are not so common. Dry land can support these species although admittedly they do not give as quick a return as vegetables and cereals. However, less labour intensive crops, such as hardy fruits, for land of marginal value offer a better proposition, given the growing rate of part-time farmers at the expense of full-time ones.

3.4.2.2 Untenable Land Tenure Conditions

The present land tenure conditions do not encourage investment. Immediate action by government, the biggest land owner, is necessary to prevent further deterioration.

3.4.2.3 Lack of Investment Mentality in Agricultural/ Livestock Breeding Sector

The farmer/livestock breeder has grown with a subsidy mentality and considers government as an indemnity whenever a mishap occurs.

There is scope for investment in irrigation equipment, protected cropping, apiculture and landscaping. Cooperatives tend to be more aware of the need for investment.

3.4.2.4 Lack of Knowledge and Certified Qualifications

Farmers who are only recently being serviced with second class treated water may not be skilled in agricultural practices relating to irrigated land.

Some agricultural activities, such as spraying and fertilizing operations, are executed without a sound knowledge of their effects and residues.

At present, there are no rules or certified standards governing contractors of landscape gardening work.

3.4.2.5 Siting of Livestock Farms in Residential Areas

Residents complain of foul smell and animal effluent seeping out of some livestock farms, mostly pig farms, causing a great nuisance.

3.4.2.6 Lack of Representation on Boards

The Local Councils are of the opinion that people from the south region of Malta are not appointed on government Boards/Commissions, for example, the latest Agricultural Development Commission announced by the Agriculture and Fisheries Ministry.

3.4.3 Recommendations

3.4.3.1 Policies

3.4.3.1.1 Land tenure

The present land tenure conditions should be amended to give a sense of security for a specific time frame, say 15 years, thus encouraging investment in this sector.

Land fragmentation could also be prevented through new legislation.

3.4.3.1.2 Investment Facilities for Farmers

In the absence of an Agricultural Bank, the possibility of offering services similar to such a bank through existing banks' subsidiary companies should be studied.

Existing government grants and loans could be channelled through such a bank to provide the bulk venture capital for agricultural projects. In this way, the specialists of the banking sector are better utilised in the agricultural sector than the present Loans and Grants Board. However, private investment should also be encouraged; feed mills, food processors and wine merchants could be induced to invest in the farming sector. Better usage may also be made of the Central Cooperative Fund for investment purposes.

3.4.3.1.3 Insurance

The possibility of insurance cover for equipment, crops, livestock and structures (for example, greenhouses, dairy sheds and windmills) should be studied.

3.4.3.1.4 Cooperatives

Dairy farms should be encouraged by central, as well as local Government, to organise themselves into a body similar to the K.P.H. (Kooperattiva tal-Produtturi tal-Halib) to which a number of herdsmen already belong.

3.4.3.1.5 Decrease in Use of Agrochemicals

The use of more organic matter in lieu of artificial fertilisers, the use of integrated pest management systems for crops and fruit by which, fewer pesticides are used, in conjunction with biological control, should give farming in the south region of Malta an edge over other areas.

3.4.3.2 Long Term Projects

3.4.3.2.1 Agrotourism

The Department of Agriculture has recently launched the concept of agrotourism, bringing the farmer in touch with the client. This is a source of direct economic return to the community.

The following activities could be an integral part of this concept:

1. cottage industries;
2. woodland/countryside walks including visits to sites of historical value;
3. visits to farms and horticultural holdings;
4. countryside activities and facilities, for example, routes for mountain bikes and bridleways, stables, cabs, picnic facilities, 'lunch at the farm' facilities;
5. organised coastline activities, for example, cliff walks, exploring the craft of the salt pan part-timer;
6. organised fishing trips;
7. craft museums focusing on agricultural, fishing and horticultural skills; and
8. involvement in a calendar of events of agricultural and horticultural interests.

3.4.3.2.2 Cottage-Type Industry

There is scope for development of a 'cottage-type' industry without posing difficulties to the community. The key element would be sound technical management imparted by the pertinent authorities to farmers and breeders.

Such an industry would encompass a variety of activities, such as:

1. rabbit meat production

   This does not need a heavy capital outlay and could be supported by part-time workers. Participation in rabbit breeding and management courses should however be essential.

2. fruit preservation

   There is scope for the reintroduction of the old crafts of preserving fruits through drying (example, figs and prunes) and through syrups and juices.

3.4.3.2.3 Viticulture

The age old tradition of growing vines along holding rubble walls should be encouraged for economic as well as aesthetic values, although it should be pointed out that growing vines for wine production is distinct from growing vines for table production. Different vine varieties and water management strategies are used for both markets.
Marsaxlokk has benefited from investment in viticulture by the Marnisi Vineyards. Opportunities for such a model to be emulated exist in the south region considering the area of available dry land.

Small holdings producing choice quality table grapes stand to gain not only from direct sales to tourists, local and foreign, when the crop matures but also during winter if the grapes are preserved (for example, in liqueur or dried as in raisins)

The production of home made wines could be another cottage industry. Existing vintner's licence regulations cater for both the commercial and the private vintner.

3.4.3.2.4 Fruit Orchards

Importation figures of fruit indicate a scope for increased local production.

Over the years, the work of introducing new varieties of stone fruit trees by the Agriculture authorities to extend the fruiting season, and also the varieties of fruit, has given good results. Farmers from the south region have an opportunity to increase fruit production depending on the quality of their soils.

The ongoing government programme of extending the fruiting period through selection of varieties suitable to local conditions should involve growers through certified grafting/budding material. Trials on rootstock should not only continue on the field but the Agriculture Department's Micropropagation Centre at Lija should take the lead when it is fully functional in the near future.

3.4.3.2.5 Farmer/Breeder Information Programmes

The effect of pesticide residues on crops, fodder, soil and the effects of hormones and medicinals on livestock should be explained to farmers and herdsmen.

Agricultural extension work should aim at better farming efficiency through field work and trials on the farmers' holdings, complementing those at the Government Research Station.

Growers should be taught to recognise their fruit tree varieties to enable them to make more accurate assessments of crop yields.

3.4.3.2.6 Public Information Programmes

Local Councils should be made more aware of the agricultural education facilities existing on the island such as the Agricultural School and Agricultural College at GHammieri, Marsa and the Institute of Agriculture at the University of Malta. Such information should be relayed to the community through notices in the Council office and magazine and through the schools' organisations within their locality.

Agricultural education for adults is at present carried out through meetings in district offices (Zabbar Civic Centre for the South). Local Councils could explore the possibility, with both the Agriculture and the Veterinary Service Departments, to hold technical courses to cater for different sectors such as irrigation techniques to farmers about to be serviced with second class treated water from the Sewage Plant; rabbit breeding and fruit preserving.

Secondary schools are invited to send students for 'a day on the farm' for a 'hands on' farming initiative launched in October 1997 by the Ministry of Agriculture and Fisheries at GHammieri.

The Local Councils should continue to support craft training courses organised by

the Employment and Training Corporation such as the course on nursery production and landscape gardening soon to be run jointly by the Agriculture Department and the Employment and Training Corporation.

3.4.3.3 Medium/Short Term Projects

3.4.3.3.1 Increased Second Class Water Distribution from Sant' Antnin Waste Treatment Plant

Studies have shown that the substitution of the open channel system in use for distributing the Sant' Antnin treated sewage water with a piped system is essential for efficiency and for reaching more holdings (Mitschoff, 1990). The expanse of irrigated land could then be extended through the enhancement of the second class water distribution system.

3.4.3.3.2 Building of a New Sewage Treatment Plant at Rinella

Kalkara and Xghajra should benefit tremendously from the proposed sewage plant envisaged by the year 2000 at Rinella.

Cottonera should benefit by having second class water for the proposed park encompassing the Cottonera Lines as proposed by the Zabbar Local Council and other public areas.

All Councils should have access to this second class water for servicing public gardens, groves, leisure areas and urban plantations in their locality.

It was suggested by a number of Local Councils that it might be more feasible to install a number of small sewage plants in different localities rather than to build one large plant at Kalkara. Having a number of plants, rather than just one, increases the risk of having them closer to built up areas.

3.4.3.3.3 Gardening Guidelines and Qualifications

The need is felt for qualified gardening contractors to service contracts for the maintenance of gardens issued by Local Councils and private establishments in the area. A course for adults inclined towards this sector is essential.

The local nurseryman must start producing local stock and raising from seed rather than from foreign grown plants.

3.4.3.3.4 Investment in Protected Cropping

The setting up of a commercial horticultural estate with a standard design of protected cropping, similar to the Dutch experience, is being proposed. Its siting will depend on the availability of water rather than fields.

Possible sites could be the land adjoining the proposed sewage plant at Rinella, after taking into consideration wind protection, or the compound of the Qajjenza

Plant in Birzebbuga when the plant is relocated. This latter site is not far from the 'heat' generating Delimara Power Station and hence thermal energy from the power station can be utilised for protected cropping.

3.4.3.3.5 Soil Protection

Law enforcement on soil movement, especially after 'working hours' and during weekends should be stepped up with the Local Councils' cooperation.

3.4.3.3.6 Enhancement of Soil Through Organic Matter from the Composting Plant and the Old Luqa Tip

Shallow soils can be improved through the increased use of organic matter which is easily available to farmers in the south region of Malta through the Sant' Antnin Composting Plant.

The Composting Plant could be induced to provide farmers of localities negatively affected by its presence with a quota of its production at a reduced/nominal rate.

Furthermore, the spent tip at Luqa (Valletta Road) is carrying the litter of an era before the advent of plastic, polythene and industrial waste. The debris at this old tip is a source of a growing medium which can be mechanically sifted in the same way as sieving for spalls and sand is done at quarries. This soil could then be made available to fields which carry a poor layer of soil.

3.4.3.3.7 Rubble Walls Repair Programme

A repair programme based on central and local government initiatives could be devised to induce tenants and owners to repair and maintain rubble walls. Large breaches in retaining walls, especially along water courses and roadways, could be repaired by using the 'cage' system currently being used to repair walls at Chadwick Lakes.

3.4.3.3.8 Apiculture

It should be encouraged to keep bees either as a hobby or as a part-time activity. This calls for adult education offered by government, associations or knowledgeable individuals.

Given that the approximate flight range of bees is around 4km, farmers and greenhouse keepers should invite beekepers to place hives within this range of their holdings to ensure pollination.

3.4.3.3.9 Valley Rehabilitation

The Valleys Rehabilitation initiative taken by the Department of Agriculture under the Italian Financial Protocol should include the major valleys of the south region of Malta. The techniques proposed by Maltese and Bari Agronomic Institute experts for the Chadwick Lakes Rehabilitation project should indicate the course of action to be taken for rehabilitating those valleys best identified by appropriate studies.

3.4.3.3.10 Maintenance of Afforestation Sites

Tree screens can protect arable land parcels from the wind and sea spray as can be discerned on the Delimara Peninsula. Apart from this, parcels of land carrying trees offer a number of benefits such as possible sites for placing beehives, screening of buildings and a source of hardy fruit picking for the public.

The Local Councils and the Agriculture Department should carry out campaigns to save local woodlands from fire, littering, squatting and other harmful uses.

The Lands Department should furnish Local Councils with details of agricultural land in or next to government afforestation sites leased to third parties.

The Tree Preservation and Protection Regulations being prepared by the Department of Agriculture together with the Environmental Protection Department should be piloted as soon as possible to enable the protection of woodland and specimen trees.

Workers and funds are to be made available to Local Councils for the proper maintenance of woodland areas in their localities according to a management plan drawn up by the Department of Agriculture. One should explore the opportunity to involve volunteers and school children in arbor days and woodland week activities such as clearing litter in spring, weed control along paths and roads in early summer for fire prevention and planting replacement seedlings during December/January period.

3.4.3.3.11 Industry Involvement

The Power Station's presence at Delimara together with the Solar Energy Station at Marsaxlokk offer an opportunity to help agriculture and horticulture. Greenhouses are more cost-efficient if inexpensive heating is available during the winter months. It might be possible to involve the Power Station and the Solar Energy Station at Marsaxlokk in providing an environmentally friendly energy source for the breeders, farmers and greenhouse owners.

3.4.3.3.12 Relocation of Livestock Units

Livestock units, at present housed in fortresses such as Delimara, Benghajsa, St Leonard and those surrounded by residential buildings, should be relocated. Present tenants should be made aware of this fact and helped to find alternative sites on either private or public land.

The possibility for installation of pig farm waste treatment plants to eliminate overloading of the sewerage system should be studied.

3.4.3.3.13 Elimination of Unlicensed Breeders

Enforcement of laws and regulations should be increased by the pertinent authorities to safeguard the existing heavy investment in the livestock sector.

Unlicensed dairy, swine and poultry breeders should be put down as these present a real danger to the livestock sector.

3.4.3.3.14 Development of Riding Stables

There is room for the trend towards increased equine ownership to develop towards the setting up of riding stables operating on defined rides laid out along determined areas such as the proposed Delimara Country Park.

Horse drawn cabs (*karozzini*) are rarely seen in Cottonera and in the touristic areas at Marsaxlokk and Marsascala. This potential money earner is well developed in Mdina, St. Julians and Rabat. There is definitely a scope for such development in the south region.

3.4.3.3.15 *Pitkali* for the South

Some Local Councils suggested that the south region of Malta should have its own Vegetable Wholesale Centre (*Pitkali*). Apart from the capital and running costs outlay to be studied, there are also a number of considerations to be taken into account, for instance the quantity, quality and variety of fruit and vegetables in the South. *Pitkali* would definitely be inferior not only because the percentage of irrigated land and glasshouse areas in the south region of Malta are small as compared to the rest of the island, but also because the experience of farmers from the south region in vegetable production on irrigated land has not reached the standard of the northern and central regions of Malta.

The commercial vegetation plan of the island shows a dominance of fruit in the northern and central regions but lack of it in the south region. Hence greengrocers using the South *Pitkali* will still have to go to Ta' Qali. This goes against the principle of 'one stop shopping'.

One must consider that the source of irrigation water in the south region, that is the Sant' Antnin Plant might have repercussions on marketing. If, say, a mechanical failure occurs or through poor quality water, such may paralyse not only the vegetation production but also marketing hinged to the South *Pitkali*.

3.4.3.3.16 Rehabilitation of Reservoirs and Public Tanks

Most Local Councils in the south region of Malta are in favour of the rehabilitation of public tanks the number of which is substantial, considering that :

1. in fortifications, since time immemorial, water storage for the defenders was essential. These tanks are now being used for second class water storage;

2. prior to the introduction of mains water, the village tank, normally situated in a central place, for example, next to the village square, was an integral part of community services. These are now also being used for second class water storage;

3. the numerous wartime shelters, public and private, dug out during the Second World War are also used as tanks; and

4. the number of roofless storm water tanks built by government in the late 1970s close to major roads.

3.4.4 Final Comments

A number of studies are recommended further to the proposals outlined above; namely :

1. With the expected increase in the quantity of second class water from the sewage plants (Sant' Antnin and the proposed Rinella Plants) a study is recommended to identify site/s suitable for greenhouse development with the least impact on the environment.

2. A physical survey of existing government agricultural land is suggested in order to identify weaknesses in management to downright fraud where hunting and bird trapping take priority over agricultural production.

3.5.0 FISHERIES

3.5.1 Background

3.5.1.1 Introduction

The fishing industry in Malta is relatively small and contributes very little to the national Gross Domestic Product. Its contribution in 1991 was a mere 2.2% of the agriculture and fisheries sector. Although from an economic viewpoint fishing is a limited industry, other factors including social and political issues need to be considered especially within the local context.

3.5.1.2 Fishing Community and Structure of the Fishing Fleet

The fishing community is small and mainly concentrated in Marsaxlokk. In 1995 there were only 1,707 registered fishermen of which only 321 are involved in full-time fishing. Of these 129 resided in Marsaxlokk representing 40% of full time fishermen (Table III.3.7). During the same year the fishing fleet in Malta and Gozo consisted of 1,627 crafts : 9 bottom trawlers, 82 launches, 338 luzzus, 725 caiques, 24 firillas and 449 other crafts (Table III.3.9). Fishing crafts over 9 m in length represent just 11% of the total fishing fleet (Table III.3.8). This, together with the fact that only 19% of fishermen are full-timers, shows that the local fishery is mainly comprised of a large fleet of small craft operated by part-time fishermen.

The bottom trawlers, launches and some of the bigger luzzus undertake fishing trips away from the Maltese Islands, but the rest are only suitable for inshore activities. The larger vessels are also equipped with the latest navigational and operational instruments and also include refrigerated fish holds; but most of the smaller crafts carry only an echo-sounder and a Very High Frequency radio.

Although throughout the years the number of fishermen, particularly full-timers, has decreased considerably, in recent years, there has been a visible effort by the local fishermen towards improving and/or enlarging their fishing crafts as well as utilizing modern instruments, methods and fishing equipment.

3.5.1.2.1 Fishing Community in the South Region of Malta

Marsaxlokk is the main fishing village in Malta with the largest operational fleet and concentration of full-time fishermen. Thus the importance of fishing in this locality is not just economic but social and cultural as well. The tradition of fishing is nowhere else in Malta as well conserved with whole families involved in fishing as at Marsaxlokk.

Marsaxlokk Bay has always been the most important fishing centre in Malta with its importance increasing throughout the years. Whilst in the 1950s it accommodated approximately one-quarter of the fishing fleet, today it accommodates two-thirds of the fleet. This marked increase is due to safe moorings and servicing facilities especially for the larger vessels provided in the Bay.

In the other localities, there are a number of full-time and part time fishermen although their number is quite small when compared to Marsaxlokk. Birzebbuga, Marsascala, Kalkara and Senglea also have a significant number of fishing crafts

although most are caiques and other small boats with only a few luzzus and larger launches.

3.5.1.3 Overview of Fishing Practices and Developments

Until recently, fishing in Malta was mainly seasonal and inshore, which meant that during the winter months (January to March), almost all fishermen would be employed with bottom longlines for dogfish, skate, rays plus the occasional grouper and bream, whilst some would fish with trammel-nets and gill nets near the shore or on some nearby reef, or use traps for bogue and horse mackerel. From April to July, most fishermen would go out on day trips for pelagic fish by means of small drift-nets when catches would include frigate-mackerel, bronze bream, bonito and small tunas whilst others would fish at night for mackerel, bogue and horse mackerel by using strong lights to attract the fish and then catch them by purse seining.

By the end of July almost all fishing activities would stop except for the smaller boats which fish with traps for bogue etc. and trammel nets for bottom fish, and the fairly larger luzzus which fish by longlines for swordfish and tuna. During late July and early August all fishermen would take their boats ashore for engine maintenance and hull cleaning in preparation for the impending lampuki season which starts from late August to the end of January, weather permitting.

However, with the upsurge of the tourist industry, local fishermen started experimenting with new methods of fishing to satisfy the demand for different, more prized species of fish such as tuna, swordfish, stonebass, prawns and shrimps. This, together with the depletion of fish stocks close to land, also led them to improve and invest in bigger boats to be able to exploit fishing grounds further away from land.

3.5.1.3.1 Species Fished and Fish Landings

Out of a total of 56 different species available from the local fisheries, the species that are mostly fished for, due to their commercial value, are swordfish, tuna, stone-bass, king prawns, grouper, bream, red mullet, hake, lampuki and pilot fish. Other species such as bogue, horse mackerel, dogfish, skate and similar species which are less valuable commercially are also caught in significant quantities. The six species shown in Table III.3.10 constitute more than 80% of the total annual fish landings.

Official statistics with regards to fish landings give an annual total catch of approximately 1,000 metric tonnes with a value of around Lm 1,000,000 but the real quantities are now likely to approximate 1,500 metric tonnes. Although legislation lays down that all fish caught locally can only be marketed through the wholesale fish market (*Pixkerija*), a significant percentage of the fish is sold directly to the public, fish shops, hotels and restaurants without passing through the *Pixkerija*. Moreover, since most of the fishermen come from Marsaxlokk, they prefer to sell their fish this way rather than send it to Valletta especially when the catches are small. The Fisheries Department being aware of this situation adds 25% to the actual landing of each fish species, although such a percentage is probably still a conservative one.

Fishing for lampuki or the dolphin fish has been practised by local fishermen since time immemorial and landings vary from 30 to 40% of total fish landings throughout the year.

Until a few years ago, the lampuki season was the main fishing season for all fishermen. However, in recent years the tuna fishing between April and July has increased from a mere 1.7% of total catch in 1985 to 22% in 1993 and 38% in 1994 and 1995. The wholesale value of this species represented 50 and 46% in 1994 and 1995 respectively (Table III.3.12). This shows the considerable current importance the tuna industry has in local fishing terms.

This rapid increase in the catches has been brought about by the efforts of local fishermen in improving their fishing methods and gear, and exploiting a previously untapped source. This drive towards improvement has been brought about mainly because of increased demand and market prices of tuna due to the considerable quantities exported to foreign markets mainly Japan, which ensured a constant high price on the local market. Unfortunately, no statistics for 1996 and 1997 were available; however, from meetings with fishermen and cooperatives, it seems that the trend described above is still apparent. This stands to show that when there is a good market, the fishermen are able to meet the challenges and invest. The fishermen themselves claim that a number of ex-fishermen previously lost to the industry, were encouraged by the tuna market and prices and returned, whilst many others were encouraged in purchasing larger boats and/or improving their own.

Swordfish fishing, which until a few years ago was a more important source of revenue than tuna and as important as the lampuki, has slumped in recent years, due to a decrease in the catches. In the late 1980s and early 1990s, swordfish represented 11 to 15% of total catch and, in 1992, a 13.1% catch represented 25% of total wholesale value. In 1994 and 1995, catch figures have gone down to 4.7% and 6.3% of the total catch respectively.

3.5.1.4 Marketing

3.5.1.4.1 Local Market Structure

As mentioned above all the fish landed is marketed through the wholesale fish market (*Pixkerija*) in Valletta, which is under the control of the Fisheries Department. Owners of a fishing vessel can also retail the fish themselves, although most prefer to land the fish, or at least the bulk of it, in Valletta. In Gozo, no wholesale fish market exists and Gozitan fishermen can sell their fish themselves in Gozo or through the Valletta wholesale fish market.

At the wholesale fish market, fish are sold by the *pitkala* or middlemen under the supervision of fisheries officers. The fish bought wholesale is marketed by about 150 registered fish vendors or hawkers on vans or through fish shops, a number of which have opened in recent years.

The Fisheries Department is continually making improvements and striving to bring the wholesale fish market up to European Union standards.

Although both private importers and exporters as well as the cooperatives in recent years, are responsible for sourcing export companies, it is the Fisheries Department which issues export and import licences and the Government which issues policies

and creates the necessary contacts and agreements with foreign countries.

3.5.1.4.2 Domestic Market

The local market is a small one and the fish per capita consumption levels are still considerably below the levels reached in the majority of the northern bound Mediterranean countries although higher than Maghreb countries and Turkey. The *1988 FAO Report on Agriculture and Fisheries* suggest a figure of 7kg/annum. One important outlet for the fish is the catering industry where a number of restaurants and hotels have become specialised in the preparation of fish both for locals and tourists.

There are three different seasons :

1. September to December : lampuki season with peak catches and low market prices;

2. April to July : tuna fishing with high catches and high market prices; and

3. Other periods of the year : low catches made up of various fish and average market prices slightly lower than in (2).

The market prices for domestic fish are relatively high in Malta, but still less expensive than in other European markets.

Although fish consumption is quite low, a substantial quantity of both fresh and frozen fish are imported by local companies. Obviously, this is not to the liking of local fishermen since these fish compete with their catches. Although fresh fish imports are severely controlled, about 1,113 tons of chilled, frozen, salted, dried or smoked fish were imported in 1991. Such fish include salmon, bream, octopus, prawns, mussels, merluzzi, and lobsters among others.

Other imported fish consist of prepared or preserved fish and other value added products such as fish fingers, fillets, etc. Weights of such imports are not given in the trade statistics however they were valued at Lm 3,169,477 in 1989. On a live weight basis, the *1988 FAO Report* gives the average fish consumption for the period 1982-1984 as 4,339 tonnes per year, of which, 3,457 tonnes, or 80%, were imported.

This high level of imports is :

1. to compensate for the scarcity of fish in certain periods of the year;

2. to increase the variation of fish given the seasonal nature of our fishing;

3. to supply the demand for low priced convenience fish both by the catering industry and the local population; and

4. to supply different kinds of fish requested by the tourist industry.

3.5.1.4.3 Export of Local Caught Fish

The prevailing Government policy has always been in maintaining local fish supplies for domestic consumption with export permits being granted when the local market is saturated or when large quantities of certain fish are landed which can lower the price excessively.

Export possibilities at the moment exist for only a few fish species such as tuna, swordfish, and to some extent, stonebass. During 1993, 110,488 kg of tuna and swordfish valued at Lm 402,689 were exported to Japan and Italy and 13,930 kg of stone bass valued at Lm 21,020 were exported to Italy.

3.5.1.5 Legislation

The two international bodies responsible for fishing in the Mediterranean area are the General Fisheries Council for the Mediterranean (GFCM), of which Malta is an active member, and the International Commission for Conservation of Atlantic Tunas (ICCAT) which is responsible for international coordination of management of Atlantic (including Mediterranean) stocks of tuna and swordfish.

At an international level, Malta, through its Fisheries Department, has especially in recent years worked hard in the promotion and also in the setting up of various initiatives and conventions which are all aimed towards better management and conservation of the Mediterranean fisheries. Although fishery legislation in Malta dates from 1934, it has been amended throughout the years to bring it in line with current international thinking of fisheries management and conservation strategies and to enable compliance with various instruments such as the code of conduct for responsible fishing, and fisheries policy of the European Union. This is of importance especially if Malta wants to export fish to any country within the European Union where all these issues are important in gaining acceptance of the local product.

A new legislation governing fishing has been drafted and should be passed soon to replace the 1934 legislation.

3.5.1.6 Aquaculture

The aquaculture industry in Malta is quite young with the National Aquaculture Centre being set up in 1989 and the first commercial cage farm following soon after in 1990. Production has continually increased until in 1995 a production of 1,300 tonnes was reached. Although production values for the last two years were not available, production from aquaculture will soon exceed the catch from the open sea.

The main production comes from the four cage farms currently operating. Main species of fish produced are sea bass and sea bream which are mainly exported to the Italian market with about 5% only allowed to be sold in Malta. This small production from aquaculture which can marketed locally has helped both in increasing the variety of fish available to the local market as well as relieving the scarcity of fresh fish during the winter months.

In 1997 the local fish farms united and formed the Malta Aquaculture Producers Association whose main aims are to develop and establish a common policy with regards to production, quality standards and development of the industry as well as

working to resolve the problems facing the industry and make central Government more aware of their problems.

3.5.1.6.1 Aquaculture Development in the South Region of Malta

As regards the development of aquaculture in the south region, there are already two fish farms at il-Hofriet in Delimara, and a small cage installation in Marsaxlokk Bay together with the Research Institute at Fort St. Lucian.

3.5.2 Issues

It is an accepted fact that the local fishing industry is facing difficulties. The problems are typical of most other Mediterranean countries : small fleets, lack of investment, gradual depletion of the wild fish stocks and competition from non-Mediterranean fishing fleets.

3.5.2.1 Fishing Fleet

The small size of local fishing fleet as well as the small numbers of larger equipped vessels are due to various factors including the traditional methods of fishing, market demand and prices as well as the costs involved in upgrading or buying new fishing vessels.

3.5.2.1.1 Financial Assistance

There is a serious shortage of institutional financial support to the fishing sector. Credit, working capital and asset acquisition appear to be available only from middlemen. Improvements in fishing boats are very costly and although the fishermen appreciate the financial assistance provided by central government, they think that this is sometimes politically monopolized as well as being insufficient in view of the huge expenses incurred with buying new boats, as well as the time involved in obtaining such grants.

Also loans from banks are problematic because banks do not consider fisheries as a good security risk and require collateral other than the fishing vessel and gear, given the absence of any marine insurance on these. Therefore, most professional fishermen have to cope in financial terms by obtaining personal loans, mainly from relatives and/or middlemen (*pitkala*). Thus, most of the boats are entirely owned and manned by families with a fishing tradition.

Hence, for young people wanting to venture into the fishing industry, the capital involved in purchasing a new boat and providing it with all the necessary equipment is prohibitively high.

3.5.2.1.2 Insurance Cover

Insurance cover for the fishing boats and fishing gear is virtually absent for most Maltese fishing crafts. Unfortunately, it is not rare that fishing boats sustained damage, either through bad weather or by shipwreck; in some instances, the extent of the damage and/or repair costs are so great that fishermen end up losing their craft. The lack of insurance cover for fishermen is also a problem given the risk of injury in their work. Lack of insurance cover further complicates matters in obtaining loans from banks.

3.5.2.1.3 Subsidies

Subsidized purchase of fishing equipment by Government is kept in store at the Fisheries Department at Barriera Wharf. However, many local companies and even the cooperatives are importing and selling equipment at very competitive prices. Therefore, the Fisheries Department need no longer stretch its facilities to provide a service which is already being catered for.

Fishermen complain about the prices of fuel which nowadays represent a major cost given the large engines used and the long distances to their fishing grounds. In previous years, fuel used to be subsidized by Government, however the practice was discontinued in 1980. Local fishermen wish that this subsidy be reintroduced; they claim that fuel is much more expensive in Malta when compared to Sicily, for example. In fact, there are quite a number of fishermen who make regular trips to Sicily to buy fuel from there and return back.

3.5.2.2 Facilities

In addition to providing adequate incentives for fishermen in improving the fleet, there is also a need to provide the required infrastructure.

This is particularly true for Marsaxlokk, where with the increase in its importance as a safe berthing place for most of the Island's fishing fleet, the facilities are now limited. With the increase in the number and size of boats, the slipways and berthing facilities are a problem. Local fishermen complain that although they were assured that a new, larger slipway was to be built to allow large vessels to be pulled ashore and maintained, this never materialised.

Thus, there is only one slipway capable of providing enough space and facilities for pulling up larger fishing launches and perform the required maintenance. Usually a time limit is allowed for each boat so that everyone has a chance to use it. However, should a boat need to be pulled up with urgency the fact that the slipway is nearly in use all year round would create a problem. The insufficient area of the repair yard further aggravates the problem since most maintenance work is done on the slipway.

There has also been a request by Marsaxlokk Local Council for the construction of a cold store and an ice making machine which would be managed by the cooperative/s.

Marsaxlokk Bay has become quite small for all the boats given the large number of various fishing boats belonging to part-timers from other localities. This is especially true for the area known as Tal-Maghluq where, with the increase in the number and size of boats, the facility is overcrowded, with large vessels having to be moored elsewhere in the Bay, more exposed to bad weather conditions.

This situation is also apparent in other localities such as Birzebbuga where, with the development of the Freeport, berthing facilities for boats has decreased considerably with the consequence that far too many boats are being moored at St. George's Bay. As regards slipways there is only one adequate slipway which however is too small and shallow for large crafts.

Following the construction of the Delimara Power Station, a shallow shelf adjacent to the power station was removed and instead, a new small breakwater was constructed. This breakwater was badly damaged during bad weather with the result that Marsaxlokk Bay has become more exposed to rough weather. Local fishermen and boat owners are eagerly awaiting the repair of this breakwater by Enemalta Corporation.

Marsaxlokk fishermen think that the open-air market is a nuisance and obstructs the whole waterfront with the consequence that fishermen cannot load and unload their boats since the open-air market has taken up all available space on the quay. This situation is further aggravated by the number of cars parked in Marsaxlokk. This view is also shared by Marsaxlokk Local Council who see very little benefit to the local population since most hawkers come from outside the village.

3.5.2.3 Market

The main problem of the local fish market is the composition and seasonal variation of catches resulting in :

little variety of fish for most periods of the year given the small local fishing fleet most of which is dedicated to the seasonal fishing of lampuki and tuna;

a large fluctuation of market prices with a depreciation of prices when the market is saturated and very high prices during periods of low supply;

a lower demand and market prices for other fish species when the market is saturated with one cheap species only; and

a low supply of fish during specific periods which then has to be supplemented by imports.

Moreover, the local market is limited both in quantity and in scope. The per capita consumption is much lower than in other European markets (section 3.5.2.2 refers) and, in general, the local population is not aware of the variety of fresh fish available except for popular species like lampuki. Given the low market prices of such fish, most people view fish as a cheap product comparable to poultry, meat and low priced fish imports. Therefore, the demand and, consequently, the market prices of other species caught in significant quantities, drop. Fishermen thus prefer to fish for more lucrative species which, in turn, limits the variety of available fish and makes the industry dependent on a few fish species, and is thus very vulnerable to any changes in fishstocks.

The predominance of whole fish in the local market represent a restriction in consumer choice and, given the current local demand for easily prepared meals, the importation of convenience food is obviously set to increase. Given the seasonal variation and fluctuations of local catches, no fish processing plants exist in Malta.

The fish distribution system is another limiting factor which, until recently, was exclusively dependent on mobile fish hawkers. In recent years, the opening of modern fish shops, fully equipped with sanitary and refrigeration facilities where fish can be gutted, filleted and better preserved has helped in improving the attractiveness, convenience and availability of fish.

As yet, export possibilities exist for only a few fish species such as tuna and swordfish. In turn, the fishing of these species is highly dependent on the export market which, due to high market prices, justifies the high costs and the necessary improvements in boats and gear such fishing entails.

To be able to export fish, the fishing methods employed, the market from where it is sold and the quality of the fish must be in line with guidelines of the importing country. Although marked improvement has been made in the Valletta wholesale

fish market, the Fisheries Department still needs to bring the local market up to standard and ensure that the quality of the fish meets the requirements of importing countries.

The issue of quality is also important for the local market to ensure that the consumer is safeguarded and that the fishermen are educated in the correct preservation of fish. However, quality issues cannot be addressed to direct fish sales. This is especially true for Gozo where no fish market exists and fish can be marketed directly by the fishermen.

3.5.2.4 Resource Potential and Management

3.5.2.4.1 Resource Potential

Unfortunately, little is known about the behaviour, habitats, spawning seasons and stock levels of the various fish species caught locally, with the consequence that some stocks are not being fully exploited whilst others might be exploited to depletion endangering the livelihood of the fishermen who depend on them. Apart from this, the local market is limited with the consequence that the industry has come to rely heavily on a few important species with other species for which the demand and prices are low being neglected.

Arriving at a sound estimate of the potential harvests of marine resources in Maltese waters would require accurate statistics on catches and landings as well as biological data, both of which are lacking. In Malta, no fishery stock assessments had ever been accurately carried out and research on any aspect of local fishery is nearly non-existent. In fact, way back in 1954, Burdon had already recommended the appointment of a biologist with the Fisheries Department, a post which was never filled up.

3.5.2.4.1.1 Demersal Fish and Invertebrates

The demersal resources, currently being exploited by small vessels fishing longlines and the small fleet of trawlers, is concentrated in the shallower regions. Given the limited area of these nearshore grounds, a fairly heavy degree of exploitation is inevitable, whereas deeper, further offshore, water areas are probably underexploited.

Unfortunately, deep water trawling, introduced in the 1970s was unsuccessful for various reasons, including :

high costs of trawling or available funds for investment limited;

lack of trained crew willing to stay long periods at sea; and

market constraints : limited demand and prices for fish caught.

The latter was the probable key factor and except for the shrimp and scampi there is limited local demand for the other fish species landed, such as horse mackerel, in contrast to foreign markets, such as Italy and Spain.

Also, the fishing for stone bass and other benthic, high value species which, in recent years, has increased, is limited during the lampuki season, mainly due to the seasonal low demand and market prices.

3.5.2.4.1.2 Pelagic Fisheries

Large pelagic fisheries include lampuki, pilot fish, tuna and swordfish. Lampuki fishing seems to be well developed although some fishermen in Marsaxlokk have given up lampuki fishing completely, mainly due to low catches of lampuki experienced by fishermen of the south region. In fact, most of the lampuki landed are from Gozitan fishermen who enjoy deeper waters in their fishing grounds being positioned in the direct migration route of lampuki.

The fishing for small pelagic fish such as anchovy, sardines, mackerels and various other fish is limited mainly due to the low prices such species fetch on the market. In recent years, lampara fishing for such species has decreased considerably mainly due to market constraints.

3.5.2.4.2 Resource Management

Fisheries is a common property resource necessitating Government to act as custodian of the marine resources for the national benefit. It is an accepted fact that the Mediterranean is a poor sea which, with the current increase in fishing effort and sometimes indiscriminate extraction of its resources by Mediterranean and foreign countries, is being exploited to its maximum limit. Coupled with pollution problems, this is reflected in diminishing level of fish stocks.

Unfortunately, actions in regulating local fishing practices, although necessary and commendable, would serve little if this effort is not shared by all neighbouring Mediterranean countries. This is especially so for the fishing of large pelagic species such as tuna, where international collaboration is a must to ensure appropriate conservation of this species.

In summer 1997, there was an outcry from local fishermen about fishing methods employed by Sicilians who were netting hundreds of tunas at one go. In one fishing expedition, the latter caught a quantity of tuna equivalent to the quantity Maltese fishermen landed throughout that entire season with longline fishing. Japanese and Korean fishing methods, with huge nets, are also contributing to the depletion of fishstocks especially with indiscriminate captures of all types of fish. Local Cooperatives issued statements requesting Government to intervene. The Fisheries Department took the matter in hand with the General Fisheries Council of the Mediterranean (GFCM) and this issue is to be addressed during the GFCM's next meeting.

Lack of knowledge on fish stocks and inaccurate statistics of caught fish are a serious impediment in determining the health of this resource and in assessing the extent of overexploitation.

The necessity for such information is evident in the case of swordfish where catches of adult specimens have dropped drastically in recent years. In previous years, swordfish fishing used to be seasonal with the majority of catches occurring over a span of a few months in spring; with improvements in fishing methods and bait, it can now be caught all year round. Yet, a significant proportion of swordfish currently being landed at the Valletta wholesale market consists of small specimens of a few

kilogrammes in weight, while the formerly common larger ones are getting rarer.

The current large numbers of small swordfish caught implies that Malta might be a spawning and/or nursery area for swordfish. Given the general theory that swordfish stocks do not usually migrate away from their home territory, except to spawn, suggests that swordfish stocks are local. Records indicate that drastic drops in average fish size imply intensive fishing.

Contrary to the practice in neighbouring Italy, local fishermen do not practise the closed season when fishing is arrested for a period of 45 days to allow stock recovery. Quite rightly, local fishermen argue that the closed season is actually practised due to the year round seasonal fishing of various fish species, and due to the periodic maintenance and repair of large boats.

Continual exploitation of local inshore waters has led to a depletion of fish stocks. This situation improved slightly with the current practice of fishing further offshore, in part induced by inshore depletion of fish stocks. However, a significant number of part-time and amateur fishermen and spear fishing by the ever increasing number of divers mean that inshore waters are still under considerable pressure. Although regulations, directed towards conserving marine resources ban all kinds of destructive fishing practices, control and enforcement are weak. This is especially so for fishing by explosives which result in the death of all kinds of fish, a good number of which are left uncollected, and the destruction of their habitats.

Pollution, increased human activity and coastal development are other important contributors to fish stock depletion.

3.5.2.5 Education and Training

Education and training are both needed for local fishermen. Another area which has been largely neglected is the encouragement of young people to consider fishing as an occupation.

3.5.2.6 Fishing Cooperatives

While it is evident that the two fishing Cooperatives have an important role to play in working for the development of the fishing industry, unfortunately there are two Cooperatives for such a small community of fishermen.

3.5.2.7 Boat Building Tradition

Unfortunately, the tradition of boat building is dying out fast due to decreasing demands for traditional Maltese boats, nowadays being replaced by fibreglass boats and bigger launches. Most fishermen buy these bigger launches from Sicily. It seems that there are very few local boat builders, mainly in Gozo, who are capable of building such big launches and the design is different. The opinion on whether locally manufactured launches are superior or inferior to Sicilian crafts varies; most claim that Sicilians make more robust boats.

3.5.2.8 Aquaculture

The local aquaculture industry is facing tough competition from other Mediterranean countries; for example, production of bass and bream in Greece is increasing every year. Other locations like Turkey and North African countries are also starting to produce significant quantities. Since the main market for most of this production is Italy, market prices are dropping drastically, while production costs are still high.

Moreover, most of the fry required to seed cages for ongrowing production are imported from Mediterranean countries such as Italy, Spain and France, with high transport costs, and the risk of importing new diseases, the occurrence of which has happened far too often in the past.

However the main threat to the local industry is the 15% tariff imposed on fish exported from Malta to European Union member states, such as Italy, Malta's main market. Malta, being a non-European Union country, cannot compete with European Union member states such as Greece. Fish farmers regard this situation as unjust considering the large quantities of feed, fry and equipment imported annually from European countries.

Unjustly so, the local aquaculture industry is sometimes perceived by the general public as a polluter and destructor of marine habitats. It is in the direct interest of fish farmers that the marine habitat and water quality are preserved, these being the prime resources of such an industry. Like any other industry, aquaculture does produce wastes and may have a polluting effect. However, the development of the local industry has been guided, such that negative effects are minimised through strict environmental and management controls by the concerned Government Departments and the Planning Authority.

3.5.2.8.1 Fish Farming and the Fishing Industry

A lot has been said about aquaculture helping the fishing industry by creating job opportunities and by having small scale farms owned by fishermen. Still, fishermen are skeptical about aquaculture and do not see how it could benefit the fishing industry; in some cases they even consider it as a competitor.

Unfortunately, given the high competition for inshore and coastal areas for other purposes and the lack of an extensive coastline, aquaculture installations can only be developed offshore with the consequent increase in capital investment given the expensive technology and the scale of operations needed to make it viable.

Fish farming is quite distinct from fishing although experience in the latter makes the best fish farmers. Therefore, at least for the first years of production, fishermen who invest would need specialized expertise and management. For fishermen to become fish farmers would mean the eventual demise of the fishing industry. Actually, aquaculture depends heavily on fishing since the feed required for high value cultured fish species is mainly composed of fish meal.

The aquaculture industry should create job opportunities and, in fact, a considerable number of those employed in fish farming were once fishermen, and some of them still practise fishing on a part-time basis.

As regards the development of aquaculture in the south region, the main constraints are poor water quality. On the south eastern coast, further up from St.Thomas Bay, the water quality is negatively affected by the industrial activity of the Harbour area and the main sewage outfall in Wied GHammieq, such that further development in

this region as regards cage farms remains unlikely for the time being. However, the development of on shore fish farms is a possibility, although strong competition from other sectors for coastal areas will be a problem.

3.5.3 Recommendations

3.5.3.1 Policy Recommendations

3.5.3.1.1 Long Term

3.5.3.1.1.1 Financial Assistance

Government policies on grants and loans to fishermen need to be reviewed to improve their effectiveness (section 3.5.3.2.1 refers).

3.5.3.1.1.2 Market

Although the prevailing government policy had always been in maintaining local fish supplies for domestic consumption, this policy needs to be reviewed to see whether it would be more opportune to have a mix between local supplies, imports and exports which would benefit the fishermen as well as the local population. This would involve a trade-off between increasing export of high-value local fish and import of lower priced fish.

3.5.3.1.1.3 Legislation

Although oriented towards ecological conservation, the current fishing regulations, which date back to 1934, need to be reviewed in view of the changes in our fishing industry. In fact, new legislation has been drafted and should soon be passed.

3.5.3.1.1.4 International Agreements

International collaboration and agreements must be pursued to ensure proper conservation of marine resources, such as large pelagic species, for example, tuna.

Policies should be issued to ensure that fish for export, both from fisheries and aquaculture, are in line with standards and regulations of the importing foreign countries.

3.5.3.1.1.5 Pollution

Unfortunately, most often, sources of pollution cannot be eliminated; however, authorities and investors should make sure that they are controlled and mitigated. Current improvements in the sewage disposal system is commendable and should significantly help in restoring the health of our coastal waters.

3.5.3.1.2 Medium/Short Term Policy Recommendation

3.5.3.1.2.1Resource Management

Although no information is available on stocks to be able to determine whether a resource is being overexploited, the present situation of swordfish fishing requires urgent action in regulating its fishing and avoiding catching of small specimens. In order to control overfishing and similar abuses, it is recommended that a regulation

is endorsed and implemented at ministerial level. Due to the present need for improvement in compiling statistical data, it is recommended that such data will start being compiled in greater detail in order to curb overfishing.

3.5.3.2 Projects

3.5.3.2.1 Long Term Projects

3.5.3.2.1.1 The setting up of an agricultural bank or rather, a subsidiary of an existing bank

Current Government grants and loans may thus be channeled though such a bank, providing the bulk of investment whilst encouraging the private sector to invest as well.

3.5.3.2.1.2 Marine Insurance Cover

There is sure need for increased awareness among fishermen on the importance of insurance cover not just for their crafts but also for themselves and their crew. Government assistance could be directed towards a marine insurance scheme as well as changing the depreciation rate of fishing vessels to bring the age of vessels into acceptable limits for bank financing. Marine insurance would also improve the capability of fishermen, especially professional ones, to secure credit from financial institutions.

3.5.3.2.1.3 Accurate Statistics

Given the importance of accurate statistics on fish catches for Government to monitor industrial development and develop the necessary policies, the present situation is unacceptable. The Fisheries Department must strive to set up an accounting system to determine true levels of catches and landings by fishermen. This information is a prerogative if the health of marine resources is to be assessed, future marketing strategies determined, new resources developed, and present resources safeguarded from overexploitation. New equipment and facilities should be provided to the Fisheries Department for the compilation of statistical data.

3.5.3.2.1.4 Facilities

Local Councils and both cooperatives have suggested that coastal areas near the Delimara Power Station be developed into a Marina with pontoons, so that the pressure for moorings of small boats in the Bay and next to the quay is eased off, leaving the waterfront accessible to larger boats. However, it is important to determine the costs and benefits of a Marina, bearing in mind the social and environmental characteristics of Marsaxlokk as a fishing village, which might suffer as a result of such a development.

3.5.3.2.1.5 Market

Given the importance of the market for future development of the fishing and

aquaculture industries, the setting up of a well functioning and updated marketing and trade information system adapted to the requirements of fishermen, exporters and importers, and consumers, is essential. Given the limitations of the fishing and aquaculture industries in setting up such a system by themselves, while highlighting the importance of such a system for Government for policy making, there is a need for a concerted effort by the industry and the Fisheries Department in setting up this system.

3.5.3.2.1.6 European Union Tariff

The issue of the 15% tariff imposed on exports of fresh fish from Malta to European Union member states needs to be urgently addressed. This issue is of great importance both for the survival and further development of aquaculture as well as for the fishing industry if export markets are to be developed any further. Every effort by central government should be made to arrive at a solution to this problem with European Union officials.

3.5.3.2.1.7 Resource Potential

To be able to determine the potential yields and improvement of harvests of marine resources there is a need for biological and statistical data on catch and fishing effort as well as systematic surveys of the fishing grounds by a research vessel. Assessing of potential increase in harvest of migratory species such as tuna is more difficult since this depends on catches by other countries; therefore collaboration with foreign countries is imperative.

3.5.3.2.1.8 Resource Management

The investigation of sizes, ages and catch rates over a period of years is required to determine if, and to what extent, resources are being overexploited and be able to draw up the required policies and regulations for safeguarding the resource. A first step towards this end would be the creation of a post of a fishery biologist within the Fisheries Department. The gathering of data could also be a joint effort between the Fisheries Department and the University of Malta.

3.5.3.2.2 Medium/Short Term Projects

Regarding the issue of accuracy of official statistics of catches there is a need for determining what are the main issues leading to such a situation so that longer term projects can be undertaken.

3.5.3.2.2.1 Subsidies

The National Cooperative claims that, in fact, there is a system whereby fishermen can benefit from a subsidy on fuel but this involves fishermen having to prove to the local Customs authorities that they have been abroad to another country followed by official checking of their documents at the Grand Harbour. However, fishermen cannot get proof of their having been away, even though they travel for long distances when they go out fishing. Also, once they return, their main priority is to get their fish to the Valletta wholesale market as soon as possible, rather than waste time at the Customs (The Director of Fisheries was aware of this situation but had so far not checked its validity, Personal communication). If this is so, then it is recommended that the procedure be simplified and made more convenient for

fishermen. Should this not be the case, a cost-benefit analysis of reintroducing fuel subsidy is recommended.

3.5.3.2.2.2 Facilities

It is recommended that existing facilities at Marsaxlokk Bay be upgraded and new, modern ones be created :

The construction of a new, modern slipway and an onshore repair and maintenance facility are urgently needed. Presently, boat repair and maintenance are carried out on the slipway; thus, such a facility would free the slipway while enabling fishermen to carry out work on their boats even in bad weather, provided the facility is roofed;

The need for the construction of a cold store and an ice making machine, managed by the Cooperative/s, has long been felt and, given the substantial number of fishermen, is also to be recommended;

The National Fishing Cooperative has suggested that when the Malta Maritime Authority dredges Marsaxlokk Bay, which operation is carried out on a regular basis, the moorings which would have been marked by owners are pulled out. The Malta Maritime Authority can then put them back, thus ensuring maximum available space utilisation, with larger boats being afforded more space, and doing away with haphazard arrangements of moorings;

It is recommended that the open-air market is regularised, ensuring that the main quays are left unobstructed so that fishermen can do their work unenhindered; and

The need for a marina and slipway facilities as Birzebbuga.

Financing for such projects could be a joined effort by central Government, Cooperatives, Local Council and private investments.

3.5.3.2.2.3 Market

A thorough market assessment is urgently required to be able to determine local and foreign market possibilities and thus the best policy one should adopt. One should also assess the socio-economic benefits following the recommended policy of section 3.5.3.1.1.

3.5.3.2.2.4 Local Market

A better local marketing effort, where public awareness of the various fish species available, and their preparation, is increased, is recommended. The challenge is to market the variety of available fish species, their ease in preparation and their nutritional value. This challenge should be taken up by all sectors of the fishing industry, including fishermen, Cooperatives, fish shops and caterers.

An effort should also be directed towards ensuring a consistent high quality of the fish supplied both for the local and foreign markets.

Establish needs of both the catering industry and the local public to determine possibilities for :

i. Extending the period of product availability of fish with low to medium level market prices, that is, September to December and January to February, when catches are low and prices superior.

ii. Processing of local fresh fish to increase the range of products from local fish. In recent years, there had been some trials with freezing and packaging of lampuki for export and the Malta International Foods had, at one point, successfully marketed various smoked fish, including lampuki. Although, for some reason, the latter process was discontinued, it would be worthwhile to explore this possibility again. Freezing and packaging of whole and filleted lampuki may also be an interesting option, especially for the catering industry. Greater marketing possibilities ultimately

    a) assists fishermen in reaching a better market price for their product;
    b) the scarcity of fish at the beginning of the year is eased off; and
    c) the choice of products for consumers is increased.

    This possibility also exists for other species such as tuna and swordfish which could be processed and prepared to make them more attractive and available throughout the year.

iii. Opening local markets of high value fish to reduce production costs if they were to be exported.

iv. Substituting part of the imported fish with local fresh and/or preserved/processed local fish.

v. Improve the distribution system by encouraging more modern fish shops.

An increase in the local consumption of fish carries great benefits to the fishing industry :

a) it helps in reversing the current trend where, during the lampuki season, sales of any other fish are considerably slowed down; and

b) fishermen would be able to continue their specialized fishing for specific species of fish without the need to change fishing technique, gear, etc. two or three times during the year, making them more effective and efficient.

3.5.3.2.2.5 Export Markets

The following recommendations are being put forward :

1. Encourage the current export markets whilst striving to improve/set up the necessary framework for export in foreign countries;

2. Determine possibilities of export for other species of fish; and
3. Assess the socio-economic costs and benefits of increasing export of high value local species and substituting them with the import of lower priced fish.

3.5.3.2.2.6 Quality Issues

A commendable improvement which should be followed has been made towards improving the quality of the fish sold. The export of various species, especially tuna, and the high quality required for its acceptance has encouraged the fishermen to improve their fish holds and take greater care in preserving fish. One further step towards improving quality control is the appointment of a resident veterinarian at the Valletta wholesale market.

3.5.3.2.2.7 Resource Potential and Management

The following recommendations are being put forward :

1. An assessment of personnel and facilities to undertake the necessary collection of biological and statistical data to assess the health of local resources and explore potential resources which are presently not being exploited;

2. The appointment of a fishery biologist within the Fisheries Department who can conduct at least preliminary work on stock assessment and collect information available from nearby Mediterranean countries to serve as a primary important step. Such studies are especially important for tuna and, more so, for swordfish where the local population is probably under threat from overfishing given the high number of small fish being caught in recent years. Given the high growth rate of swordfish, it is advantageous to avoid catches of small sized fish by using larger sized hooks as well as avoiding areas where small fish represent a high proportion of the catch. Fishing regulations for this species are urgently required, to ensure that the practice is sustainable and stocks are safeguarded, at least until enough knowledge about this species is brought forward;

3. Every effort should be directed towards enforcing fishery regulations and offenders should be harshly prosecuted. This is especially so for destructive fishing practices such as fishing by explosives and the widespread harpoon fishing by scuba divers; and

4. The setting up of marine conservation areas which would greatly help in restoring the health of Maltese coastal waters. These would serve as refuges where fish are given a chance to recover and repopulate other coastal areas. Conservation areas should be chosen with care taking in consideration water pollution levels, ecological criteria and size in order to be effective in restoring local fish stocks. Strict surveillance should be applied and any kind of fishing activity prohibited. Local environmental groups, dive shops and Local Councils may be given a share of the responsibility by acting as wardens of such parks both through public education and by ensuring that the law is being respected especially by reporting any infringements.

3.5.3.2.2.8 Education and Training

Courses on the

use of instrumentation,
navigation,
information on various global developments in the fishing industry,
fishing methods and gear and equipment available,
quality issues and how to properly conserve fish,
information on various fish species with regards to their habitats, behaviour, etc., and
first aid and rescue,

would be appreciated by fishermen especially during winter months when rough weather keeps them onshore. The Cooperatives could help in organising and promoting such courses with the help of the Nautical School and the National Aquaculture Centre; the latter could also be used as a venue for evening courses or talks.

More information should be made accessible to young people and even children at school about the fishing tradition and various other subjects related to fishing. This is especially relevant to Marsaxlokk where children from an early age can be led to appreciate the fishing tradition of their village and encourage them to consider it as a career. It might also be possible to introduce vocational training for adult fishermen and special classes for their children with instruction in rudimentary navigation and modern fishing methods.

3.5.3.2.2.9 Fishing Cooperatives

Fishing Cooperatives have an important role to play in helping the fishing industry. It is unfortunate that for such a small community of fishermen there are two cooperatives and both the fishermen and the Fisheries Board feel that the two cooperatives should be amalgamated apolitically to better achieve their objectives.

3.5.3.2.2.10 Boat Building Tradition

Although this tradition should be encouraged there is little one can do to ensure its survival. A museum dedicated to traditional Maltese boats and the craftsmanship involved in making them would at least preserve this tradition.

3.5.3.2.2.11 Aquaculture

Effort on the part of fish farmers should be directed at reducing production costs and opening new markets, including fish processing, to produce value added products since all the bass and bream harvested locally are sold fresh. One may also explore new species although this entails research and development which is needed before any novel species can be profitably grown and marketed. The National Aquaculture Centre has been instrumental in developing the industry, especially in providing the necessary extension services such as environmental and health monitoring as well as carrying out research. The same can be said of the Veterinary Services Department and the Fisheries Department. However, further assistance is needed to establish the local fish farming industry.

The National Aquaculture Centre should be encouraged in furthering its research and development programmes which would greatly benefit the aquaculture industry.

The setting up of a local hatchery should be encouraged in view of the market already available and the obvious benefits for local fish farming development.

3.5.3.2.2.12 Fish Farming and Aquaculture

One area from which local fishermen can benefit is tuna farming currently practised in various countries, such as Morocco and Australia. In basic terms, small tuna of a few hundred grammes are caught and used to stock large cages in the sea. They are fed fishmeal and reared until they reach 80 to 100kg within a few months. Their main market is the insatiable and lucrative Japanese markets.

The main problems one can foresee are :

initial capital costs in the purchase of large cages and high labour and running costs in offshore installation,
the catching of small tuna as seeders, and
the large quantities of fishmeal required.

However, high market prices of fresh tuna, fetched at the Japanese Sashimi market, far outweighs the above liabilities. Trash fish, such as bogues, picarel, anchovies, sardines, mackerel and other mixed fish, to feed the tunas can easily be supplied by local fishermen. Unfortunately, very little is known about the stocks of such fish and most probably local fishermen have never really tried to exploit this source to its full potential, given the current limited demand and market value.

3.5.4 Final Comments

This section is not meant to be an exhaustive study of the needs and constraints of the local fishing industry, but rather, an exercise in highlighting its most prominent problems and needs. The main inputs have been people directly involved in the fishing industry and the limited material available on the industry.

It is clearly evident that there is a need for more information and research work on various aspects of fisheries to be able to determine the health of the resource, the economic health of the fishermen, levels of fish consumption and export possibilities amongst others. It is only through data collection that future policies and regulations can be set up leading to the safeguarding and development of the fishing industry.

3.6.0 INDUSTRY

3.6.1 Background

3.6.1.1 The Present Situation

The south region of Malta has the highest number of densely populated areas with maximal industrial activity. The latter case has been partly due to the industrial potential of the south region and also to the mutual relationship between the presence of industry and population density.

Historically, the suitability of the Grand Harbour for port facilities drew the attention of the British Services to build the Dockyard at Cottonera side whilst the harbour development induced further industrial activity to be located around the harbour area. During the 1970's and 1980's, the Bulebel, Ricasoli and Hal Far Industrial Estates were built, while the country's needs urged the construction of the Malta Freeport at Kalafrana and the new Power Station at Delimara.

During the same time, the population density increased within the localities of the south region, so that new building construction and small-scale industries active in residential areas, increased substantially within each locality. In recent years, even Marsaxlokk's fishing tradition is being affected by modern fish farming techniques.

In Malta, land is a scarce resource and industry is bound to absorb substantial land and coastline and stipulates the construction of the necessary infrastructure. If such impacts are assessed and mitigation measures are taken into account, then industrial development should increase the current standard of living.

3.6.1.2 The Various Types of Industrial Activities

Industry can take different forms; the following list is meant to embrace all industrial activities :

1. Heavy Industry meaning the Malta Drydocks or the presence of any of its component parts, such as Dock No.1 at Bormla. This also includes setups of national importance such as the Delimara Power Station and the Kalafrana Freeport;

2. Industrial Estates meaning the group of individual factories that operate there and also their surroundings; the south region of Malta contains a high concentration of industrial estates;

3. Light Local Industry which refers to carpenters, mechanics, panel beaters, sprayers and aluminum workers who work from a garage within residential areas. Crafts and cottage industries are also contemplated under this heading;

4. Scattered Industry means scrapyards, batching plants, building contractor's yards, large commercial outlets that are located on commercial roads, and open-air markets;

5. Construction Industry refers to construction sites and quarries; and

6. Specific Industries refer to any locality's specific activity such as fishing, whether on a full time or part time basis.

3.6.2 Issues

3.6.2.1 Irregular Industrial Development

Although statutory bodies, like the Planning Authority, would grant permission for the setting up of an industrial plant, industrial activities do not always conform to conditions of permit granted within their premises. This could be due to either industrial activities that are carried out in violation of conditions stipulated in the building permit or due to the fact that a permit is not sought in the first instance. The latter could be simply due to the anticipated refusal due to its environmental impact. This is most prevalent in the cases of light local industry, scattered industry and examples from the construction industry. This could seriously cause an unpleasant visual impact as in the case of excessive height of heaped scrap-metal, badly sited crane-yards and contractor's yards.

Similarly, building sites designated for development, may take long to be constructed with the potential danger to adjoining residents that the site could be used to dump any sort of waste, such as inert construction waste.

3.6.2.2 The Changing Environment of Small Industrial Enterprises

In the past, small scale forms of industrial activities existed within habitable areas and this situation generated mutual benefits. Hence, whilst certain crafts served the local inhabitants, these crafts have proved not to be commercially viable and have given way to mechanized tradesmen's workshops but with more elaborate needs. On the other hand, car-mechanics, sprayers and carpenters would cause inconvenience to nearby residents.

3.6.2.3 Necessary Localization of Large Scale Industry

Certain forms of industry of national importance, have been located at sites which befitted their operations but interfered with expectations of locals. Such is the case with the Delimara Power Station which is located on a shore-line and thus limiting sea-berthing facilities for locals. Similarly, the presence of the Malta Freeport flange both the Birzebbuga and the Marsaxlokk communities.

3.6.3 Policy Recommendations

3.6.3.1 Short Term Policies

3.6.3.1.1 Law Enforcement by the Planning Authority

Many of the above-mentioned issues, especially section 3.6.2.1 above, can easily be resolved by the Planning Authority through :

1. comprehensive processing of applications for industrial activity, and in relation to the proposed site, and
2. resorting to effective administrative law enforcement

Presuming that the Planning Authority has got enough expertise to fulfil the former function, one should concentrate on the latter solution.

Although the Planning Authority may be vested with the power to curb such abuses and, in spite of its enforcement officers, the members of the Local Councils are in a better position to realize the harm to residents that may be caused by industry. Consequently, Council members can list several unauthorized industrial activities.

As the onus of law enforcement still rests with the Planning Authority, which has the expertise to assess and grant building permits for any development, it is suggested that the Planning Authority should set up a steering committee between its enforcement section and a representation from each Local Council. Besides serving as a 'check and balance situation' between the enforcement officers and the Local Council members, the officers responsible for policy-making within the Planning Authority can get first-hand information in the form of raw data from the members of the Local Councils. Such a working relationship between the Planning Authority and the Local Councils should serve as a critical success factor for the strengthening of law enforcement.

This working committee between the Planning Authority's law enforcement section and representatives of the Local Council would also serve as a means of giving the necessary importance to customer care when the Local Councils would represent the tax-paying public as the customer of the Planning Authority.

3.6.3.2 Medium/Long Term Policies

3.6.3.2.1 Traditional Crafts

Forms of light local industry abound in the south region of Malta and one can mention such dying traditional crafts as boat-building, wicker-working and rope-making. Such time consuming crafts might not prove to be commercially viable now-a-days yet such national heritage could be lost for ever if the needs of the last remnants of these dying crafts were to be neglected. Government is dedicating efforts to encourage and enhance crafts within villages in Malta and Gozo. However, it makes economic sense to leave them scattered in numerous touristic villages and towns of the south region of Malta, which region proved conducive to the survival of these crafts within local families.

Therefore it is high time for Government to intervene in this situation by the allocation of subsidies on running costs and expenses for these very small and fragile forms of light local industry.

3.6.3.2.2 Benefits to 'Not-in-my-Backyard-affected individuals' (N.I.M.B.Y.'s)

Whenever the presence of industry in a local community is inevitable, such as in the case of industry of national importance, the localities involved should be encouraged to consider how the locality can benefit from the presence of that form of industry. As the Local Council is the best representative of N.I.M.B.Y.'s and is also in a position to realize the needs of the community, it could creatively cope with the issue by deriving from the industry some benefits to the locals.

Not only can benefits be in terms of sponsorship, employment and any locally-generated commerce but also in the form of subsidized or free services offered by the industry to the locals.

3.6.3.2.3 The Fishing Industry

A specific industry, such as the fishing industry at Marsaxlokk, which holds national tourist benefit and serves as a livelihood for local families, is facing great hardships since it is being threatened by commercial fish-farming and part-time fishermen alike. Professional fishermen in the locality are concerned about the hazard to their trawlers posed by the navigation of bigger commercial ships within Marsaxlokk Bay.

Ships frequenting Malta Freeport and servicing the Delimara Power Station could cause severe damage to fishing vessels and thus local fishermen are seeking insurance cover for their property. Such an insurance is considered to be an excessive financial burden by local fishermen and thus it is suggested that Government, on behalf of Malta Freeport, should fully subsidize this extra cost.

3.6.4 Projects Recommendations

3.6.4.1 Short Term Plan

3.6.4.1.1 Identification of Localities for Small and Medium-sized Enterprises

Light local industry such as carpenters, car-mechanics and sprayers are a continuously increasing problem to local communities due to the nuisance they create to residents by the sound and smells they generate. Moreover, these small industries cannot expand and, often enough, are not provided with the right services, such as industrial electricity supply. Consequently, many of them operate without a licence and some have been arraigned in court for their illegal industrial activity which actually constitutes their livelihood.

It is proposed that suitable sites are identified close to communities which generate their businesses; at such sites they can be grouped together. If such suitable sites fall within Government property, then Malta Development Corporation would be in a position to allocate these sites for development. However, often enough, suitable sites are privately owned. In such cases, it is recommended that private entrepreneurs are involved in these projects by either providing these building sites for sale to small industrialists or by renting out constructed premises for such industrial use.

Table III.3.13 shows the current and expected number of small and medium enterprises in each of the eleven localities covered by the Regional Socio-Economic Development Plan. Whilst appreciating that the future request is considerable, note should be taken that any relocated enterprises should not be distant from their existing customers. Therefore, locating them at different tradesmen's industrial areas would minimize the impact of a sizeable industrial estate, whilst enabling them to remain close to their clients.

Considering the geographical proximity of the localities, enterprises can be grouped within the eleven localities as shown in Table III.3.14.

3.6.4.1.2 Marsaxlokk's Open-air Market

This once characteristic fishing village already has its own share of infringement by industrial activities. Furthermore, its fishing industry is seriously being threatened by environmental and marketing factors; since it is the only remaining fishing village in Malta, it is bound to have national tourism repercussions.

Whereas it all started as a small conducive fish market, the open-air market grew without control into a conglomeration of sellers displaying many household items. Since this market bears no connection with Marsaxlokk, it is being recommended that this market will be shifted from the village promenade and sited away from or further up the seashore away from the village square. Furthermore, Marsaxlokk Local Council plans to revitalize and rehabilitate the space between the village parish church and the seashore. Whilst the proposed development is excessive, it is more recommendable to develop the whole promenade, even at lesser grandeur than that proposed. Since the promenade extends for a considerable distance, the proposed development will be for the benefit of both the local fishing community and visitors to the fish restaurants which in turn would support the local fishermen's community. Provided that this proposed development would promote Marsaxlokk as

a Maltese fishing village, then the present open-air market should be relocated such to make way for these improvements as part of the village soul searching exercise.

3.6.4.2 Long Term Plan

3.6.4.2.1 Greenbelts Around Industrial Estates

The south region of Malta contains three industrial estates namely Hal Far, Ricasoli and Bulebel and it has been observed how the effect of these estates overspill onto local settlements. It is thus suggested that each estate should be contained within a boundary wall with definite entry points and surrounded by a green-belt as part of a general embellishment programme for industrial estates. This would permit the industrial estates to be closed off to the general public after working hours and that access would be controlled at all times. This initiative would prove to be desirable to factory tenants as it would enhance security.

However, some estates are used for recreational purposes by the public, as in the case of Hal Far; Hal Far is currently used for car- and horse-racing which, activities are covered by Police licence. Presuming that these recreational activities are to be retained, then they should be located beyond the boundaries of the estates.

3.6.5 Final Comments

Several studies are recommended, namely :

1. the identification of the six sites for these tradesman's parks;

2. the extent and the design brief for the Marsaxlokk promenade development; and

3. the delineation of the industrial estates for enclosure, the siting of entry points and the extension of green belts.

3.7.0 TOURISM

3.7.1 Background

The south region of Malta contains what are perhaps the roots of all that makes us Maltese. Through its harbours, it has historically linked Malta to the outside world eventually leading to the development of most of the social, cultural, economic and infrastructural factors which exist in the country today.

The south region of Malta contains an unbroken line of historical evidence of human activity from the dawn of man's arrival in Malta until present times. The prehistoric remains at GHar Dalam, the temples of Birzebbuga and Marsaxlokk, the Roman heritage scattered around the area, the medieval origins of Zabbar and Zejtun, the complex and sophisticated fortifications of the Cottonera, the industrial heritage and infrastructure, the World War Two defensive system and the modern developments which led to the creation of relatively new settlements such as Marsascala, Xghajra and Fgura. The south region of Malta has definitely been at the centre of all that has been taking place in Malta during the past six to ten thousand years....the centre of everything, except perhaps tourism.

This document will strive to make cautious and responsible recommendations for the careful introduction of tourism in the south region of Malta. It will be taking this approach with a view to the fact that this area is considered to be too fragile and delicate to be able to withstand the effect of full blown tourism development.

3.7.1.1 Tourism Development in Malta

Tourism development in Malta started in earnest during the 1960s when, as a result of a concerted Government effort to stimulate investment in accommodation, Malta developed enough bed capacity in order to make it feasible for mass market operators to start including the island in their holiday programmes.

In line with the nature of tourism demand prevailing then, most development was centered around undeveloped coastal stretches in the belief that the tourism potential of the Maltese Islands consisted solely of the sun, sea and sand element. This led to the evolution of Sliema/St. Julians as an area of hotel development and the Bugibba/St. Paul's Bay/Qawra area as a zone of self-catering apartment accommodation. The latter was a typical example of a self contained tourist resort which developed over what was previously uninhabited land.

In the south region of Malta, Marsascala emerged as the main area with major tourism accommodation development, although the locality can be termed as having passed through a very interesting evolution. What started as a fishing village, first became a domestic summer holiday destination, then developed into an international tourist resort and finally featured rapid growth as a residential area. In comparison with the Sliema/St. Julians and the Bugibba/Qawra/St. Paul's Bay resorts, Marsascala attracts a very small percentage of Malta's international tourism although its importance as a domestic tourism resort is indisputable.

The only other area in the south region of Malta to feature minor tourism development is Birzebbuga, which during the 1970s was an important source of self-catering accommodation. The importance of this locality has since dwindled due to competition from better equipped localities and the degradation of the area brought about by industrial development.

3.7.2 Issues

Becoming aware of the available raw material currently constituting the tourism product in the south region of Malta whilst placing it in the perspective of the constraints surrounding it is the aim of this section. This approach has been preferred for two reasons: tourism development will revolve around the existing product while keeping in mind the constraints existing in the region.

3.7.2.1 The Current Tourism Product in the South Region of Malta

The tourist product does not consist solely of accommodation but also of visitor attractions and entertainment amenities together with catering establishments. The south region of Malta is definitely not lacking in the amount of raw material from the visitor attraction point of view. The extensive fortification network surrounding the Cottonera, the maritime tradition still living to this very day, the Second World War defence network, together with the prehistoric and pre-16th century history give the area one of the highest densities of such remains per square kilometre in the world. Entertainment amenities are mainly concentrated in the Marsascala area while catering establishments, mostly coastal in location, range from Marsascala through Marsaxlokk to Birzebbuga.

Apart from the relatively low number of tourists who opt to stay in accommodation in the south region of Malta, little else is directed towards this area. Most of what is directed occurs in insulated tours with tourists being whisked from one location to another with barely enough time to interact with the local population or spend money in the locality. Tours to the south region tend to culminate with a lunchtime stop-over in Marsaxlokk with the opportunity to have a snack and visit the open-air market in the locality whilst experiencing the active and authentic fishing village.

For the independent traveller, the south region offers a wealth of environments ranging from the heavily urbanised but historically rich Cottonera to the unspoiled village cores of Zejtun and Zabbar apart from a long stretch of coastline, agricultural zones and valleys in their natural state.

The utopic picture presented above, however, is tainted with a large number of negative elements which disrupt the attractive potential which the area holds in tourism terms.

3.7.2.2 Negative Constraints to Tourism in the South Region of Malta

The south region of Malta bears a more than fair share of the negative by-products of modern-day life in the Maltese islands. It is the centre of electric power generation on a national scale; receives most of the untreated sewage produced by the mainland population; contains the only organic waste recycling plant on the island; is a depot for fuel storage and bunkering; has to cope with next door neighbours such as Malta Drydocks and Malta Freeport Corporation whilst also being in the flight path of a large number of low-flying commercial flights taking off from or landing at Malta International Airport.

The socio-economic profile of the region lies at the lower end of the national average thus compounding the physical shortcomings even further.

The sheer scale and magnitude of the heritage existing in the south region of Malta, and its obsolescence, all contribute to a general feeling of decay and abandonment. Architectural and historical gems which would be highly prized elsewhere, even in Malta, are either crumbling or else being misused. Even maritime assets, such as the Grand Harbour, once a very busy Mediterranean sea-port, are now mostly dormant and a shadow of their former self.

The rapid expansion of human activity in the south region of Malta has brought about upheavals in many ways. The Cottonera area has suffered from a population exodus while the surrounding localities have seen rapid building development so that Fgura/Zejtun/Zabbar/Marsascala/Xghajra have effectively become one contiguous conurbation, Marsascala is slowly encroaching to reach both Zejtun and Zabbar while Birzebbuga and Marsaxlokk are slowly inching towards each other to eventually become an unbroken line of development along Marsaxlokk Bay.

Such developments have created anomalies in the character of the different localities, as previously detached villages have lost most of their green belts (Zabbar, Zejtun), new settlements have developed around traffic-heavy roads originally built as bypasses (Fgura), resorts have evolved into residential areas (Marsascala) and industrial/agricultural areas have become engulfed within housing development (Xghajra, Birzebbuga). The military heritage of the Cottonera is slowly but surely being hidden and stifled by new building projects.

These developments have brought about problems which, although, not directly affecting tourism prospects to the region, will undoubtedly have indirect impacts. To the newcomer, the south region of Malta stands a good chance of coming across as a jumble of developments with the past and the present painfully co-existing to the detriment of each other, with unhealthy looking industrial activity adding to the confused imagery.

The issues identified above form part of the greater and overall context of the Regional Socio-Economic Development Plan for the south region of Malta. Tackling them successfully will lead, more importantly, to the improvement of the quality of life in the area. Once this objective is achieved, however, tourism's potential to develop will arise as a spin-off, a sort of icing on the cake. But before one starts discussing what sort of icing is most appropriate, one has got to make sure that there is a cake in the first place!

3.7.3 Recommendations

This section is subdivided into two areas : pre-requisites for tourism development and suggestions for tourism initiatives by different localities. The pre-requisites can be seen to cover the policy aspect of the recommendations whilst the suggestions constitute practical projects which can be undertaken by the different localities in order to enhance their tourism potential.

3.7.3.1 Pre-Requisites for Tourism in the South Region of Malta

There are certain pre-requisites which have to be considered before attempting to increase the level of tourism activity in the south region of Malta. The following list, while not exhaustive, attempts to cover as many of the issues as possible.

Historically, the population of the south region of Malta was the one mostly exposed to foreign influences. The proximity to the harbours and the existence of military installations in the region ensured a continuous interaction with the outside world. The people of the south region were perhaps the ones who generated, cultivated and exported what was to become one of Malta's most important selling points for tourism purposes: the sense of hospitality and friendliness that elevates a holiday in Malta to an enjoyable interactive experience. In the case of tourism, however, one becomes aware of the fact that the south region suffers from a general policy of exclusion. The tourism industry in general seems hesitant when it comes to set foot in the area.

As a result of this hesitation, most tourism activity in the south region occurs in an insulated manner with tourists barely being given the opportunity to interact with the local population and spend money locally. This behaviour further alienates the local populations who start to view tourism activity as intrusive and useless.

Tourism development should be seen as a vehicle for the development of the south region and not as an alien intrusion by men in suits from across the harbour. It should neither be obtrusive nor exclusive. Thus, projects such as the proposed yacht marinas should in fact not end up creating new barriers of steel in lieu of the old barriers of stone they seek to replace.

The local population needs to be involved in tourism activity and not be made to watch from a distance whilst suffering the negative effects only. Already there have been cases of local hostility to projects which were not perceived as being of local benefit. The case of the St. Angelo Tourist Complex in Birgu and the negative impact and public outcry which the noise pollution its discotheque was creating in the early eighties, is a story with a lesson for all.

Likewise, ventures such as the proposed *son-et-lumiere* show within the Grand Harbour, need to be studied within the context of the light and sound pollution such an activity will impose on the areas over which it will be performed in comparison to the minimal economic contribution it will leave in the localities concerned.

Local involvement should be encouraged both in entrepreneurial terms and in job creation terms. The authorities should give priority and preference to locally instigated ventures and encourage the engagement of local employment by

extending the necessary training facilities and job creation schemes. Otherwise, there will be the risk that any tourism related investment in the region will fail to establish roots and this fail to gain the acceptance of the local population.

The relationship between big industrial or infrastructural ventures and the localities in which they are located also has to be studied in some detail before the concept of tourism is entertained. In the past, most industrial activities had a symbiotic relationship with the localities in which they stood. Thus the dockyard was important for the Cottonera inasmuch as the Cottonera was important for the dockyard. This may not be the case anymore either in the Cottonera/dockyard case and most definitely in the relationship between big enterprises in the south region and the localities in which they stand.

Furthermore, given that the south region has for various reasons been lumbered with the responsibility of shouldering most of the unattractive by-products of modern-day life on Malta, one has to start evaluating these projects under the polluter pays principle: and this time the polluter should start paying the region for the ills it suffers on behalf of the country. The south region should turn what is currently a negative aspect of its day-to-day reality into a cash cow to help it realise its objective of getting closer to the national social and economic averages. Practical examples of how such symbiotic relationships between localities and enterprises can be established will be given later on in this document.

A further pre-requisite to tourism development concerns the preservation of all that is authentic in the south region, particularly in architectural terms. Malta is currently under the grip of a craze that involves laying all pavements in red tiles and planting palm trees. What is applicable in Bugibba is not necessarily applicable in Senglea or Zabbar! Whilst infrastructural improvements are always welcome, the central and local authorities concerned should be careful not to diminish the character of their localities through outright mimicry.

The same concept should apply when evaluating proposals for visitor attractions. Care must be taken to avoid creating multivision shows like the Malta/Valletta/Mdina/Gozo Experience or still life mannequin shows such as War Rooms/Mdina/Medieval Experience. Too much of the same thing is a recipe for disaster and will definitely be no motivation for tour operators to shift traffic towards the region when they can offer their clients more of the same closer to the resorts. Rather, what should be encouraged is the development of more interactive visitor attractions which should seek to take full advantage of features, man-made or natural, existing in a locality.

Although the tourism industry is probably the largest component of the Maltese economy, this does not mean that developments existing elsewhere in Malta do not face any problems. The Maltese tourism product is suffering from an overcapacity in bedstock, placing the accommodation sector at the mercy of foreign tour operators. A substantial part of Malta's tourism product is aimed at the summer visitor, thereby rendering it very difficult to sell during off-peak season, inducing seasonality problems. When attracting tourists for its beach offer, Malta competes pricewise where it fails on the product offered. In the future, this will become increasingly difficult to undertake as cheaper competitors like Turkey, Tunisia and even long haul destinations like the Dominican Republic start to beat us on both quality and price. The long term solution to this is to become less dependent on the beach market whilst developing and attracting new market segments.

Given the above, it is perhaps a blessing in disguise that the south region of Malta has generally remained sheltered from tourism development of the type that has occurred elsewhere in Malta.

Maltese tourism shall increasingly require to capitalise on unique local characteristics if it is to move away from the trap of competing solely on price considerations. The south region of Malta contains most of what has made this archipelago a country with a unique culture. Therefore care must be taken not to repeat the mistakes of the past, but rather to develop this region as a blueprint for our future tourist industry.

3.7.3.2 Suggestions for Tourism Initiatives by Localities

The following section seeks to generate open ended ideas which demonstrate, in practical terms, how most of the different localities in the south region of Malta have a latent tourism potential which is crying out loud for development.

Some of the ideas listed hereunder call for private investment, others for investment by central and local authorities and even through sponsorship by the enterprises operating in the different localities. Certain initiatives will be relevant for the attraction of organised tours into the area concerned while others will be more in line with the needs of the independent, rambling traveler.

What is important is the fact that the success of any tourism developments in the south region should not be measured by monitoring the volume of visitors attracted but through measuring the economic contribution such developments give to the area. There already exist parallel situations in localities such as Mdina. In this city, there is definitely no correlation between the 800,000 plus tourists visiting it every year and their economic contribution to the location.

The south region of Malta offers a multitude of facets to the prospective tourist: due care and attention should be given to exploit the full extent of this product diversity.

3.7.3.2.1 Birgu, Bormla, Isla and Kalkara

The Cottonera area comprising Birgu, Bormla, Isla and Kalkara contains a vast collection of military architecture which rivals that of Valletta across the harbour. And, as an advantage over the capital, it passed through the Great Siege of 1565, thereby placing the complex network of walls, defences and fortresses within the perspective of a great event. The events of the Second World War compliment the great siege event, although these should be of secondary importance given that the second siege affected other parts of the island as well, therefore removing the element of exclusivity.

The four localities of the Cottonera should therefore concentrate on what makes them four distinct entities of the same whole and seek to present themselves as a living continuum of the history which created them.

In particular, the localities' relationship with the Grand Harbour should be emphasised: the body of water which led to their creation and which joins them along their coastal stretch. This raises the issue of the future of the No.1 Dock in

Cospicua which, in its current state, disrupts the otherwise feasible possibility of an uninterrupted coastal walk from Senglea Point via Bormla through Birgu via Fort St. Angelo and onwards towards Kalkara. From the tourism point of view, opening the No.1 Dock area for public access, together with the removal of the obstructing walls ruining Cospicua, should be one of the priorities of the Regional Socio-Economic Development Plan for the south region of Malta. However, it is proposed that the Dock itself be maintained as a specimen of Malta's industrial heritage spanning centuries of maritime tradition.

The No.1 Dock area also gives the opportunity to the Malta Drydocks to be involved in the upgrading of the Cottonera, either through its involvement in the area's restructuring and embellishment and, possibly, even through its involvement in any resulting visitor centre in the locality.

Each of the three cities has, at least, one potential location which can be linked to their maritime heritage: the Macina in Isla, the No.1 Dock in Bormla and the Maritime Museum in Birgu. The tackling of the No.1 Dock Issue would link these three main sites by an unbroken coast road which can go as far as Kalkara.

The potential of the Cottonera Lines for the establishment of heritage trails is very strong although issues of illegal occupation of key locations on the fortifications have to be tackled first. Furthermore, every effort should be made to relocate harmful workshops, factories and farms from historical sites such as windmills, cavaliers and other examples of military architecture in the area.

Forts St. Angelo and Ricasoli hold particular importance in the area and their proper development could provide important breakthroughs for tourism in the Cottonera area. The Bighi Hospital area also holds great potential as an attraction once it is rehabilitated. Re-enactments in locations such as Fort St. Angelo and Fort Rinella should be developed further and encouraged.

The pageantry already existing as a tradition in the area, and which already directly involves the voluntary participation of the local population, should be encouraged and subtlely marketed. Five festas in July, August, September and December; two regattas in March and September; Good Friday and Easter Sunday manifestations, which are amongst the oldest in Malta, in March/April; and the annual Birgu Festival (which should be extended into a Cottonera Festival) already provide a busy calendar of events which should be built upon even further.

A number of issues, particular to certain localities, need urgent action as a pre-requisite to tourism development in the area. For example, Birgu has accumulated a considerable number of structures which are considered to be uncomplimentary to the historic structures in which they stand. Such structures need to be removed. These structures, particularly located on the shore, are also an attraction for squatters. Such abuses should not be tolerated any longer.

Birgu also possesses the last remaining gunpowder magazine (*polverista*) in Malta. This magazine should be given the importance it deserves and utilised in a manner complimentary to its original function. The same applies to the generally neglected Fort Salvatore.

All possible encouragement and assistance should be extended to development initiatives aimed at enhancing the tourism potential of the area. Unfortunately, this is not always the case. For example, Birgu Local Council reported a very tepid official reaction to proposed projects such as a Permanent Exhibition of Maltese Festas and

the development of the ditch outside the city's walls into a visitor attraction entitled "The War Relived".

In the case of restoration of fortifications and other historic buildings, particular emphasis should be placed on aspects such as main gates to the walled cities. Examples such as the main entrance to Birgu have been cited as examples.

Finally, efforts should be made to encourage the re-introduction of ferry services to Valletta. This could either be done as in the Sliema/Valletta case, or, more advisably, through the use of the traditional *dghajsa* which was the water taxi of the Grand Harbour in colonial times.

3.7.3.2.2 Marsascala

Marsascala should seek to consolidate its position as the main resort of the South region whilst fulfilling its role as a residential area. In this respect, its primary objectives should be the continuous embellishment and maintenance of its coastal promenade and the protection of its marine environment, particularly from the threat of the Wied GHammieq sewage outflow. For tourism purposes Marsascala cannot afford to have polluted seas which prevent swimming.

In line with this report's recommendation for localities to establish symbiotic relationships with enterprises with perceived negative contributions, Marsascala should seek to find some silver lining in the dark cloud which is the Sant' Antnin Waste Recycling Plant. The locality could benefit from contributions of a portion of the plant's compost output which would then be used to enrich agriculture and tree planting in the area. Eventually the Plant itself would be surrounded by a green tree belt which it itself sustains and maintains.

3.7.3.2.3 Marsaxlokk

Marsaxlokk is the largest operational fishing village in the Maltese islands and is home to the country's largest fishing fleet. It contains many elements which serve as attractions to tourism and is on the itinerary of many tours. However, there is evidence that the locality only benefits marginally from tourism with expenditure being merely channeled either into its catering establishments or into the open-air market which is not operated by inhabitants of the village.

The picturesque setting of the village has lately suffered as a result of the new power station while water quality and the marine environment seem to be suffering as a result of the Malta Freeport development.

Marsaxlokk also features the Delimara area as a natural spot with plans for the establishment of a Nature Park together with military installations from the time of the Knights and the British. In terms of prehistoric heritage, the area possesses the Tas-Silg site which is not usually accessible to visitors due to ongoing excavations.

The village's unique selling preposition is its link with fishing and its community of fishermen. There is a lot of scope to generate additional revenue for the fishing community and to add a further side to the Maltese tourism experience by encouraging interaction between tourists and fishermen, particularly when the latter are not very busy carrying out their main occupation. These activities could range

from a simple trip around the bay to a full day out fishing and eating the catch on board. The production of handicrafts/souvenirs associated with fishing should be encouraged both as a cottage industry and more importantly as an authentic memento of a visit to the locality. The open-air market should be subjected to controls in order to adapt it to the locality's character.

Besides sea based activities, the creation of land based activities with a fishing theme should also be encouraged. This will make the village an all-weather destination and reduce the seasonality of its visitor flows.

The main negative element in the vicinity, the power station, should be encouraged to give a positive and practical contribution to the community through channeling a predetermined quota of its output on a complimentary basis to the locality in a way which would improve the locals' quality of life whilst enhancing the experience of its visitors.

3.7.3.2.4 Birzebbuga

Birzebbuga is an important domestic tourism destination, covers a large extent of territory, contains important archaeological sites and contains one of the largest sandy beaches on Malta. At the same time it is home to Malta Freeport and its satellite ventures as well as of an important Enemalta fuel and gas depot, whilst being on the flight path of Malta International Airport.

In order to fully realise its tourism potential, Birzebbuga should concentrate primarily on those assets which distinguish it from its neighbours. Primary amongst these are the historical remains in Wied Dalam and the existence of one of the largest sandy beaches in the Maltese Islands.

The valley of Wied Dalam on the main road to Birzebbuga contains GHar Dalam cave and museum, Borg In-Nadur Prehistoric Temple, the remains of a bronze age fortified village and the remains of a roman villa. The valley itself has positive natural attributes making it suitable for walks. The locality should strive to designate this area as an archaeological and natural park and protect it from development and degradation. The richness and diversity of the historical remains, together with the natural setting, are definitely a treasure throve from the visitor attraction point of view and, properly exploited, should be a positive step in increasing tourist inflows into Birzebbuga.

One by-product of the Freeport development in Marsaxlokk Bay in the late 1980s was the substantial enlargement of the sandy beach at Pretty Bay. This beach is unique in the Maltese Islands due to the large stretch of sand it contains in the heart of a built up area. As the beach is quite large in comparison to the number of people who actually use it, the long walk from the main road to the sea is perceived as a nuisance by locals. As a matter of fact the Local Council is in possession of rough plans to convert most of the sandy beach into a park containing sports facilities such as a football pitch, tennis courts, etc. When considering options with regard to the upgrading of this beach, careful consideration should be given of its status as the country's largest sandy beach in a country where sandy beaches are a rarity.

In fact the beach could be considered as a possible venue for sand based sports activities and tournaments in disciplines such as beach volley, thereby establishing Birzebbuga as a venue for local, national and international sports events.

As in the case of Marsaxlokk, Birzebbuga should make the most of the presence of Malta Freeport and Enemalta which should be involved in long term joint projects to enhance the locality whilst generating positive public relations for the corporations concerned.

3.7.3.2.5 Fgura, Zabbar, Zejtun, Xghajra

Whilst tourism should not feature in the list of developmental priorities of Fgura, there is a scope for minor tourism related development in Zabbar, Zejtun and Xghajra. The localities of Zabbar and Zejtun contain authentic, traditional and well-preserved cores and enough scattered heritage to attract independent travellers while Xghajra offers rugged coastal scenery and an extensive British defensive network.

These localities should make an effort to identify any unique aspects/traditions pertaining to them and capitalise on them in order to create visitor experiences. Thus, for example, Zejtun could capitalise on its association with both traditional folk singing (*ghana*) and its strong connections with the dairy industry.

Historical events which are of significance, notably 1614 for Zejtun, and 1797 for Zabbar, could be turned into festivals/pageants while any historical buildings in the localities should be made more accessible to visitors. If they are to be successful in attracting day trippers, localities such as the above need to have catering establishments along the lines present in Gozitan villages such as Xaghra. Houses of character in these localities may be ideal to fulfil such a role.

The Local Councils of these localities should strive to co-operate with each other in making their localities more accessible to visitors through establishing walking routes complete with the appropriate sign-posting. Efforts should also be made to consider providing public transport which links these localities together in order to further enhance accessibility within the south region of Malta.

3.7.4 Conclusion

Tourism can help the south region of Malta achieve its developmental aspirations. Planned properly, it can introduce sustainable and environmentally friendly economic activity in an area which has suffered from too many short term and ecologically unfriendly decisions in the past.

It will also help the local population understand and appreciate the localities in which they reside and allow them to participate in one of the fastest growing economic activities in the world.

The Regional Socio-Economic Development Plan for the south region of Malta is an important step in the general direction of helping this region fall in line with the rest of Malta. It aspires to tackle the problems and challenges of the south region and come out with feasible suggestions. This report has been drawn bearing this philosophy in mind.

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Appendix III.A3

III.A3.0 List of Commercial Premises for Each of the Ten Localities

III.A3.1 Xghajra Local Council Commercial Report

Street	*NDST*	*NDFN*	*Building Name*	*LR*	*Distance (m)*
Triq ic-Cern	55	50	Joe-Joes Bar	L	113.1
Triq il-Fort. tal-Grazzja	5A	5	Corner Store	R	85.5
Triq il-Fortizza	13	9	Carpenter	R	6.7
Triq il-Knisja	9	7	Xghajra Store	L	10.7
Triq il-Knisja	9	7	Thomas Store	R	20.0
Triq il-Knisja	9	10	M.L.P. Club	R	7.7
Triq il-Knisja	23	10	Tornados F.C.	L	57.9
Triq il-Knisja	23	10	Mechanic	L	131.2
Dawret ix-Xatt	16	21	Homer Bar	R	137.1
Dawret ix-Xatt	52	54	Kiosk	L	95.4
Triq S. Elija	7	14	Bazaar	R	55.8
Triq S. Elija	7	14	Store	R	81.6
Triq Tumbrell	4C	4D	Panel Beater	R	43.0
Unknown	61	62	Mister Print	L	29.8
Unknown	59	60	Farm House	L	33.0
Unknown	59	60	Farm House	L	40.1
Unknown	59	60	Farm House	L	57.2
Unknown	59	60	Farm House	R	70.0
Unknown	59	60	Farm House	L	117.8
Unknown	64	64A	Andrews	L	2.3

III.A3.2 Zabbar Local Council Commercial Report

Street	*NDST*	*NDFN*	*Building Name*	*LR*	*Distance (m)*
Triq A. Galgali	218	217	Natalie's Salon	R	8.6
Triq A. Galgali	218	217	Private School	R	28.5
Triq A. Galgali	218	217	Silvia Bazaar	L	56.6
Triq A. Galgali	218	217	Tal-Mans Green Grocer	R	65.3
Triq A. Galgali	217	216	Estate Agent	R	15.1
Triq Alessio Alardi	49	44	Domen Sofa Furniture	L	14.3
Triq Alessio Alardi	49	44	Step In	L	44.9
Triq Alessio Alardi	49	44	Smiling Salon	L	54.7
Triq Alessio Alardi	49	50	Ape Center	L	22.9
Triq Alessio Alardi	49	50	U/N	L	59.1
Triq Bajada	418	416	Schembri Household	L	1.5
Triq Bajada	418	416	Bakery	R	15.6
Triq Bajjada	404A	342	Pizza Anci	L	3.0
Triq Bajjada	404A	342	Woodwork St. Joseph	L	8.5
Triq Bajjada	404A	342	Brumital Motors	R	24.6
Triq Bajjada	404A	342	Animal Feed	R	30.0
Triq Bajjada	342	409	Tal-Grazzja Auto	R	10.9
Triq Bajjada	342	409	Mechanic	L	50.4
Triq Bajjada	342	409	Woodwork St. Joseph	R	58.7

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq Bajjada	342	409	Lamach Woodwork	R	158.5
Triq Bajjada	417	411	Iron Mongery	L	37.8
Triq Bajjada	417	411	Animal Feed	R	45.1
Triq Bajjada	411	410	Furniture	L	12.0
Triq Bajjada	441	259	Self-Service Galea	L	3.2
Triq Bajjada	259	409	Butcher	R	11.7
Triq Bajjada	259	409	Dolceria Delizia	R	51.9
Triq Berebies	21	20	Tonmar Self-Service	R	7.3
Triq Castaldi	142	141	Kenneth Ironmongery	L	40.0
Triq E. Catania	103	99	U/N	R	157.4
Triq Felic	204	190	P. Tabone	R	9.7
Triq Felic	174	143	Store	L	28.9
Triq Felic	174	143	Boutique	L	35.9
Triq Felic	229	204	Eskimos	L	7.2
Triq Felic	229	204	Grocer	L	12.3
Triq Felic	229	204	Vella Ironmongery	R	19.8
Triq Guze` Agius Muscat	257	256	Bakery	L	65.1
Triq Guze` Agius Muscat	256	160	Bazaar	L	26.2
Triq il-Gnien	406	405	Courageous Grg.	R	87.1
Sqaq Grazzji N1	242	241	Winner	R	25.7
Sqaq Grazzji N4	246	247	Z.P.C.C. Gym	L	15.4
Triq Guze` Agius Muscat	351	335	Angelo Store	R	48.7
Triq Hompesh	404	404A	Supermarket Pirella	L	87.7
Triq Hompesh	404	404A	Petrol Station	L	109.2
Triq Hompesh	404	404A	Lourdes Station	L	414.2
Triq Hompesh	404	404A	Anci Bar	L	475.1
Triq Hompesh	154	163	Press	L	10.3
Triq Hompesh	154	163	Office	R	46.8
Triq Hompesh	154	163	Painting	R	94.6
Triq Hompesh	154	163	Tony Photo	R	120.3
Triq ic-Cawsli	193	196	Dental Clinic	L	6.3
Triq ic-Cawsli	193	196	Queen of P. Doctor	L	12.4
Triq ic-Cawsli	193	196	Fisher Video TV	R	15.9
Triq ic-Cawsli	196	194	Carter Appliances	R	18.3
Triq ic-Culqana	335	334	Save Money	R	23.3
Triq ic-Cikas	388	380	Butcher	L	11.2
Triq ic-Cikas	388	380	U/N	R	12.2
Triq ic-Cimiterju	482	492	Farrugia Ironmongery	R	14.6
Triq id-Dukkar	170	148	Tal-Grazzja Confectionery	R	48.8
Triq id-Dukkar	92	112	Twanny Tailoring	R	33.1
Triq id-Dukkar	112	115	Niger Self-Service	R	57.7
Triq il-Barumbara	346	338	Showroom	R	9.3
Triq il-Biccieni	12	123	Bakery	L	4.1
Triq il-Biccieni	123	119	U/N	R	12.3
Triq il-Figell	218	214	Vegitable Shop	L	39.4
Triq il-Fraxxnu	390	296	V/F	L	37.7
Triq il-Fraxxnu	296	295	U/N	L	6.6
Triq il-Fraxxnu	296	295	Henry Confectionery	L	12.9
Triq il-Fraxxnu	296	295	Canadian Style	L	19.6
Triq il-Fwieni	224	226	Stonedresser	L	54.9
Triq il-Gnien	441	258	U/N	R	26.9
Triq il-Kahwiela	326	325	Doctor Clinic	L	114.0
Triq il-Karmnu	175	188	Pulis Hifi	R	47.7
Triq il-Kbira	164	163	Marcelle	R	13.9
Triq il-Kbira	164	163	U/N	L	15.9
Triq il-Kbira	163	162	Headline	R	5.5
Triq il-Kbira	163	162	Gemini Bazaar	L	18.4
Triq il-Kbira	163	162	Fendros Store	R	20.7
Triq il-Kbira	163	162	Boutique	R	24.1
Triq il-Kbira	163	162	Fembros Store	L	39.2
Triq il-Kbira	163	162	Antoinette	R	40.2
Triq il-Kbira	163	162	F. Attard Ironmonger	R	45.8
Triq il-Kbira	443	254	Cutajar Shop	R	6.3
Triq il-Kbira	443	254	Tony Bar	R	16.7
Triq il-Kbira	443	254	U/N	R	21.0
Triq il-Kbira	443	254	Tal-Qormi Butcher	R	25.6

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq il-Kbira	254	253	Cutajar	L	7.3
Triq il-Kbira	254	253	Lotto Office	R	8.9
Triq il-Kbira	254	253	Lino Confectionery	L	36.0
Triq il-Kittien	95	103	S. Mattew Store	R	34.5
Triq il-Kunvent	163	195	Office	R	30.6
Triq il-Kunvent	194	193	Carmelina Clothes	R	9.2
Triq il-Kunvent	194	193	Images Clothes	R	13.4
Triq il-Kunvent	194	193	F. Portelli Style	R	17.6
Triq il-Kunvent	194	193	Central Butcher	R	2.7
Triq il-Kunvent	194	193	Godiva Hair Stylist	R	38.3
Triq il-Kunvent	194	193	J. Cassar Photo	R	42.4
Triq il-Kunvent	193	192	S. Joseph Rent-A-Car	R	18.7
Triq il-Kunvent	193	192	Ray Video Rental	R	37.5
Triq il-Kunvent	193	192	Shoe maker	R	44.1
Triq il-Kunvent	193	192	Maljoe Tailoring	L	44.8
Triq il-Kunvent	192	191	Paul Pastizzerija	R	6.9
Triq il-Kunvent	192	191	Interior Design	R	47.1
Triq il-Kunvent	191	190	Cekcek Appliances	L	5.6
Triq il-Kunvent	191	190	Al Market	L	26.4
Triq il-Kunvent	191	190	Bahbah Store	L	56.1
Triq il-Kunvent	191	190	Pet Shop Costa	L	62.5
Triq il-Kunvent	190	189	Noddy Toys	L	5.8
Triq il-Kunvent	190	189	Dinky Child Needs	L	13.7
Triq il-Kunvent	189	188	Carrol Beauty Care	L	2.7
Triq il-Kunvent	189	188	Magic Dress Maker	L	5.6
Triq il-Kunvent	189	188	S. Joseph Woodwork	R	7.9
Triq il-Kunvent	189	188	E.A.S.I. Electronic	L	8.9
Triq il-Kunvent	189	188	Electraline Hold	L	49.6
Triq il-Lembija	65	68	U/N	L	15.9
Triq il-Marlocc	333	417	Lourdes Press	L	92.8
Triq il-Mehriez	227	228	Sheldon Unisex Salon	L	107.2
Triq il-Mithna	345	340	Sprayer	R	51.4
Triq il-Mithna	345	340	Panel Beating	L	57.9
Triq il-Mithna	340	339	Welder	L	5.6
Triq il-Mithna	340	339	Welder	R	10.3
Triq il-Qalb Imqaddsa	79	80	Evelyn	L	24.5
Triq il-Qotton	223	221	Casibille Aluminium	R	89.6
Triq il-Vitorja	409	408	Pluto Clinic Doctor	R	5.5
Triq il-Vitorja	409	408	Nancy Store	L	14.3
Triq il-Vitorja	409	408	All Needs Bazaar	L	29.6
Triq il-Vitorja	409	408	Pharmacy	R	60.7
Triq il-Vitorja	409	408	Doctor Clinic	L	118.7
Triq il-Bahrija	43	42	Easy Buy	R	18.0
Triq il-Bahrija	43	42	Fra Ben	L	29.0
Triq il-Bahrija	56	57	Kej	R	34.5
Triq il-Faqqus	213	214	Tom and Jerry	L	44.6
Triq il-Grazzji	202	246	il-Kantuniera	L	17.3
Triq il-Grazzji	202	246	Southern Cross Snack	R	40.3
Triq il-Kappucini	66	56	Hundreds Thousands	L	23.7
Triq il-Kappucini	66	56	Over The Top	L	70.1
Triq il-Kbira	165	164	U/N	L	8.0
Triq il-Kbira	165	164	Zabbar American Pool	L	20.9
Triq il-Kbira	151	150	Oerets Video Rentals	R	0.0
Triq il-Kbira	151	150	British Empire Bar	R	3.3
Triq il-Kbira	151	166	U/N	R	5.8
Triq il-Kbira	151	166	Carmen Self-Service	R	19.2
Triq il-Kbira	166	165	U/N	L	12.0
Triq il-Kbira	150	133	Butcher	R	38.0

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq il-Kbira	133	131	Lotto Office	L	10.0
Triq il-Kbira	133	131	U/N	R	25.0
Triq il-Kbira	133	131	Main Store	L	27.9
Triq il-Kbira	133	131	Cekcek	R	29.8
Triq il-Kbira	133	131	Crystal Palace	R	34.6
Triq il-Kbira	131	129	Paul Bar	L	2.8
Triq il-Kbira	131	129	Cekcek Store	R	5.7
Triq il-Kunvent	181	186	Royal	L	83.6
Triq il-Misrah	241	252	Butcher Shop	L	8.8
Triq il-Misrah	240	252	Winner	L	23.5
Triq il-Misrah	240	252	St. James Cycle Way	L	40.8
Triq il-Misrah	240	252	St. James Centre	L	48.2
Triq il-Misrah	240	252	St. James Pharmacy	L	59.3
Triq il-Qalb Imqaddsa	186	176	Perks	L	29.3
Triq in-Newl	439	440	Premiere Videos	R	8.9
Triq ir-Redentur	259	336	LLD Avukat	L	19.1
Triq ir-Redentur	336	350	Santini Stacue	L	8.3
Triq is-Santwarju	155	156	L'Orbietto Hair	R	2.4
Triq is-Santwarju	155	156	Malcom's Self-Service	L	31.5
Triq is-Santwarju	155	156	William's Clothes	L	37.8
Triq is-Santwarju	155	156	Super Butcher	L	42.9
Triq is-Santwarju	155	156	Lollies Take Away	L	47.1
Triq is-Santwarju	157	158	Ocyagon Developers	L	22.7
Triq is-Santwarju	157	158	Dental Clinic	L	29.6
Triq is-Santwarju	157	158	Doctor Clinic	L	35.6
Triq is-Santwarju	160	161	Barber Modern Saloon	L	4.3
Triq is-Santwarju	160	161	Butcher Shop	L	8.2
Triq is-Santwarju	161	162	Café Amarena Bar	L	4.6
Triq is-Santwarju	161	162	Perit Office	R	11.4
Triq is-Santwarju	161	162	Tal-Grazzja Confectionery	L	13.8
Triq is-Santwarju	161	162	Tal-Grazzja Grocer	R	15.9
Triq is-Santwarju	161	162	Tal-Grazzja Pastizzi	R	20.6
Triq is-Santwarju	161	162	Profiles Beauty Centre	L	30.1
Triq is-Santwarju	161	162	Fenbros Store	R	45.3
Triq is-Santwarju	162	199	Zabbar Social Club	R	10.1
Triq is-Santwarju	162	199	St. Patricks F.C.	L	15.6
Pjazza s-Santwarju	199	198	Pitty's Bar	R	14.0
Pjazza s-Santwarju	199	198	Pitty's Rent-A-Car	L	20.3
Pjazza s-Santwarju	199	198	Ronnie's Snack Bar	R	21.4
Triq is-Santwarju	199	200	Hi-Spot Bar	R	23.1
Triq is-Santwarju	200	201	Joe's Car Rentals	R	10.3
Triq is-Santwarju	200	201	Cutajar Hi-Fi Centre	L	23.6
Triq is-Santwarju	200	201	Pharmacy	L	46.3
Triq is-Santwarju	200	201	Colonial Hair Saloon	R	46.9
Triq is-Santwarju	200	201	Baron Confectionery	L	64.6
Triq is-Santwarju	201	202	Photo Studio	L	0.0
Triq is-Santwarju	201	202	Private School	L	13.7
Triq is-Santwarju	201	202	Sizes Clothes	R	10.3
Triq is-Santwarju	202	442	Kwalitat Ceramic	L	2.5
Triq is-Santwarju	202	442	Il-Kantuniera Toys	R	13.4
Triq is-Santwarju	202	442	Golden Harvest	L	21.3
Triq is-Santwarju	202	442	Mirei Clothes	L	27.3
Triq is-Santwarju	202	442	Bonavias Toys	R	29.3
Triq is-Santwarju	442	203	Frames Maker	R	3.0
Triq is-Santwarju	442	203	Grocer	L	6.5
Triq is-Santwarju	442	203	Carmen Clothes	R	16.3
Triq is-Santwarju	442	203	Caprice Cosmetics	L	18.6
Triq is-Santwarju	203	204	Doctor Clinic	L	18.7
Triq is-Santwarju	203	204	Venere Appliances	L	24.8
Triq is-Santwarju	203	204	Nutar Office	L	33.6
Triq is-Santwarju	203	204	Harold Hi-Fi	R	74.7
Triq is-Santwarju	203	204	Francesca Shoes	L	103.1
Triq is-Santwarju	203	204	Royal Theatre	R	104.3
Triq is-Santwarju	204	205	Venere Household	R	20.5
Triq is-Santwarju	204	205	Theres Bazaar	R	35.3
Triq is-Santwarju	204	205	Family Bar	L	49.6

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq is-Sebbelika	28	31	Buhagiar	R	102.4
Triq is-Sliem	416A	253	Bazaar	L	28.2
Triq is-Sliem	253	252	Zabbar Shooting Club	L	0.0
Triq is-Sliem	253	252	Eagle Store	L	19.3
Triq is-Sliem	253	252	Baron Confectionery	L	52.4
Triq ix-Xghajra	208	182	Xelinu	L	18.9
Triq ix-Xghajra	208	182	Xelinu Garage	L	27.7
Triq ix-Xghajra	182	181	Desiree	R	16.1
Triq ix-Xghajra	181	179	Ray's Mini Market	R	15.7
Triq ix-Xghajra	181	179	Polymer Pharmacy	R	27.5
Triq ix-Xghajra	70	48	Balzan Woodworks	L	14.5
Triq ix-Xghajra	445	230	Bakery	R	51.5
Triq l-Imhasa	217	227	Supermarket Centre	R	27.3
Triq l-Imhasa	217	227	Chain Market	R	34.4
Triq l-Inkurunazzjoni	267	265	King Edward VIII Bar	R	14.5
Triq l-Inkurunazzjoni	261	259	Friendly Store	R	0.0
Triq l-Inkurunazzjoni	261	259	Hairline Saloon	R	36.3
Triq l-Iskola	174	173	Ta' Wikka Butcher	L	91.3
Triq l-Iskola	172	171	V.D.J. All Sorts	R	6.9
Triq l-Iskola	172	171	Fruit Drops	R	15.2
Triq l-Iskola	172	171	Mechanic	L	30.0
Triq l-Iskola	178	177	Baron Confectionery	R	7.0
Triq l-Iskola	176	177	Panel Beater	L	16.6
Triq Labour	155	127	Il-Pabb Bar	R	26.0
Triq Labour	127	126	U/N	R	7.4
Triq Labour	127	126	FSI	R	45.7
Triq Labour	127	126	ESL	R	49.6
Triq Labour	127	126	FSI	R	53.5
Triq Labour	342	408	Maxims	R	21.5
Triq Labour	342	408	Mucho Gusto	R	42.4
Triq Lia	80	78	Legal Ins	L	107.8
Triq Madonna Medjatrici	157	154	Mid-Med	R	13.2
Triq Madonna Medjatrici	153	156	Bar	R	31.0
Triq Melita	100	126	Woodwork	L	40.3
Triq Nicol Binchardi	352	353	Jim Studio	L	28.6
Triq P. Scicluna	363	364	By Pass Ironmongery	L	25.5
Triq S. Antnin	355	356	Auto Mechanic	R	17.2
Triq S. Antnin	347	346	S. Antnin Store	R	23.8
Triq S. Antnin	346	341	Sprayer	L	60.3
Triq S. Antnin	346	341	Woodwork	L	74.3
Triq S. Antnin	341	345	St. Christopher Sprayer	R	29.1
Triq S. Antnin	341	345	Scaucher	R	33.6
Triq S. Antnin	343	363	U/N	L	83.1
Triq S. Antnin	363	361	Salam	R	55.8
Triq S. Antnin	363	361	Gamblu	L	85.6
Triq S. Antnin	363	361	Domen	L	114.4
Triq S. Astarita	330A	328A	Bar	L	8.0
Triq S. Domenica	83	85	Carsil	R	37.4
Triq S. Domenica	83	85	Tal-Grazzja	R	40.6
Triq S. Domenica	95	96	Redeemer	L	174.9
Triq S. Duminku	254	201	Paul S. Grocer	R	11.5
Triq S. Duminku	254	201	U/N	R	20.0
Triq S. Duminku	254	201	Touch of Pink	L	28.0
Triq S. Duminku	254	201	U/N	R	47.4
Sqaq S. Gakbu N1	252	251	Winner	L	10.9
Triq S. Guzepp	353	330	Grocer	L	54.5
Triq S. Lawrenz	447	205	Carmen Avukat	R	28.0
Triq S. Lawrenz	447	205	Joe's Animal Food	R	59.3

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq S. Maria	327	326	Auto Electrical	L	74.2
Triq S. Maria	430	427	Grocer	L	2.9
Triq S. Maria	430	427	Tacsum Store	R	40.2
Triq S. Piju V	200	443	Excellent Saloon	L	19.8
Triq S. Piju V	200	443	Top Man Wear	L	34.5
Triq S. Teresa	141	88	Eljayar Studio	L	25.8
Triq S. Teresa	141	88	U/N	L	49.5
Triq S. Teresa	141	145	Butcher Shop	R	13.6
Triq S. Teresa	141	145	Psaila Stores	L	13.0
Triq S. Teresa	141	145	Raymond Store	R	18.9
Triq S. Teresa	145	173	Corner Bar	R	6.2
Triq S. Teresa	145	173	Psaila Store	L	22.1
Triq S. Teresa	145	173	Psaila Bros	R	30.9
Triq S. Teresa	191	203	Adelaide Butcher	R	13.5
Triq Spadaro	409	337	All Needs Bazaar	L	8.4
Triq Spadaro	337	348	Mayflower Teacher	L	29.1
Triq Strickland	448	447	Sprayer	L	7.6
Triq Strickland	448	447	S. Joseph Mechanic	L	15.6
Triq Strickland	229	232	Bakery	R	74.2
Triq Strickland	449	232	Printing Press	R	48.3
Triq Tumas Dingli	172	146	VDJ	L	7.5
Triq Tumas Dingli	192	442	U/N	L	7.5
Triq Tumas Dingli	192	442	Lotto Office	L	58.1
Triq Tumas Dingli	192	442	U/N	R	62.9
Triq Tumas Dingli	192	442	U/N	L	74.2
Unknown	156	274	Sun Spring Store	R	5.2
Unknown	162	443	U/N	R	9.7
Unknown	162	443	Michael's Sweets Cig.	R	12.0
Unknown	394	393	Twanny Silencer Repairer	L	35.5
Unknown	393	392	Mechanic	R	25.0
Unknown	393	392	Zambu's Garage	L	30.3
Unknown	393	392	Gino Eng.	L	33.2
Unknown	393	392	Machine Repair	R	33.2
Unknown	393	391	Office	R	7.3
Unknown	393	391	Panel Beater	L	10.0
Unknown	393	391	U/N	L	22.7
Unknown	393	391	Woodwork	L	29.0
Unknown	393	391	Woodwork	L	46.2
Unknown	393	391	Gutenberg Printers	R	57.0
Triq Wied il-Ghajn	189	205	Alfred Butcher	R	83.4
Triq Wied il-Ghajn	189	205	Greengrocer	R	85.6
Triq Wied il-Ghajn	211	212	Redentur Perit	R	63.7
Triq Wied il-Ghajn	212	213	Refalo's Ironmongery	L	3.6
Triq Wied il-Ghajn	219	220	Tyre Service	R	50.6
Triq Wied il-Ghajn	219	220	Car Parts	R	59.6
Triq Wied il-Ghajn	219	220	Bianca Opticels Clinic	L	97.3
Triq Wied il-Ghajn	220	222	C'est Bonne	L	4.8
Triq Wied il-Ghajn	205	211	Crazy Horse Bar	L	11.6
Triq Wied il-Ghajn	205	211	Sheldon Hair Saloon	L	18.1
Triq Wied il-Ghajn	205	211	Charles Video Rentals	R	19.7
Triq Wied il-Ghajn	205	211	Paul Self-Service	L	50.8
Triq Xghajra Road	34	43	Dolceria Bonta'	R	33.0
Triq Xghajra Road	34	43	Formosa Store	R	42.6
Triq Xghajra Road	45	48	Sunray Butcher	L	34.2

III.A3.3 Marsascala Local Council Commercial Report

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq Dawret it-Torri	62	61	Jerma Palace Hotel	R	91.0
Pjazza Dun Tarcis Agius	40	41	Downtown	L	11.8
Pjazza Dun Tarcis Agius	40	41	U/N	L	21.5
Pjazza Dun Tarcis Agius	40	41	Jakarta	L	28.6
Pjazza Dun Tarcis Agius	45	47	Caprice	L	19.7
Pjazza Dun Tarcis Agius	47	48	Golden Harvest	L	19.4
Pjazza Dun Tarcis Agius	47	48	B.O.V.	L	36.2
Triq Gardiel	117A	126	Pet Shop	L	111.9
Triq Gardiel	117A	127	Favorita	L	138.8
Triq Gardiel	117A	128	U/N	L	147.8
Triq Gardiel	117A	129	U/N	L	155.4
Triq Gardiel	117A	130	Reeds Disco	R	266.5
Triq Ghar ix-Xemx	5	3	Zonqor Point Restaurant	L	24.3
Triq Ghar ix-Xemx	5	3	Southern Bliss Restaurant	L	55.4
Triq Ghar ix-Xemx	3	1	Salt Store	L	94.0
Triq ic-Cervjola	97	96	Pet Shop	L	41.0
Triq id-Dolmen	102	95	Video Shop	L	27.0
Triq id-Dugh	135	135A	Dell'Etna	R	14.8
Triq il-Bahhara	100	104	Etvan Hotel	L	108.5
Triq il-Bahhara	100	104	Etvan Hotel	R	123.0
Triq il-Bahhara	81C	98A	U/N	R	37.4
Triq il-Bahrija	96	86	Energa	R	81.4
Triq il-Bajja	20	19	Ta' Monita Complex	L	11.8
Triq il-Bajja	20	19	Alexander	R	48.5
Triq il-Bajja	20	22	Ta' Monita Complex	L	9.3
Triq il-Bajja	20	22	Ta' Monita Complex	L	80.3
Triq il-Bajja	20	22	Ta' Monita Complex	R	87.6
Triq il-Bajja	20	22	Ta' Monita Complex	L	98.4
Triq il-Blajjiet	263	264	Linmar Self-Service	R	55.8
Triq il-Buzbiez	54	55	Gilmar Pub	R	7.8
Triq il-Buzbiez	54	55	U/N	R	20.5
Triq il-Buzbiez	54	55	London Store	R	27.7
Triq il-Gardiel	117	117A	Beluga	L	15.0
Triq il-Gardiel	117	117A	Pearl	L	42.1
Triq il-Gardiel	117	117A	Il-Fuklar	L	46.8
Triq il-Gardiel	117	117A	Italian Pizza	L	51.8
Triq il-Gardiel	117	117A	Uncle's Pizza	L	59.4
Triq il-Gardiel	117	117A	U/N	L	136.6
Triq il-Gardiel	117	117A	U/N	L	167.7
Triq il-Gardiel	117	117A	U/N	L	174.0
Triq il-Gardiel	117	117A	Osiris Club	L	179.9
Triq il-Gardiel	125	126	U/N	L	44.9
Triq il-Katakombi	72	71	Fleetwood Store	L	36.4
Triq il-Kavetti	93	103	Store	R	24.2
Triq il-Knisja	50	51	Bakery	R	6.0
Triq il-Knisja	50	49	Store	L	18.0
Triq il-Menhir	90	109A	Carpenter	R	23.8
Triq il-Munxar	127	132	S. Thomas Hall	L	46.5
Triq il-Munxar	127	132	S. Thomas Complex	L	51.9
Triq il-Munxar	127	132	S. Thomas Photo	L	68.2
Triq il-Munxar	127	132	Mini Market	L	73.5
Triq il-Qalliet	82	83	Bazaar	R	4.4
Triq il-Qalliet	82	83	Super Market	R	21.4
Triq il-Qalliet	82	83	Butcher	R	30.2
Triq il-Qalliet	83	84	Ironmongery	R	23.2
Triq il-Qalliet	83	84	T.B. Confectionery	R	28.3
Triq il-Qalliet	112	126D	Terrazza	L	70.2
Triq il-Qalliet	112	126D	Spring Valley	R	100.0

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq il-Qalliet	126D	177A	Ironmongery	L	15.9
Triq il-Qalliet	126D	177A	M.S. House Hold	R	21.4
Triq il-Qalliet	126D	177A	Sport Diving	R	32.5
Triq il-Qalliet	177A	117	Red Lobster	L	7.8
Triq il-Qalliet	177A	117	Marcam	R	51.0
Triq il-Qalliet	121	120C	S. Thomas Restaurant	R	34.2
Triq il-Qalliet	121	120C	Beach Comber	R	517.0
Triq il-Qalliet	81	82	Aluminium	R	35.3
Triq il-Qalliet	105	104	Graphics	L	3.3
Triq il-Qalliet	105	104	La Scala	L	10.5
Triq il-Qalliet	105	104	Shop Well	R	13.5
Triq il-Qalliet	104	101	Pharmacy	R	26.0
Triq il-Qalliet	101	81	Saloon	L	28.2
Triq il-Qalliet	101	81	Butcher	R	47.5
Triq il-Qalliet	101	81	Ironmongery	R	84.3
Triq il-Qalliet	101	81	Tyre Service	L	137.5
Triq il-Qalliet	101	81	Panel Beater	L	152.8
Triq il-Qalliet	101	81	Cerviola Hotel	L	203.9
Triq il-Qalliett	112	105	Piccolo Mondo	R	27.2
Triq il-Qalliett	112	105	Wisps	L	47.4
Triq il-Qalliett	112	105	Hall	L	51.6
Triq il-Qalliett	112	105	Ideas	L	55.9
Triq il-Qalliett	112	105	Dress Up	L	63.1
Triq il-Qalliett	112	105	Ice Point	L	67.6
Triq il-Qawwara	108	103	S. Francisco	R	60.3
Triq il-Vajrita	113	112A	Guest House	R	22.0
Triq il-Vajrita	113	112A	Holiday Complex	L	74.4
Triq il-Vajrita	113	112A	Guest House	L	79.4
Triq il-Vajrita	111	107	Guest House	L	21.8
Triq in-Nadur	126	126A	Palm Valley	R	12.0
Triq in-Nadur	126A	126C	Nadur Store	L	42.2
Triq is-Sajjieda	77	78	Mechanic	L	27.1
Triq is-Salini	99	100A	U/N	L	79.8
Triq is-Salini	113	100A	Image	R	6.3
Triq is-Salini	113	100A	Fortune Teller	R	8.7
Triq is-Salini	113	100A	P.N. Club	R	72.2
Triq is-Salini	113	100A	U/N	R	76.4
Triq is-Salini	99	80	Snack Bar	R	33.6
Triq is-Salini	99	80	Palana Take Away	R	40.8
Triq is-Salini	114	113	Arzella	R	30.5
Triq is-Salini	114	113	Dolce Freddo	R	45.5
Triq is-Salini	114	113	Aquador	R	73.3
Triq is-Salini	116	114	Water Line	R	17.2
Triq is-Salini	116	114	Il-Fanal	R	24.9
Triq is-Salini	116	114	Il-Fanal	R	31.1
Triq is-Salini	116	114	Fish Shop	R	38.1
Triq is-Salini	116	114	Ta' Giovanni	R	78.1
Triq is-Salini	116	114	Prom	R	136.7
Triq is-Sdieri	3	6	Shakens	L	92.4
Triq is-Silla	97	95	Unisex Saloon	L	68.5
Triq is-Silla	95	94	Kinder Key School	L	0.6
Triq is-Silla	95	94	Photo Studio	L	4.3
Triq ix-Xatt	116	149	Fred Buongusto	L	130.0
Triq ix-Xatt	116	149	Chicken King	L	133.8
Triq ix-Xatt	116	149	Jewellery	L	140.3
Triq ix-Xatt	116	149	La Buona Pasta	L	149.2
Triq ix-Xatt	116	149	Lemon N Lime	L	156.0
Triq ix-Xatt	116	149	Tiny Pint	L	177.2
Triq ix-Xatt	116	149	London Bazaar	L	187.3
Triq ix-Xatt	116	149	Midas	L	191.2
Triq ix-Xatt	116	149	Dahlia Ltd.	L	201.4
Triq ix-Xatt	116	149	Car Rental	L	204.4
Triq ix-Xatt	116	149	Christopher's	L	209.3
Triq ix-Xatt	116	149	U/N	L	219.0
Triq ix-Xatt	116	149	Insurance	L	226.7
Triq ix-Xatt	116	149	Boutique	L	235.8
Triq ix-Xatt	116	149	Paper Moon	L	241.3

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq ix-Xatt	116	149	Coxswains	L	250.4
riq ix-Xatt	116	149	Caffeteria	L	259.1
Triq ix-Xatt	116	149	Pharmacy	L	272.8
Triq ix-Xatt	116	149	Dong Fang	L	280.2
Triq ix-Xatt	116	149	Chicos	L	300.1
Triq ix-Xatt	149	151	Brighton	L	9.3
Triq ix-Xatt	151	38	La Plajja	L	6.1
Triq ix-Xmiel	101	102	Il-Karettun Bar	R	14.1
Triq ix-Xmiel	101	102	La Collina	R	63.0
Triq iz-Zonqor	36	35	Tiffany	R	8.9
Triq iz-Zonqor	26	30	L-Awwista	R	18.9
Triq iz-Zonqor	18	14	E.T. Service	L	88.5
Triq iz-Zonqor	9	8	Architect	L	17.0
Triq iz-Zonqor	7	5	Kasis	L	81.8
Pjazza Mifsud Bonnici	139	117	La Mirana	L	15.2
Pjazza Mifsud Bonnici	139	117	Grabiel	R	105.9
Triq S. Anna	150A	140	U/N	R	103.0
Triq S. Anna	150A	140	Dahlia	L	124.2
Triq S. Anna	150A	140	Butcher	L	149.3
Triq S. Anna	150A	140	Store	R	282.7
Triq S. Antnin	138	139	Zastera	L	10.1
Triq S. Antnin	138	139	La Veranda	R	14.0
Triq S. Antnin	138	139	Phoebi	R	22.9
Triq S. Antnin	138	139	La Golosa	L	28.0
Triq S. Antnin	138	139	Joe Car Rental	R	35.3
Triq S. Antnin	138	139	Cote D'Azzur	R	41.0
Triq S. Antnin	400	137	Cool Club	L	39.7
Triq S. Antnin	137	138	U/N	R	16.3
Triq S. George	27	29	Store	L	17.5
Triq S. Luqa	32	20	Smile	R	6.3
Triq S. Luqa	32	20	Ta' Monita	L	30.6
Triq S. Nikola	17	16	U/N	R	5.7
Triq S. Theresa	48	37	Bocci Club	R	54.1
Triq S. Tumas	125	227	Re Del Pesce	R	33.0
Triq S. Tumas	227	201	Farm	L	53.2
Triq S. Tumas	227	201	Langustini Restaurant	R	235.6
Triq Salini	117	116	Water Line	R	16.9
Triq tal-Buttar	139	134	Cote D'Azzur	R	7.9
Triq tal-Buttar	139	134	S. Antonio	R	28.6
Triq tal-Buttar	139	134	Di Wang	R	44.0
Triq tal-Buttar	139	134	Escoffier	R	128.4
Triq tal-Gardiel	123	122	Ta' Pac	L	16.5
Triq tal-Gardiel	122	121	Ramla Lodge	L	27.1
Unknown	117A	117B	U/N	L	33.9
Unknown	81B	81C	Cerviola Hotel	L	41.8
Unknown	210	213	Farm House	R	17.8
Unknown	207	206	Farm House	R	88.9
Unknown	207	206	Farm House	L	111.3
Unknown	143A	143B	Chik	L	14.0
Unknown	143A	143B	Summer Nights	L	70.9
Unknown	121A	121C	Fisherman's Restaurant	R	28.5
Unknown	121E	121J	Morning Star	R	25.2
Unknown	121K	121L	Summer Bar	L	6.0
Triq Zabbar	59	55	Pompa Garage	R	131.6
Triq Zabbar	55	49	Sprayer	L	5.3
Triq Zabbar	55	49	Wood Work	R	18.0
Triq Zabbar	55	49	Carpenter	L	19.3
Triq Zabbar	55	49	Bisogni	L	93.8
Triq Zabbar	55	49	M.L.P. Club	R	113.2

III.A3.4 Birzebbuga Local Council Commercial Report

Street	*NDST*	*NDFN*	*Building Name*	*LR*	*Distance (m)*
Triq Alessandro	27	26	Lido Cinema	R	9.5
Triq Alessandro	26	25	S.P. Self Service	R	21.9
Triq Alessandro	26	25	Shopping Arcade SP	R	29.9
Triq Alessandro	25	23	U/N	L	51.4
Triq Birzebbugia	111	108	Dental Clinic	R	34.5
Triq Birzebbugia	129	128	Lucky Hall	L	8.0
Triq Birzebbugia	129	128	White Horse Inn	L	22.0
Triq Birzebbugia	128	126	Funeral Undertaker	L	19.7
Triq Birzebbugia	128	126	Honey Comb S/Serv.	R	20.0
Triq Birzebbugia	128	126	Bits/Pieces	R	29.5
Triq Birzebbugia	111	126	Chicaloo Fashions	R	16.0
Triq Birzebbugia	111	126	Rochdale Drapery	R	23.0
Triq Birzebbugia	111	126	Martin Photo Serv.	L	65.8
Triq Birzebbugia	31	32	Friends	L	10.0
Triq Birzebbugia	31	32	Raymonds Store	L	14.8
Triq Birzebbugia	31	32	Hotspot Pastizzerija	R	37.2
Triq Birzebbugia	31	32	Body Bliss Salon	R	42.0
Triq Birzebbugia	31	32	Top Style Hair Studio	L	44.5
Triq Birzebbugia	31	32	U/N	R	53.0
Triq Birzebbugia	31	32	U/N	L	55.6
Triq Birzebbugia	31	32	Martins Pharmacy	L	83.0
Triq Birzebbugia	156	157	Take Away	L	16.5
Triq Birzebbugia	156	157	Solemar	L	20.6
Triq Birzebbugia	156	157	Mermaid Cave Bar	L	82.2
Triq Birzebbugia	156	157	N	L	94.8
Triq Birzebbugia	156	157	Georges Fishing Cent.	L	100.5
Triq Birzebbugia	12A	7A	Frank's Take Away	L	11.0
Misrah is-Summit Bush-Gorbachev	12A	7A	Petrol Station	L	17.3
Misrah is-Summit Bush-Gorbachev	12A	7A	Reno's Car Hire	R	24.8
Misrah is-Summit Bush-Gorbachev	12A	7A	Reno's Guest House	R	33.5
Misrah is-Summit Bush-Gorbachev	12A	7A	Pierino Bar	L	39.0
Misrah is-Summit Bush-Gorbachev	12A	7A	Southend Guest House	L	53.0
Misrah is-Summit Bush-Gorbachev	12A	7A	Southend bar/Rest.	L	61.2
Triq F.M. Ferretti	173	176	Pick N Pay	R	28.4
Triq F.M. Ferretti	173	173B	J.J. Ironmongery	L	62.3
Triq G.Galizia	126A	126B	Carperntry Shop	R	4.0
Triq GHar Hasan	229	230	Grocer	R	240.0
Misrah Hamilkar Barka	23	14	Hassans Taverna	R	33.6
Triq Ic-Cief	51	52	S.Mary Store	L	26.0
Triq Id-Duluri	155	121	J C Self Service	R	66.6
Triq Id-Duluri	121	117	Prime Butcher	L	48.2
Triq Id-Duluri	121	117	Bakery	L	67.5
Triq Id-Duluri	121	117	Celeste Video Rental	R	79.0
Triq Id-Duluri	117	118	U/N	L	28.7
Triq Il-31 ta' Marzu	81	36A	Norma's Stationery	R	51.0
Triq Il-Bajja Is-Sabiha	29	28	Sea Breeze Snack Bar	R	10.5
Triq Il-Bajja Is-Sabiha	29	28	Sea Breeze hotel	R	16.0
Triq Il-Bajja Is-Sabiha	29	28	Bank of Valletta	R	42.0
Triq Il-Bajja Is-Sabiha	29	28	U/N	R	47.0
Triq Il-Bajja Is-Sabiha	29	28	Mr. Whippy Take Away	R	51.4
Triq Il-Bajja Is-Sabiha	29	28	Chemist	R	64.3
Triq Il-Bajja Is-Sabiha	29	28	Brittania Store	R	71.0
Triq Il-Bajja Is-Sabiha	29	28	Southvale	R	79.5
Triq Il-Batterija	173B	202C	Aluminium Works	L	39.2
Triq Il-Bieqja	122	116A	Green Dot Self Serv.	R	57.6
Triq Il-Brolli	107	105	G.R.E. Insurance	L	53.0
Triq Il-Brolli	107	105	Golden Eagle Bar	R	80.5
Triq Il-Fossili	202B	202C	U/N	R	15.0

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq Il-Fossili	200A	189	U/N	L	45.4
Triq Il-Gdida	37	30A	Hilltop Bazaar	L	29.7
Triq Il-Gdida	30A	30	Tancredi's Bazaar	R	40.2
Triq Il-Gdida	30A	30	Catherine's Hair.	R	50.0
Triq Il-Gdida	30A	30	U/N	R	71.5
Triq Il-Gzira	150	148	Tony's Shortly Bar	R	14.3
Triq Il-Gzira	153A	134	Summer Town Store	R	44.8
Triq Il-Kartacinizi	72	42	Prezzo Giusto	L	51.0
Triq Il-Kartacinizi	72	42	Sunblest Food Packer	L	102.5
Triq Il-Kartacinizi	72	42	Grocery	L	110.0
Triq Il-Kartacinizi	42	26	Yvonne Store	R	71.0
Triq Il-Knisja	33	97A	S. Peter Garage	L	31.5
Misrah Il-Knisja	33	97A	Brincat Salon	L	33.0
Misrah Il-Knisja	33	97A	Grocery	L	40.0
Misrah Il-Knisja	33	97A	Blue Star	L	43.5
Misrah Il-Knisja	33	97A	Photo Serv.	L	51.0
Misrah Il-Knisja	106	107	Shoe Box	L	12.5
Misrah Il-Knisja	106	107	Paul's Footwear	L	15.5
Misrah Il-Knisja	106	107	Rainbow Stationery	L	26.8
Misrah Il-Knisja	107	33	Souvenirs	L	82.0
Misrah Il-Knisja	116	116A	U/N	L	6.2
Misrah Il-Knisja	116	116A	U/N	L	10.3
Triq Il-Knisja	116	116A	La Bonbonniere	R	13.5
Triq Il-Kurat Fenech	96	95	Corner Store	L	3.0
Triq Il-Port Hieles	6	7	Reno's Bar/Rest.	L	54.8
Triq Il-Progress	15	5	Ironmongery	L	21.5
Triq Il-Qajjenza	189	209	Riptide	L	15.0
Triq Il-Qajjenza	189	209	U/N	L	128.0
Triq Il-Qajjenza	189	209	Qjjenza bar/Rest.	L	165.2
Triq Il-Qajjenza	189	209	Sunray bar/Rest	L	186.4
Triq Il-Qalb Imqaddsa	148	151	Shortly Bar	R	26.8
Triq Is-Sajjied	99	106	Super Star Butcher	L	15.0
Triq Is-Sajjied	99	106	Burze Garage	L	47.0
Dawret It-Tankijiet	153	154	Attard Services Ltd	R	43.0
Triq It-Tankijiet	137	130	La Femme beauty	R	52.5
Triq It-Tankijiet	129	130	Lucky Hall	R	12.0
Triq It-Thabrik	83	82	Carpentry Shop	L	38.2
Triq Ix-Xbieki	75	74	S. George Bakery	L	7.5
Triq Iz-Zejtun	165	174	Buck's Head Tavern	R	28.0
Triq Iz-Zejtun	174	182	G.R. Sports	R	31.6
Triq Iz-Zurrieq	77	76	The Truck Centre	R	49.5
Triq Iz-Zurrieq	38	76	Bazaar	L	7.7
Triq Iz-Zurrieq	37	34	Frank's Garage	R	26.8
Triq Iz-Zurrieq	37	34	U/N	R	59.6
Triq Iz-Zurrieq	37	34	Louis Car Parts	R	63.6
Triq Iz-Zurrieq	37	34	Ironmongery Store	R	69.2
Triq Iz-Zurrieq	37	34	Ironmongery	L	102.5
Triq Iz-Zurrieq	37	34	Cardiff Butcher	R	142.0
Triq L-GHannejja	209	208	U/N	L	25.0
Triq L-Ghannejja	209	208	Il-Kampanjol Rest	R	38.5
Triq L-Ghannejja	209	208	Cosy Corner Rest	L	40.2
Triq L-Ghannejja	208	206	Sweet Shop Confect	R	15.3
Triq L-Ghannejja	208	206	Tropical Store	R	99.3
Triq L-Ghodda	92	101	Useful Selfservice	R	41.7
Triq L-Ghodda	92	101	Ironmongery	L	55.5
Triq Misrah Ir-Repubblika	79	80	The Food Market	R	4.5
Triq il-Bajja Sabiha	30	31	Laura's Place	L	6.0
Triq il-Bajja Sabiha	30	31	Sea Front Salon	L	10.0
Triq il-Bajja Sabiha	30	31	Tony's Store	L	15.0
Triq il-Bajja Sabiha	30	31	Johnnies Bar	L	22.3

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq il-Bajja Sabiha	30	31	Cherries Bar	L	48.0
Triq il-Bajja Sabiha	30	31	Bay View Bar	L	64.8
Triq il-Bajja Sabiha	118	31	La Spiagga	R	70.6
Triq il-Bajja Sabiha	118	31	British Stationery	R	104.3
Triq il-Bajja Sabiha	118	119	Turtles Take Away	L	13.8
Triq il-Bajja Sabiha	118	119	Pop's Bar/Rest	L	66.6
Triq S.Andrea	34	35	Sugar/Spice	L	7.0
Triq S.Anglu	35	36	Nardu Green Grocer	R	79.0
Triq S.Anglu	102A	102	Clayton	R	30.3
Triq S.Anglu	101	100	Contrast	L	1.0
Triq S.Edwardu	41	73	Doctor's Clinic	L	47.5
Triq S.Edwardu	28	27	U/N	L	22.3
Triq S.Filippu	17	16	Mexico Car hire	R	44.2
Triq S.Filippu	16	14	U/N	R	21.8
Triq S.Filippu	16	14	Sunset Store	R	19.6
Triq S.Filippu	16	14	Easyriter Stationary	L	27.8
Triq S.Filippu	16	14	Solicitor	L	55.6
Triq S.Filippu	14	13	Grocer	R	62.3
Triq S.Filippu	14	13	Mario's Supermarket	L	116.4
Triq S.Filippu	13	12	Sunray Butcher	L	42.8
Triq S.Filippu	13	12	Mexico's Enterprises	R	54.6
Triq S.Filippu	13	12	Epsom Clothes	L	69.7
Triq S.Filippu	13	12	Charlies Bar	L	74.8
Triq S.Filippu	12	28	Borda's Take Away	L	4.1
Triq S.Filippu	12	28	Borda's Bar/Restaurant	L	7.0
Triq S.Filippu	12	28	Borda's Hall	L	9.9
Triq S.Filippu	12	28	Rico's Hi-Fi	L	16.4
Triq S.Filippu	12	28	U/N	R	18.6
Triq S.Filippu	12	28	Ir-Ramla Bar	L	22.7
Triq S.Gorg	136	139	Central Store	R	6.5
Triq S.Gorg	136	139	Photo Copy Bureau	R	10.0
Triq S.Gorg	136	156	Bella Napoli Bar	L	16.0
Triq S.Gorg	136	156	Lucky Spot Car Hire	L	53.0
Triq S.Guzepp	110	111	Kina Bakery	L	47.0
Triq S.Gwann	41	40	Croydon Butcher	R	3.8
Triq S.Gwann	41	40	Bubbles Sweet Shop	R	5.0
Triq S.Gwann	39	38	Sunsea Car Rentals	R	8.8
Triq S.Gwann	42	41	Colin's Super Market	R	21.0
Triq S.Gwann	42	41	Sweet Homes	R	25.0
Triq S.Katarina	138	123	Carpenter	R	59.3
Triq S.Katarina	138	123	Raycar Store	R	77.3
Triq S.Katarina	32	116	Caruana Ironmongery	R	15.0
Triq S.Katarina	32	116	Caruana Gift Shop	R	20.5
Triq S.Katarina	32	116	Eastern Store	R	57.2
Triq S.Katarina	116	123	Pauline's Hair Studio	R	16.3
Triq S.Katarina	116	123	U/N	R	24.0
Triq S.Maria	126A	110	Ballustrade Turner	R	43.0
Triq S.Mikiel	121	122	J C Store	R	6.7
Triq S.Mikiel	121	120	Paul Store	L	82.5
Triq S.Mikiel	126	125	U/N	L	43.5
Triq S.Patrick	2	3	S.M.S. Shiping	L	15.3
Triq S.Patrick	5	4	Shine V/ell	R	15.8
Triq S.Patrick	4	3	Emy. Bezzina Avukat	R	72.9
Triq S.Patrick	4	3	B'Bugia Sailing Club	L	81.5
Triq S.Patrick	5	6	Tony Conferctionary	L	110.6
Triq S.Patrick	5	6	Tony Conferctionary	L	119.9
Triq S.Patrick	5	6	Scruffies Take Away	L	125.6
Triq S.Pawl	120	119	Abba Travel	R	48.3
Triq S.Pietru	124	137	Delis	R	9.5
Triq S.Pietru	137	136	U/N	L	5.5
Triq S.Rita	100	93	Sunnu	R	9.5
Triq S.Rita	100	93	Swallow Garage	R	22.5
Triq S.Rita	87	86	Duraprint	L	15.7
Triq S.Tumas	79	77	Scissors Happy Salon	L	38.0
Triq S.Tumas	79	77	Motor Mechanic	R	43.5

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq S.Tumás	85	84	Photographer	R	13.5
Triq Tal-Gebel	235	237	Tomasero Woodworks	R	49.7
Triq Tal-Gurgier	46	22	Blossoms Bazaar	L	4.5
Triq Taz-Zebra	29	40	Jojo's Bar	R	25.3
Triq Taz-Zebra	29	40	Sea Breeze Hotel	L	31.8
Triq Taz-Zebra	29	40	K.A.M.P.	L	61.8
Unknown	232	232A	Caribbean	R	14.5
Unknown	8	9	Southend Take Away	L	16.0
Unknown	9	10	Gelateria	L	8.7
Unknown	9	10	Southend Take Away	L	12.0
Unknown	9	10	Southend Bar/Rest.	L	16.0
Unknown	9	10	Pierino Take Away	L	28.7
Unknown	10	28	Mr. Snoopy	L	5.0
Unknown	10	28	U/N	L	10.0
Unknown	162	163	Al Fresco Rest.	L	35.0
Unknown	23	23A	U/N	R	9.6
Triq Zaren Dalli	112	113	Anukka Bazaar	L	6.2
Triq Zaren Dalli	130	125	Life Style	R	3.5
Triq Zaren Dalli	130	125	Arthur's Cafe'	R	8.0
Triq Zaren Dalli	130	125	Alaska Store	L	11.5
Triq Zaren Dalli	130	125	Inn	R	19.0
Triq Zaren Dalli	130	125	Arthur's Bakery	L	23.0
Triq Zaren Dalli	130	125	John Saliba Covers	L	35.5
Triq Zaren Dalli	130	125	Mario's Hairstylist	R	35.5
Triq Zaren Dalli	130	125	Top To Toes	L	40.5
Triq Zaren Dalli	130	125	D'Oro Jewellery	L	49.0
Triq Zaren Dalli	130	125	London	L	66.0
Triq Zaren Dalli	130	125	L'Originale Mobili	L	80.0

III.A3.5 Bormla Local Council Commercial Report

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq Alessandro	225	248	Perit Office	R	8.9
Ix-Xatt Bormla	4	3	Regatta Bar	R	59.8
Bieb Bormla	111	108	Elmo Insurance	L	14.2
Bieb Bormla	111	112	Office	R	14.2
Bieb Bormla	111	112	Store	L	33.9
Bieb Bormla	111	112	Upholstery	R	35.4
Bieb Bormla	111	112	Store	L	36.6
Bieb Bormla	112	113	Priscilla Store	R	4.2
Bieb Bormla	112	113	Dental Clinic	L	5.6
Triq Eric Serra Inglott	65	50	The Beauty Box	R	10.9
Triq Eric Serra Inglott	65	50	Office Perit	R	15.2
Triq Eric Serra Inglott	47	48	Falzon Store	R	3.9
Triq Felic	114	115	Vegetables	L	30.9
Misrah Gavino Gulia	110	209A	Malta Drydocks	L	24.6
Misrah Gavino Gulia	110	209A	Simons	L	41.2
Misrah Gavino Gulia	209	208	Right Deal	L	19.8
Triq Guliermu	202	203	Woodwork	L	17.4
Triq Il-Gdida	213B	208A	Mexico Take Away	R	10.6
Triq Il-Gdida	213B	208A	Restaurant	R	13.8
Triq Il-Gdida	240A	213B	Akkwist Household	L	25.1
Triq Il-Gdida	240A	213B	Butcher	R	38.5
Triq Il-Gdida	240A	213B	Happy Store	R	42.9
Triq Il-Gdida	240A	213B	Top Video	R	87.6

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq Il-Gdida	240A	213B	Baron Confectionary	R	97.5
Triq Il-Gdida	240A	213B	Ironmongery	R	101.8
Triq Il-Gendus	15	17	Butcher	L	14.9
Triq Il-Gendus	82	83	Lottu	R	12.8
Triq Il-Gendus	83	84	Verdala Pharmacy	R	3.8
Triq Il-Gendus	83	84	Ironmongery	R	23.9
Triq Il-Kampnar	182	183	Francis School	R	15.6
Triq Il-Kampnar	182	183	Private School	R	22.6
Triq Il-Kampnar	183	217	Private School	R	21.8
Triq Il-Karmnu	98	100A	Simpson	R	40.8
Triq Il-Konservatorju	56	52	Store	L	39.1
Triq Il-Kuncizzjoni	210	212	St. Thomas	R	30.8
Triq Il-Mithna	68	69	Sprayer	R	14.8
Triq Il-Mithna	68	69	Klab Bocci Bormla	L	60.0
Triq Il-Mithna	73	86	Office Perit	R	58.9
Triq Il-Mithna	86	89	Sweet Shop	R	32.4
Triq Il-Pellegrinagg	184	12	Maxims Cheese Cakes	R	15.4
Triq Il-Pellegrinagg	184	12	Alfred's Saloon	R	24.8
Triq Il-Pellegrinagg	12	11A	Stitches Boutique	R	4.7
Triq Il-Pellegrinagg	12	11A	Hillside Bazaar	R	15.4
Triq Il-Pellegrinagg	12	11A	Rialto Cinema	R	36.2
Triq Il-Porvista	148	146	Il-Porvista Store	L	11.8
Triq Il-Porvista	144	127	Martin's Sweet Shop	L	32.7
Triq Ir-Regatta	14	13	Pavia Store	R	2.7
Triq Ir-Regatta	14	13	Family Store	R	18.1
Triq Ir-Regatta	14	13	8 th Dec Bar	R	28.1
Triq L-Oratorju	93	37	Aussie Store	L	36.8
Triq L-Oratorju	30	184	Fantasy Bazaar	L	34.6
Triq L-Oratorju	35	37	Baron Confectionary	R	19.4
Triq Matti Grima	74	73	Grocer	L	4.1
Triq P.P. Caruana	112	104	Store	R	12.3
Triq Ricardo Tailore	228	229	M. Concetta Market	L	22.1
Triq S.Frangisk	119A	86A	Welder	R	10.8
Triq S.Frangisk	119A	86A	Remar	R	41.2
Triq S.Frangisk	119A	86A	Carina Store	R	52.9
Triq S.Frangisk	119A	86A	Australian Tailor	L	58.9
Triq S.Frangisk	119A	86A	Monacor	L	64.8
Triq S.Frangisk	119A	86A	Showroom	R	76.1
Triq S.Frangisk	119A	86A	Juve Tailor	L	87.9
Triq S.Frangisk	119A	86A	Greengrocer	L	102.6
Triq S.Frangisk	119A	86A	Lotto Office	R	105.1
Triq S.Frangisk	119A	86A	Rene Photographer	L	107.3
Triq S.Frangisk	119A	86A	Omega Shoemaker	R	112.5
Triq S.Frangisk	119A	86A	Golden Take Away	L	127.5
Triq S.Frangisk	119A	86A	Stilla	L	135.3
Triq S.Frangisk	119A	86A	Costik Household	L	142.3
Triq S.Frangisk	119A	86A	Lorejean	L	146.6
Triq S.Frangisk	119A	86A	Tal-Gazzetti Station	L	152.6
Triq S.Gorg	50	51	Ideal STore	L	3.2
Triq S.Gorg	50A	78	St. George Sweet Shop	R	10.9
Triq S.Gorg	78	77	Troisi Bazaar	L	23.5
Triq S.Gorg	78	77	Rainbow Photo Studio	L	31.8
Triq S.Gorg	82	79	Prime Butcher	R	24.3
Triq S.Gorg	82	79	Grocer	R	29.4
Triq S.Gorg	79	77	Bazaar	R	7.0
Triq S.Gorg	79	77	Bazaar	R	9.8
Triq S.Gorg	79	77	Poypoy Store	L	34.3
Triq S.Gwann	189	120	Bazaar	R	8.5
Triq S.Gwann	189	120	Grocer	L	10.8
Triq S.Gwann	120	121	Independence Store	L	28.4
Triq S.Gwann	123A	125	Stephen's Bar	L	35.6
Triq S.Gwann	125	126	St. John Bar	R	3.4
Triq S.Gwann	125	126	U/N	R	31.3
Triq S.Gwann T-Ghuwxa	136	137	Sunland Printers	R	7.7
Triq S.Gwann T-Ghuwxa	136	137	S.G.T. Self Service	R	23.9
Triq S.Lazzru	42	41	Grocer	R	3.1
Triq S.Liena	241A	245	Undertaken	R	5.2

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq S.Liena	241A	245	Woodwork	R	13.1
Triq S.Liena	238	240	Woodwork	R	21.2
Triq S.Liena	240	239	Aluminium Works	L	5.6
Triq S.Margerita	172	66	Tal-Grazzja Confectio	R	6.4
Triq S.Margerita	172	66	Showroom	R	34.8
Triq S.Margerita	172	66	Showroom	R	42.6
Triq S.Margerita	172	66	Vegetables	R	63.1
Triq S.Margerita	66	63	Unik Bathrooms	L	30.8
Triq S.Margerita	66	63	Sitwell Videos	L	35.4
Triq S.Margerita	55	62	Bar/Restaurant	L	6.8
Triq S.Margerita	172	171	Showroom	L	4.3
Triq S.Margerita	171	83A	Sitwell Sell	L	2.1
Triq S.Margerita	171	83A	Butcher	L	34.8
Triq S.Margerita	171	83A	Machines Repairs	L	44.9
Triq S.Margerita	171	83A	Bazaar	R	47.2
Triq S.Margerita	171	83A	Store	L	63.1
Triq S.Margerita	55	56	Store	L	30.2
Triq S.Margerita	55	56	Store	L	36.5
Triq S.Margerita	55	56	Store	L	43.2
Triq S.Margerita	56	57	Bar/Restaurant	L	3.5
Triq S.Mikiel	202	197	Happy Store	R	4.2
Kwartier S.Nikola	160	157	Peek-A-Boo Store	L	8.6
Fuq S.Pawl	86A	208A	Frank's Photography	R	41.8
Fuq S.Pawl	86A	208A	Harold's HiFi	R	45.8
Fuq S.Pawl	86A	208A	Golden Harvest	R	51.3
Fuq S.Pawl	86A	208A	Craftsman/s Centre	R	55.1
Fuq S.Pawl	86A	208A	Craftsman/s Centre	R	60.3
Fuq S.Pawl	86A	208A	Mr.Pet Shop	R	63.9
Fuq S.Pawl	86A	208A	Clinic	R	69.5
Fuq S.Pawl	86A	208A	Lotto Office	R	73.2
Fuq S.Pawl	86A	208A	White Cross Pharmacy	R	77.6
Fuq S.Pawl	86A	208A	Bar/Rest	R	91.5
Fuq S.Pawl	86A	208A	Antiques	R	102.6
Fuq S.Pawl	86A	208A	Ironmongery	R	105.8
Fuq S.Pawl	86A	208A	Unik	R	111.8
Triq S.Pawl	100	97	Meteor Bar	R	17.9
Triq S.Pawl	100	97	Lotto Office	L	21.3
Triq S.Pawl	100	106	Simpson	R	1.1
Triq S.Pawl	100	106	Tar-Ritratti	R	44.9
Triq S.Pawl	100	106	Tailoring	R	61.5
Triq S.Pawl	100	106	Notary Office	R	64.8
Triq S.Pawl	106	105	Design	R	3.7
Triq S.Pawl	105	111	Trans Continents	R	14.4
Triq S.Pawl	105	111	Pavilion Pastizzeria	L	26.8
Triq S.Pawl	105	111	Suez Canal Bar	R	35.9
Triq S.Pawl	105	111	Delta	L	35.8
Triq S.Pawl	105	111	Hungry Corner	R	41.5
Triq S.Pawl	111	86A	Stationary	L	5.2
Triq S.Pawl	111	86A	Salon	R	8.5
Triq S.Pawl	111	86A	Hairstaylist	R	15.3
Fuq S.Pawl	197	192	Shoe Maker	R	32.5
Fuq S.Pawl	194	200	Il-Holqa	L	4.6
Fuq S.Pawl	194	200	Crafts Centre	R	10.2
Fuq S.Pawl	194	200	Marketing System	L	18.5
Fuq S.Pawl	194	200	Perit Office	R	28.3
Fuq S.Pawl	194	200	Famagiusta	L	30.9
Fuq S.Pawl	194	200	Renjo's Store	R	30.9
Fuq S.Pawl	194	200	Famagiusta Pastizzerja	R	35.6
Fuq S.Pawl	194	200	Ironmongery	L	40.3
Fuq S.Pawl	194	200	Vegetable	R	43.8

Street	NDST	NDFN	Building Name	LR	Distance (m)
Fuq S.Pawl	194	200	Butcher	L	44.9
Fuq S.Pawl	200	201	Dockside Bar	R	13.5
Fuq S.Pawl	200	201	Bluebird Snack Bar	R	26.9
Triq S.Tereza	8	1	Valentine Confectionary	R	9.6
Triq S.Tereza	8	1	Lotto Office	R	14.6
Triq S.Tereza	8	1	Tyre Service	R	18.1
Triq S.Tereza	8	1	Papillon Bazaar	R	22.9
Triq S.Tereza	8	1	Star Insurance	R	26.7
Triq S.Tereza	8	1	J.B. Boutique	R	32.7
Triq S.Tereza	8	1	Top Wear	R	37.7
Triq S.Tereza	8	1	Top Wear	R	41.8
Triq S.Tereza	8	1	Ironmongery	R	47.2
Triq S.Tereza	8	1	Take Away Food	R	56.2
Triq S.Tereza	8	1	Il-Gabuba Inn	R	59.8
Triq S.Tereza	8	1	Wefi Ironmongery	L	62.9
Triq S.Tereza	8	10	Charles Pastizzerija	L	13.4
Triq S.Tereza	8	10	Montaldo Jewellery	L	22.4
Triq S.Tereza	8	10	Anreleveo Bazaar	L	28.5
Triq S.Tereza	8	10	Lyon's Bar	L	42.8
Triq S.Tereza	8	10	Notarili Office	L	54.3
Triq S.Tereza	8	10	Seaman's Bar	L	56.9
Triq S.Tereza	8	10	Pavia Ironmongery	L	65.3
Triq S.Tereza	8	10	P. Caruana Wear	L	69.8
Triq S.Tereza	11	185	Confectionary	L	48.8
Triq S.Tereza	11	185	Gauda Shoes	L	59.8
Triq S.Tereza	11	185	Silvia Household	L	64.0
Triq S.Tereza	11	185	Fiorentino	L	69.6
Triq S.Tereza	11	185	Bonello Gift Shop	L	74.2
Triq S.Tereza	11	185	A. Bonello Store	L	85.0
Triq S.Tereza	11	185	Lotto Office	L	88.8
Triq S.Tereza	185	185A	Bazaar	L	10.6
Triq S.Tereza	185	185A	Arguis Wear	L	19.2
Triq S.Tereza	185	185A	Three Cities Jewellery	L	29.9
Triq S.Tereza	185	185A	Jaycee	L	44.3
Triq S.Tereza	185	185A	Simons Gents Wear	L	50.8
Triq S.Tereza	218	232	Bakery	R	30.3
Triq S.Tereza	232	233	Super Butcher	L	25.4
Triq S.Tereza	233	241	Store	L	7.8
Triq S.Tereza	233	241	Bar	L	11.7
Triq S.Tereza	241	241A	La Stanza	R	27.2
Triq S.Tereza	217	186	8th Dec Store	L	15.3
Unknown	165A	165	J. Desira Woodwork	L	16.5
Unknown	165A	165	Office Desira	L	96.2
Unknown	165A	165	J. Desira Showroom	L	100.2
Unknown	165A	165	U/N	L	112.5
Unknown	165A	165	Factory	L	123.2
Unknown	165A	165	Panel Beater	L	134.4
Unknown	165A	165	Auto Repairs	L	144.4
Unknown	165A	165	Mosaic Floor	L	151.6
Unknown	165A	165	Tiles Factory Noqqu	L	166.2
Unknown	126	123	Sprayer/Mechanic	R	87.4
Unknown	126	123	Bakery	R	112.4
Triq Verdala	64	65	Office	R	17.8
Triq Verdala	174	258	Grocer	R	6.8
Triq Wigi Rosato	239	237	Ursuline School	L	34.8
Triq Wigi Rosato	205	203	Discount Store	L	6.9
Triq Wigi Rosato	205	203	Store	L	15.5
Triq Wigi Rosato	198	197	Family Store	R	22.8
Triq Wigi Rosato	197	191	Butcher	R	14.8
Triq Xandru	54	46	Grocer	R	16.3

III.A3.6 Kalkara Local Council Commercial Report

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq Anglu Agius	57	56	J.C. Farrugia Ltd	R	30.0
Triq Anglu Agius	57	56	Confectionery	L	51.0
Pjazza Arcisqof Gonzi	48	47	Fopcol Investment Ltd	R	7.5
Pjazza Arcisqof Gonzi	48	47	Kalkara Pharmacy	R	38.7
Pjazza Arcisqof Gonzi	48	47	Melita Mini Market	R	63.2
Triq Capuchines	68	69	Kaiser Store	L	9.0
Triq Capuchines	69	47	M.Vella Confectionery	L	60.5
Triq Capuchines	69	47	Jerry Bazaar	R	167.5
Triq Capuchines	69	47	Homa Store	R	172.5
Triq Capuchines	69	47	J.M. Bonello Butcher	R	179.5
Triq Giovanni Ricasoli	56A	60	TK Butcher	R	45.0
Triq Giovanni Ricasoli	56A	57A	U/N	L	43.5
Triq Il-Barklor	39	85	Showroom	R	37.7
Triq I-Konvoj ta' S.Maria	101A	101B	Carpenter	R	40.0
Triq I-Konvoj ta' S.Maria	101A	101B	Panel Beater	L	94.5
Triq I-Konvoj ta' S.Maria	101A	101B	Panel Beater	R	101.0
Triq Il-Luqqata	43	42	Grocer	L	29.0
Triq Il-Missjoni Taljana	38	12	Take Away Bar	L	162.7
Triq Ir-Rinella	32	46	Confectionery	R	7.0
Triq Ir-Rinella	32	46	Rinella Bazaar	L	20.5
Triq Ir-Rinella	32	46	Store	R	60.6
Triq Ir-Rinella	32	46	Butcher	L	65.6
Triq Ir-Rinella	32	46	Doris	R	100.2
Triq Ir-Rinella	17	24	Bazaar	L	22.5
Triq Ir-Rinella	17	24	M.A.L.S.	R	35.4
Triq Is-Salvatur	15	16	Coronation bar	R	8.0
Triq Is-Sibi	39	42	Marks Butcher	R	27.8
Triq Is-Sienja	24	35	Tiny Tim Bazaar	R	36.0
Triq Is-Sienja	35	44	U/N	L	30.7
Triq Ix-Xatt	76	78	Lugano bar	L	13.7
Triq Ix-Xatt	74	48	Take Away	R	23.0
Triq Ix-Xatt	74	48	Ironmongery	R	34.5
Triq Ix-Xatt	74	48	Carpenter	R	86.4
Triq Ix-Xatt	74	48	U/N	R	95.2
Triq Ix-Xatt	74	48	Kim Pizza Take Away	R	127.7
Triq Ix-Xatt	74	48	Viris Take Away	R	145.0
Triq Ix-Xatt	21	129	J.Mizzi Office	R	110.8
Triq Ix-Xatt	21	129	Stores	R	118.9
Triq Ix-Xatt	21	129	Kalkara Boat Yard Ltd	R	164.6
Pjazza L-Arcisqof Gonzi	47	30	Creek Bar	R	11.4
Pjazza L-Arcisqof Gonzi	47	30	Briffa Stationery	R	20.3
Pjazza L-Arcisqof Gonzi	47	30	U/N	R	23.5
Pjazza L-Arcisqof Gonzi	47	30	Family Store	R	29.5
Pjazza L-Arcisqof Gonzi	47	30	Rose Jewellery	R	39.6
Triq L-Arcisqof Gonzi	30	21	Medstore Ironmongery	R	16.0
Triq L-Arcisqof Gonzi	30	21	Sea Front Store	R	23.5
Triq L-Arcisqof Gonzi	30	21	Kalkara Garage Hire	R	32.0
Triq L-Arcisqof Gonzi	30	21	A. Venture Repairer	R	67.5
Triq L-Isptar Navali	5	8	T.V./Video Repairer	L	10.7
Triq Luigi Pisani	6	6A	M.J.G. Self Service	L	16.6
Triq Marina	21	4	T. Ciantar Woodworks	L	129.7
Triq Marina	21	4	P.Q. Joinery/Carpentry	L	146.2
Triq Patri Mattew Sultana	60	60A	L-Amica	L	53.0
Triq S.Filomena	44	46	Legal/General Assur.	R	58.5
Triq S.Filomena	44	46	Scruffs Unisex Salon	R	107.7
Triq S.Leonardu	101	102	Mike's Bar	L	0.5
Triq S.Rokku	72	100	Pickless Butcher	R	67.5
Triq S.Rokku	100	101	Holma Farm	L	132.5

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq S.Rokku	104	101	Rocco Store	L	71.5
Unknown	111	112	Malta Film Facilities	L	126.0
Triq Watermill	56	55	Tailor	R	20.2

III.A3.7 Isla Local Council Commercial Report

Street	NDST	NDFN	Building Name	LR	Distance (m)
Misrah 4 Ta Settembru	44A	44B	Carol bazaar	R	16.8
Misrah 4 Ta Settembru	44A	44B	C/F. Self Service	R	19.7
Misrah 4 Ta Settembru	44A	44B	J.M. Confectionery	R	21.2
Triq D.Homedes	38	35	Oscar Video Rentals	L	26.4
Pjazza Francesco Zahra	61	62	Handy Store	L	4.5
Triq Id-Duluri	86	85	Store	L	7.7
Triq Il-Habs l-Antik	4	2	Bocci Club	R	6.5
Triq Il-Habs l-Antik	3	103	Bazaar	L	8.7
Triq Il-Kappilan F.A.	89	86	U/N	R	60.8
Triq Il-Kappilan F.A.	89	86	Grocer	L	72.0
Triq Il-Kuncizzjoni	41	89	Clinci	L	6.0
Triq Il-Kurcifiss	26	20	Senglea Club	R	21.3
Triq Il-Macina	10	11	Confectionart	R	7.2
Triq Il-Migja Tal-Papa	91	92	Watch Dealer	R	13.3
Triq Il-Migja Tal-Papa	91	92	Senglea Gunners	R	21.4
Triq Il-Migja Tal-Papa	92	90	U/N	L	18.2
Triq Il-Mina Tax-Xatt	24	25	Confectionary	L	7.2
Triq Il-Mina Tax-Xatt	25	26	Self Service	R	17.4
Triq Il-Mina Tax-Xatt	26	27	Confectionary	L	13.3
Triq Il-Ponta	53	46	Freds Store	R	28.9
Triq Il-Vitmi Tal-Gwerra	10	4	Francis Dingli Whole	R	5.6
Triq Il-Vitorja	14	21	Old Store	L	6.1
Triq Il-Vitorja	14	21	M.L.P. Club	L	17.8
Triq Il-Vitorja	21	25	Bazaar	L	6.7
Triq Il-Vitorja	21	25	Pharmacy	L	21.4
Triq Il-Vitorja	21	25	Photo Studio	R	32.7
Triq Il-Vitorja	21	25	Ironmongery	R	38.3
Triq Il-Vitorja	21	25	Grocer	L	50.8
Triq Il-Vitorja	25	44	Redeemer	L	3.5
Triq Il-Vitorja	25	44	Butcher	R	5.1
Triq Il-Vitorja	25	44	Senglea F.C.	L	18.5
Triq Il-Vitorja	25	44	Confectionary	L	26.6
Triq Il-Vitorja	25	44	Bazaar	R	29.3
Triq Il-Vitorja	25	44	B.Chick	L	41.8
Triq Il-Vitorja	25	44	M.L.P. Club	R	46.9
Triq Il-Vitorja	44	44A	Capricorn	L	6.1
Triq Il-Vitorja	44	44A	Joy-Lor	R	7.8
Triq Il-Vitorja	44	44A	Book Point	R	12.7
Triq Il-Vitorja	44	44A	Tiffin	L	14.7
Triq Il-Vitorja	44	44A	Tailor	R	17.4
Triq Il-Vitorja	44	44A	Band Club	L	31.0
Triq Il-Vitorja	44A	40	L.Ironmongery	R	7.7
Triq Il-Vitorja	44A	40	B.O.V.	R	11.3
Triq Il-Vitorja	44A	40	Carter Store	L	12.7
Triq Il-Vitorja	44A	40	Carol Bazaar	R	19.0
Triq Il-Vitorja	44A	40	Kennedy Bar	L	23.9
Triq Il-Vitorja	44A	40	Carol Bazaar	R	28.2
Triq Il-Vitorja	44A	40	Senglea Social Club	L	29.0
Triq Il-Vitorja	40	39	Bandary Green Grocer	L	1.1
Triq Il-Vitorja	40	39	S.Pharmacy	R	8.3
Triq Il-Vitorja	47	51	S.Philip Pharmacy	R	16.9
Triq Il-Vitorja	47	51	Bar	L	51.4

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq Il-Vitorja	47	51	V. Butcher	L	57.0
Triq Il-Vitorja	51	59	Lorry Store	L	20.2
Triq Il-Vitorja	51	59	Marget Shop	L	32.0
Triq Il-Vitorja	59	62	Butcher	L	5.2
Triq Is-Sirena	84	83	U/N	L	25.4
Triq Is-Sur	36	37	Tonys Bar	R	40.0
Triq Is-Sur	37	45	Taxi Garage	R	27.0
Triq Is-Sur	45	54	U/N	R	3.8
Triq Is-Sur	54	55	Ironmongery	R	9.7
Triq Is-Sur	57	64	Stella Store	R	28.7
Triq Iz-Zewg Mini	76	61	Mike Pub	L	20.1
Triq Iz-Zewg Mini	61	60	Ray Store	L	31.8
Triq Iz-Zewg Mini	49	48	Eripa	L	20.3
Triq Iz-Zewg Mini	48	41	Bazaar	R	5.8
Triq Iz-Zewg Mini	43	24	Green Grocer	R	6.3
Triq Iz-Zewg Mini	43	24	Butcher	R	10.1
Triq Iz-Zewg Mini	43	24	Kens Corner	R	41.2
Triq Iz-Zewg Mini	24	23	U/N	R	13.0
Triq Iz-Zewg Mini	23	22	Gialanze	L	22.2
Triq Juan C. Azzopardi	68	94	Alice Kiosk	L	76.0
Triq Juan C. Azzopardi	68	94	Store	R	121.1
Triq Juan C. Azzopardi	68	94	Manchester Bar	R	129.3
Triq Juan B Azzopardo	94	95	Prince Charles Kiosk	L	3.6
Triq Juan B Azzopardo	94	95	Water Front	R	30.0
Triq Juan B Azzopardo	98	95	Marina Take Away	L	6.9
Triq L-Arcisqof Matei	2	11	Cottonera Club	L	11.1
Triq L-Arcisqof Matei	2	11	S. Super market	L	37.0
Misrah Papa Beneditu XV	14A	11A	Butcher	R	4.3
Triq S.Anglu	52	51	N.Bazaar	R	5.0
Triq S.Giljan	92	43	Cafe De Capri	L	7.0
Triq S.Giljan	43	44	Micro. Tech	L	22.0
Triq S.Giljan	44	32	J.Saloon	R	17.4
Triq S.Guzepp	99	97	LLD. Office	L	39.6
Triq S.Mikiel	38	39	Store	R	37.8
Triq S.Pietru u S.Pawl	21	20	U/N	R	12.0
Triq S.Pietru u S.Pawl	21	22	P.N. Club	L	6.8
Unknown	69	68	Beach Bar	R	106.5
Unknown	69	68	Regatta Club	L	111.9

III.A.3.8 Marsaxlokk Local Council Commercial Report

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq Axtart	76	83	U/N	R	167.4
Triq Cicerun	61	67	U/N	R	208.0
Triq Duncan	89	88	Skuna Bar/Rest.	L	13.0
Triq Duncan	89	88	Marina Pasta House	L	23.5
Triq Duncan	89	88	Skuna Bar/Rest.	L	33.0
Triq Duncan	89	88	Jewellers	L	36.5
Triq G. Maniscalco	92	91	George Kacca u Sajd	L	58.5
Triq G. Maniscalco	93	94	Golden Sun Hotel	L	18.0
Triq Il-Kajjik	85	90	London Butcher	L	62.5
Triq Il-Kajjik	90	93	Golden Sun Hotel	L	36.0

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq Il-Kajjik	90	93	Golden Sun Rest.	L	61.0
Triq Il-Kavallerizza	8	7	Dar is-Sajjied	L	14.0
Triq Il-Kavallerizza	20	8	Skuna Bar/Rest.	R	3.5
Triq Il-Kuncizzjoni	20	19	M'Xlokk Self Service	L	59.0
Triq Il-Luzzu	45	44	Bakery	R	84.8
Triq Il-Wilga	91	91A	Hunter's Tower	R	166.5
Triq Is-Sajjied	88	91	Gelateria Schiavone	L	6.5
Triq Is-Sajjied	88	91	Marina Seafood Rest.	L	14.0
Triq Is-Sajjied	88	91	Harbour Lights Bar	R	18.0
Triq Is-Sajjied	88	91	Rising Sun Bar	L	71.0
Triq It-Torri	12A	132	Carpenter	R	533.0
Triq Ix-Xatt is-Sajjied	56	88	Duncan Snack Bar	L	16.5
Triq Iz-Zejtun	60	59	S.Luciano Hldgs. Ltd	R	40.5
Triq Iz-Zejtun	59	58	Sultana Bazaar	R	57.2
Triq Iz-Zejtun	59	58	S.Lucian Pharmacy	L	59.0
Triq Iz-Zejtun	59	58	Sublime	L	60.5
Triq Iz-Zejtun	58	57	Ernest's Marine Ctr.	L	28.5
Triq Iz-Zejtun	58	57	Grocer	R	88.0
Triq Iz-Zejtun	57	56	Pin A Pin	L	78.5
Triq L-Arznell	16	23	Pompei pharmacy	L	35.6
Triq L-Arznell	49	58	Ironmongery	R	51.3
Triq L-Arznell	49	58	Epoka Boutique	R	78.8
Triq L-Arznell	49	58	Old Trafford Station	R	86.4
Triq L-Arznell	49	58	Household	R	89.5
Triq Lepano	13	25A	Confectionery	L	38.5
Triq Melqart	86	82	Green Dash	L	40.5
Triq Melqart	86	82	Frans Ironmongery	R	86.0
Triq Melqart	82	77	Carpenter	R	68.0
Triq S.Andrija	50B	52	Matthews Food Market	L	35.3
Triq S.Andrija	50	52	Hair Salon	R	39.4
Triq S.Antnin	17C	17	Vella Store	R	33.2
Triq S.Frangisk	42	41	Pompei Mini Market	L	25.4
Triq S.Frangisk	48	47	Smart Stationery	R	15.5
Triq S.Frangisk	47	46	U/N	R	36.6
Triq S.Katerina	89	84	Elizabeth Salon	R	20.0
Triq S.Katerina	84	81	Ta Kelin Dolceria	L	87.0
Triq S.Katerina	84	81	Fleet Marine Elect.	L	89.5
Triq Ta Pompei	79	82	Motor Mechanic	R	39.5
Triq Tas-Silg	101	104	Villa ix-Xemx	R	3.0
Triq Tas-Silg	97	95	Golden Panther Ltd.	L	153.0
Triq Tas-Silg	92	89	Ritar Fresh Fish	R	61.0
Triq Tas-Silg	92	89	Tas-Silg S/Service	R	91.0
Unknown	1A	1B	Malta Hydrofoils Ltd	L	14.0
Unknown	1A	1B	Scrap Yard	R	64.0
Unknown	1B	1C	Is-Sajjied Rest.	R	37.5
Unknown	94A	94B	Second Hand Parts	R	109.0
Unknown	94A	94B	Lathe Turner	R	128.0
Unknown	132A	132B	Carpenter	R	96.6
Unknown	108	109	U/N	L	130.0
Triq Xatt Is-Sajjied	18	20	Amabile Ironmonger	R	38.5
Triq Xatt Is-Sajjied	18	20	D'oro Jewellery	R	42.0
Triq Xatt Is-Sajjied	18	20	U/N	R	82.0
Triq Xatt Is-Sajjied	22	18	Cafe De Paris Bar	R	18.5
Triq Xatt Is-Sajjied	22	18	Bazaar	R	34.2
Triq Xatt Is-Sajjied	22	45	Carrubia Cafeteria	L	16.0
Triq Xatt Is-Sajjied	22	45	U/N	L	48.5
Triq Xatt Is-Sajjieda	54	46	Il-Bukkett Bar/Rest.	R	4.5
Triq Xatt Is-Sajjieda	46	45	Bar Rest.	R	23.8
Triq Xatt Is-Sajjieda	54	53	U/N	L	10.2
Triq Xatt Is-Sajjieda	53	56	Matthews Take Away	L	6.0
Triq Xatt Is-Sajjieda	53	56	Peppi's Butcher	L	13.2
Triq Xatt Is-Sajjieda	53	56	Take Away	L	25.7
Triq Xatt Is-Sajjieda	53	56	Ir-Rizzu Bar/Rest	L	32.0
Triq Xatt Is-Sajjieda	53	56	U/N	L	59.6

III.A.3.9 Birgu Local Council Commercial Report

Street	*NDST*	*NDFN*	*Building Name*	*LR*	*Distance (m)*
Triq Cottoner	136	116	Rock Gate	R	103.3
Triq Desain	54	60A	S.Lawrenz Y.C	L	17.2
Triq Desain	54	60A	P.N. Club	R	19.2
Triq Desain	54	60A	Vittor Stars F.C.	R	28.5
Triq Desain	54	60A	Charit Confectionary	R	33.2
Triq Desain	54	60A	Lawrence Grocery	R	41.3
Triq H.Tabone	76A	71	Store	R	9.1
Triq H.Tabone	71	72	Mix Appeal Clothes	L	19.8
Triq Hilda Tabone	45	46	Take Away	R	13.9
Triq Hilda Tabone	46	47	Il-Kantuniera Store	L	5.2
Triq Hilda Tabone	46	47	Economical Grocery	L	10.1
Triq Hilda Tabone	46	47	Aquarius Clothes	L	14.5
Triq Hilda Tabone	47	72	Modern Butcher	L	8.5
Triq Hilda Tabone	47	72	Carpinter	L	37.0
Triq Ic-Centinarju	35	37	U/N	L	2.3
Triq Ic-Centinarju	35	37	U/N	L	16.3
Triq Ic-Centinarju	35	37	U/N	L	29.8
Triq Ic-Centinarju	35	37	U/N	L	34.0
Triq Il-Foss	103	107	Store	R	13.6
Triq Il-Foss	103	107	Store	R	18.9
Triq Il-Foss	103	107	Amabli Aluminium	R	24.6
Triq Il-Foss	103	107	Store Aluminium	R	33.0
Triq Il-Foss	75	76	Store	L	21.9
Triq Il-Foss	75	76	Popular Store	L	24.9
Triq Il-Kardinal	59	84	Tapizerie	L	26.3
Triq Il-Kardinal	59	84	Triangle bar	L	30.3
Triq Il-Kwartier	78	77	Pet Shop	R	16.8
Triq Il-Majjistral	64	80	Ray Store	L	0.0
Triq Il-Mina il-Kbira	83	100	Golden Harverst	L	4.1
Triq Il-Mina il-Kbira	99	98	Malaya	R	10.8
Triq Il-Mina il-Kbira	99	98	Melvin Photo	R	19.3
Triq Il-Mina il-Kbira	99	98	Grocer	R	23.1
Triq Il-Mina il-Kbira	61	83	U/N	R	3.4
Triq Il-Mina il-Kbira	61	83	Stationary	R	20.8
Triq Il-Mina il-Kbira	61	83	Clothes	R	26.4
Triq Il-Mina il-Kbira	61	55	Appliances	R	19.8
Triq Il-Mina il-Kbira	61	55	Vittor Pharmacy	R	24.8
Triq Il-Mina il-Kbira	61	55	Beauty Salon	R	290.0
Triq Il-Mina il-Kbira	61	55	Freddie Salon	R	33.8
Triq Il-Mina il-Kbira	61	55	Carina Salon	R	41.2
Triq Il-Palazz L-Antik	3A	9	All Needs	L	34.4
Triq Il-Palazz ta L-Isqof	82	104	Hair Unisex	R	32.4
Triq Il-Papa Alessandro	102	101	Butcher	R	21.6
Triq Il-Vitorja	53	52	U/N	L	8.1
Misrah Ir-Rebha	54	44	Felice Butcher	R	0.0
Misrah Ir-Rebha	54	44	Videos Store	L	6.2
Misrah Ir-Rebha	54	44	Step in Appliances	L	14.9
Misrah Ir-Rebha	54	44	Mifsud Car Hire	L	23.2
Misrah Ir-Rebha	54	44	Butcher	R	24.1
Misrah Ir-Rebha	54	44	Green Grocer	L	26.3
Misrah Ir-Rebha	54	44	Lawrence Ironmongery	R	32.1
Misrah Ir-Rebha	54	44	Old Tommy Bar	L	36.1
Misrah Ir-Rebha	54	44	Cafe Du Brasil bar	R	42.7
Misrah Ir-Rebha	54	44	Beauty Care	L	42.7
Misrah It-Teghla L-Kbira	97	95	Carpinter	L	17.0
Triq La Vallette	45	39	Greengrocer	L	6.5

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq La Vallette	45	39	Menus bar	R	9.6
Triq La Vallette	45	39	U/N	L	13.1
Triq Nestu Laiviera	49	50	Insurance office	L	4.6
Triq Nestu Laiviera	49	50	Vitto Hist/Cultur	R	21.5
Triq P.L-Antik t-Gvernatur	49	37	Store	R	14.2
Triq P.L-Antik t-Gvernatur	49	37	Greengrocer	L	20.8
Triq S.Anton	37	43	Life Shoes Shop	L	11.0
Triq S.Anton	37	43	Family Store	L	14.8
Triq S.Dwardu	122	120	Concrete Mixers	R	226.4
Triq S.Dwardu	120	118	Rita Gym Keep Fit	L	76.3
Triq S.Filippu	38	44	Pellicano Appliances	R	20.5
Triq S.Lawrenz	52	48	Woodwork	R	9.5
Triq S.Skolastika	46	40	Tonys	L	8.9
Triq San Filippu	31	32	Chircop Store	L	20.4
Pjazza Santa Skolastika	11	3	Vittoriosa Bocci Club	L	26.1
Triq St Lawrenz	88	57	Old City Pub	R	108.3
Triq St Lawrenz	88	57	Boomerang	R	125.5
Triq St Edward	116A	116C	Fortini Kiosk	L	32.8
Unknown	37	33	Woodwork	L	22.0
Unknown	37	33	Woodwork	L	25.0
Unknown	130	132	Kaylee	L	8.5
Unknown	130	132	barbara Grocer	L	22.7
Unknown	130	132	ETC Store	L	51.7
Unknown	116	116A	Cafe Riche	L	10.4
Triq Wenzu Dyer	58	57	Briffa Carpinter	R	14.2

III.A.3.10 Zejtun Local Council Commercial Report

Street	NDST	NDFN	Building Name	LR	Distance (m)
Vjal 25 ta' Novembru	465	336	Bonnici Service St.	R	207.0
Vjal 25 ta' Novembru	465	336	Carmel	R	568.0
Vjal 25 ta' Novembru	465	336	Harreld Print Press	R	572.0
Vjal 25 ta' Novembru	333	332	Silver Smith	L	13.0
Vjal 25 ta' Novembru	332	339	Alex Bathroom Center	L	13.0
Triq Alf.Cachia Zammit	193	211	Ironmongery	L	7.5
Triq Alf.Cachia Zammit	211	212	Pacific	R	12.5
Triq Alf.Cachia Zammit	212	214	Ant/s Tyre Serv.	R	23.5
Triq Alf.Cachia Zammit	212	214	Risvic	L	44.5
Triq Alf.Cachia Zammit	212	214	Newwes Garage	R	52.0
Triq Alf.Cachia Zammit	215	219	Carpentry Shop	R	23.0
Triq Alf.Cachia Zammit	215	219	Pace/s Drinks	R	49.5
Triq Alf.Cachia Zammit	215	219	Wood Turner	R	107.0
Triq Alf.Cachia Zammit	215	219	Marsovin Sub Agent	R	114.5
Triq Anglu Gatt	184A	184B	Carpenter	R	44.6
Triq Anglu Grima	300	79	Bakery	L	74.6
Triq Anton Buttigieg	6	15A	Silencer Repairs	L	35.0
Triq Anton Buttigieg	15A	15	Store	L	1.5
Triq Anton Buttigieg	15A	15	Malbor Casual Wear	L	8.0
Triq Anton Buttigieg	20	297	Caruana Aluminium	L	162.5
Triq Antonio Micallef	200	201	Aman Store	R	45.0
Triq Antonio Micallef	206	216A	Grocer	R	8.0
Triq Bugharbiel	163	163A	Sunny Ironmongery	L	135.5
Triq Cagliares	387	403	Grocer	L	25.7
Misrah Carlo Diacono	331	53	Hats/Bows	L	2.5
Misrah Carlo Diacono	331	53	Primavera Store	L	17.0
Misrah Carlo Diacono	331	53	Engros	L	21.5
Triq Connaught	123	124	Mini Market	L	23.5
Triq Delimara	131	133	Mechanic	R	42.0
Triq Delimara	131	133	HMS Auto Electrician	L	61.2

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq Delimara	131	133	TC Plastic Signs	R	85.5
Triq Delimara	131	133	Second Hand Parts	L	92.0
Misrah Dicembru 13	117	110	J. Montebello Ltd.	L	6.5
Triq Dun G. Farrugia	139A	139B	Carpenter	R	25.2
Triq Dun Mikiel Spiteri	139B	182A	Frank Garage	R	69.6
Triq Dun Pawl Brunchel	241	240	Frozen Food Shop	R	42.5
Triq Dun Spir Grixti	186	181	Engineering Works	R	35.8
Triq Frank Ghio	7	6	Computer Training LT	R	39.5
Pjazza Gregorjo Bonnici	101	102	F.G. Stationery	L	7.5
Pjazza Gregorjo Bonnici	101	102	Straight Lines Studio	R	11.5
Pjazza Gregorjo Bonnici	101	102	Green Cross Pharmacy	L	12.0
Pjazza Gregorjo Bonnici	101	102	King Star Disco	R	14.0
Pjazza Gregorjo Bonnici	102	105	Boutique	L	1.8
Pjazza Gregorjo Bonnici	102	105	Chrisgill	L	7.5
Pjazza Gregorjo Bonnici	102	105	Juve Bar	L	15.5
Pjazza Gregorjo Bonnici	102	105	Dental Clinic	L	19.0
Pjazza Gregorjo Bonnici	102	105	Satellite Systems	L	22.5
Pjazza Gregorjo Bonnici	102	105	Rex Bar	L	38.2
Pjazza Gregorjo Bonnici	102	107	Stationery	R	25.0
Triq Guis. Caruana	192	191	Vestro Cut Glazier	R	49.5
Triq Habel Ix-Xghir	115A	356A	Debbies Bab Centre	R	6.5
Triq Habel Ix-Xghir	356A	356	Super Shop	L	15.0
Triq Habel Ix-Xghir	356A	356	Super Video	L	80.5
Triq Hal Bajda	14	318	Mardor Sport/Pet Shp	L	44.5
Triq Hal Gwann	27	25	Pyramid	L	80.6
Triq Haz-Zabbar	225	225A	Water Tanks Manufufa	L	27.0
Triq Hector Dalli	345	343	U/N	L	32.3
Triq Id-Dahla ta' S.Tumas	141A	141	Ramla Hall	R	67.9
Triq Id-Dahla ta' S.Tumas	454	159A	Butcher	L	161.0
Triq Id-Dejma	132A	132B	U/N	R	30.5
Triq Id-Dulliegh	158	158A	Mechanic	L	4.5
Triq Id-Dulliegh	158	158A	Mechanic	L	11.5
Triq Id-Duluri	398	179	Le Coin	L	116.0
Triq Id-Duluri	181	180	Tal-Genwiza Confect.	R	20.0
Triq Id-Duluri	182A	138	Green Grocer	R	9.2
Triq Id-Duluri	182A	138	D/L Unisex Salon	L	12.3
Triq Id-Duluri	182A	138	C/T Gift Shop	L	18.8
Triq Id-Duluri	182A	138	Pegasus	R	30.6
Triq Id-Duluri	182A	138	Bazaar	R	34.0
Triq Id-Duluri	182A	138	Focus Photo Studio	R	37.0
Triq Id-Duluri	182A	138	Top Line	R	40.6
Triq Il-Bies	173B	173C	Carpenter	R	48.0
Misrah Il-Bjar	372	375A	Dolce Cand	R	3.5
Triq Il-Falkunier	169	172	Carpenter	L	67.2
Triq Il-Falkunier	169	168	Falkunier Store	L	18.0
Triq Il-GHadam	3	5	Garden of Eden Garage	R	43.5
Triq Il-GHadam	3	5	Four Wheels Garage	L	49.0
Triq Il-GHadam	3	5	Caxediscount Store	R	56.0
Triq Il-Harrub	154	157	Zahra Pet Shop	L	50.0
Triq Il-Harrub	154	157	Bazaar	R	51.2
Triq Il-Harrub	154	157	Gaity Salon	L	57.0
Triq Il-Helsien	90	89	Doreen Confectionery	L	2.0
Triq Il-Helsien	109	110	Britannic Confection	R	17.2
Triq Il-Herba	97	99	Liberty Store	R	14.8
Triq Il-Herba	99	101	Hair Salon	R	19.0
Triq Il-Herba	99	101	Montebello Insurance	R	24.6
Triq Il-Herba	99	101	Che Sara Sara Confec.	R	27.5
Sqaq Il-Herba Nru. 2	93	94	Cassia	R	3.8
Triq Il-Hniena	4	3	U/N	L	38.0
Triq Il-Hniena	4	3	Pal Print	L	43.5

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq Il-Hniena	4	3	Jhons Garage	L	64.5
Triq Il-Kantur	130	126	Shoe Repairer	L	50.4
Triq Il-Kastellan	164	159	Yard	L	13.6
Triq Il-Kastellan	164	159	Supreme Travel Office	L	32.3
Triq Il-Kastellan	164	159	Cancu Supreme Travel	L	35.3
Triq Il-Kastellan	164	159	Cancu Supreme Travel	L	40.0
Triq Il-Kastellan	164	159	Self Drive Garage	L	70.3
Triq Il-Kastellan	164	159	Coach Hire	L	92.0
Triq Il-Kastellan	159	157B	Smiley Food Store	R	21.6
Triq Il-Kbira	393	372	Modern Store	L	25.5
Triq Il-Kbira	112	349	U/N	R	6.5
Triq Il-Kbira	112	349	Rock/s Take Away	R	11.0
Triq Il-Kbira	349	351	Jos L To S	L	7.5
Triq Il-Kbira	349	351	U/N	R	20.5
Triq Il-Kostituzzjoni	431	101	Barus Drapery	L	72.0
Triq Il-Kostituzzjoni	431	101	Clinic	R	76.0
Triq Il-Kostituzzjoni	431	101	Legal Office	L	77.5
Triq Il-Kostituzzjoni	431	101	John I. Borg Pharm.	R	82.5
Triq Il-Kostituzzjoni	431	101	Vandan Confectionery	L	89.5
Triq Il-Kuncizzjoni	189	197	Grocer	L	9.5
Triq Il-Labour	26	4	Farugia Wines/Food	L	27.5
Triq Il-Labour	26	4	Auto Electrian	R	149.5
Triq Il-Labour	26	4	Auto Electrical	R	159.0
Triq Il-Labour	26	4	Richie Auto Parts	R	231.0
Triq Il-Vant	394A	392	Frankie/s Butcher	R	39.0
Triq Il-Madonna tal-Hnien	327	309	Nutar	R	11.0
Triq Il-Madonna tal-Hnien	327	309	Buttaru	R	31.4
Triq Il-Marrubja	272A	272B	Underwood Self Serv.	R	11.5
Triq Il-Marrubja	272A	272B	U/N	L	15.7
Triq Il-Marrubja	272A	272B	Butcher	R	20.0
Triq Il-Marrubja	272A	272B	Orca Store	L	23.8
Triq Il-Palma	33	34	Grocer	R	4.2
Triq Il-Qadi	153	154	Wild Cherry	R	12.6
Triq Il-Qadi	154	160	Azzur Confectionery	R	42.7
Triq Il-Qadi	160	161	Dennisironmongery	R	43.6
Triq Il-Qadi	169	163	Green Meadows	L	46.4
Triq Il-Qalb ta' Gesu	186	185	Carpenter	L	18.3
Triq Il-Qalb ta' Gesu	178	399	S.Catherine S.Serv.	R	25.5
Triq Il-Vittmi tal-Gwerra	302	304	Raylin Store	R	43.0
Sqaq Il-Vittorja	355	355A	Carmen Saloon	R	28.0
Misrah Ir-Repubblika	105	106	Central Bar	L	7.5
Misrah Ir-Repubblika	105	106	Exclusive Footwear	L	15.0
Misrah Ir-Repubblika	105	106	The Champ Pastizzera	L	20.8
Misrah Ir-Repubblika	113	111	Mifsud Studio	R	15.0
Misrah Ir-Repubblika	113	111	Manuel Fashion House	R	21.0
Misrah Ir-Repubblika	113	111	S.Katerina Butcher	R	46.5
Misrah Ir-Repubblika	111	106	U/N	R	52.5
Triq Is-Salvatur	356	354	Butcher	R	44.5
Triq Is-Suq	191	343	Teenage Look	L	9.3
Triq Is-Suq	191	343	Photo Laboratories	R	34.0
Triq Is-Suq	191	343	Sweets Confectionery	R	38.0
Triq Is-Suq	345	348	S.Francis Store	R	45.4
Triq Is-Suq	341	342	Shopwell Furniture	L	41.5
Triq Is-Suq	342	342A	Save Money Store	L	1.0
Triq Is-Suq	342	342A	Zejtun Video Centre	L	3.5
Triq Is-Suq	342	342A	Colours Stationery	L	9.2
Triq Is-Suq	342	342A	Lolu Pet Shop	L	14.4
Triq Is-Suq	341	334	Engineering Works	L	65.3
Triq It-Tamburin	29A	26A	U/N	L	14.0
Triq John Borg	29	29A	U/N	L	65.3
Triq John Borg	29	29A	Ironmongery	R	72.0
Triq John Borg	29A	32	Mechanic	L	22.8
Triq Kanonku Dedomenico	400	399	Carpentry Shop	R	48.0
Triq Kanonku Dedomenico	400	399	Roger/s Bakery	L	63.8
Triq L-Arkibuzier	170	169	Carpenter	R	22.0
Triq L-Iskola	201	351	Bazaar	R	99.0
Triq L-Ispirtu s-Santu	187	431	U/N	L	29.5

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq L-Isqof Emm.Galea	139A	161	Frames/Squares	L	13.2
Triq L-Isqof Emm.Galea	139A	161	Metal Works	L	20.0
Triq L-Isqof Emm.Galea	139A	161	Ganza Suite	L	25.2
Triq L-Isqof Emm.Galea	139A	161	Snow white Stationer	L	124.0
Triq L-Isqof Emm.Galea	139A	161	S.Cathrine Pharmacy	L	131.2
Triq L-Isqof Emm.Galea	136	135	My Fair Lady	R	23.8
Triq L-Isqof Emm.Galea	136	135	Desiree Drapery	R	26.5
Triq L-Isqof Emm.Galea	136	135	Sweet Haven Confect.	R	29.6
Triq L-Isqof Zahra	206	368	Delmus Tyre Serv.	L	26.0
Triq Licata	51	38	Nicks Butcher	L	8.5
Triq Luqa Briffa	80	81	Mechanic	L	21.0
Triq Luqa Briffa	80	81	Melbourne Bar	L	26.7
Triq Luqa Briffa	80	81	F.Caruana Ironmongery	L	32.0
Triq Luqa Briffa	80	81	Tal-Gwiez	L	39.5
Triq Luqa Briffa	80	79	Sultana Store	R	7.0
Triq Luqa Briffa	77	79	New You Unisex Salon	L	26.0
Triq Luqa Briffa	77	76	Ta' Ganna Bar	L	5.4
Triq Luqa Briffa	75	69	Butcher	L	26.2
Triq Luqa Briffa	75	69	Radiator Repairs	R	36.6
Triq Luqa Briffa	57	61	Sunshine Store	L	4.4
Triq Luqa Briffa	57	61	Medical Doctor	R	22.3
Triq Marsaxlokk	22	21	Grocer	L	11.3
Triq Melchiorre Gafa	328	28	Diana Bar	R	35.8
Triq Melchiorre Gafa	328	28	Nakis Compound Feeds	R	83.2
Triq Mikiel Cachia	186	177	Nakis Store	R	83.7
Triq Pjazza Tal-Bandolier	360	364	Bazaar	L	13.0
Triq Qasam Hal Tmiem	142A	142B	All In One Store	L	41.2
Triq Qasam Hal Tmiem	142A	142B	Estate Bar	L	49.7
Triq S.Anglu	221	218	Fruit Drops G/Grocer	L	53.0
Triq S.Anglu	218	207	Pace Brothers	R	62.5
Triq S.Anglu	207	208	Cauchi Garage	R	7.5
Triq S.Anglu	331	429	CS Grocery	R	27.7
Triq S.Anglu	331	429	Office Perit	L	81.0
Triq S.Antnin	395	363	Paradise Confect.	L	58.5
Triq S.Cecilja	389	385	In-Nagga Omar Grocer	R	16.3
Triq S.Duminku	318	317	Grocer	L	10.5
Triq S.Duminku	318	317	Compound Feeds	L	54.7
Triq S.Girgor	132	132A	Avukat	R	10.0
Triq S.Girgor	132	132A	Bazaar	R	64.4
Triq S.Girgor	132	132A	Panel Beater	R	92.4
Triq S.Girgor	129	128	Tabar Stores	L	3.6
Triq S.Girgor	129	128	C/C Bazaar	L	10.5
Triq S.Girgor	128	131	Happy Self Service	L	10.7
Triq S.Girgor	128	131	Grocer	R	34.8
Triq S.Girgor	128	131	Clinic	L	45.8
Triq S.Girgor	131	132	Bakery	L	7.7
Triq S.Gorg	354	359	Ta' Saveria Store	L	41.5
Triq S.Gorg	351	352	U/N	L	8.0
Triq S.Gorg	351	352	U/N	R	35.5
Triq S.Guzepp	109	108	Second Hand Parts	R	31.6
Triq S.Gwann	41	40	Bakery	L	18.4
Triq S.Gwann	39	34	Carpenter	R	19.5
Triq S.Gwann	31	32	Mechanic	R	1.0
Triq S.Gwann	31	32	U/N	R	5.2
Triq S.Gwann	31	32	Sprayer	R	9.8
Triq S.Katerina	194	192	Empav Engineering	R	35.5
Triq S.Katerina	195	193	Helmar Stationery	L	5.0
Triq S.Katerina	197	199	Omega Bazaar	L	32.0
Triq S.Katerina	199	106	Buhagiar Store	L	80.0
Triq S.Klement	377	220	Desira Carpenters	R	131..5

Street	NDST	NDFN	Building Name	LR	Distance (m)
Triq S.Lucian	198	196	Stationery	L	6.0
Triq S.Lucija	62	66	Ours Bazaar	L	61.5
Triq S.Marija	58	91	Hair Stylist	L	27.3
Triq S.Marija	91	100	Perit Office	L	18.2
Triq S.Marija	91	100	Doctors Clinic	R	49.0
Pjazza S.Marija	46A	46	Grocer	L	7.0
Triq S.Marija	48	47	Butcher	R	22.5
Triq S.Marija	320	311	Bakery	R	79.0
Triq S.Marija	314	308	Bar	R	12.8
Triq S.Marija	50	57	Felix Store	R	4.4
Triq S.Monica	121	87	Store	R	29.3
Triq S.Monica	121	87	Bakery	R	55.3
Triq S.Monica	78	77	Francis Store	R	3.2
Triq S.Monica	122	121	Alpha Bazaar	R	6.2
Triq S.Monica	122	121	Green Grocer	R	17.3
Triq S.Pawl	52	51	Bazaar	L	10.6
Triq S.Piju X	128	127	Butcher	R	9.2
Triq S.Piju X	85	80	Sultana Store	R	31.3
Triq S.Wistin	118	398	Body Connections	R	59.0
Triq Salvu Cacciattolo	214	244	Needs	L	70.0
Triq Serafin Xuereb	346	347	Vandan Confectionery	R	53.6
Triq Serafin Xuereb	347	347A	Carpenter	R	19.3
Vjal Sir Paul Boffa	4	7	Rainbow Store	R	8.5
Vjal Sir Paul Boffa	4	7	Gold Lead Jewellery	L	10.5
Triq Ta' Tnella	17	16	Martin Mechanic	R	29.5
Triq Tal-Barrani	2	1	Well of Gold Takeaway	R	37.0
Triq Tal-Barrani	2	1	U/N	L	100.0
Triq Tal-Barrani	2	465	Cutajar Insurance	R	29.5
Triq Tal-Barrani	2	465	Auto Dealer	R	36.0
Triq Tal-Barrani	2	465	Car Hire	R	48.0
Triq Tal-Barrani	2	465	Roserine	R	53.0
Triq Tal-Barrani	2	465	Auto Dealer	L	59.5
Triq Tal-Barrani	2	465	U/N	R	59.5
Triq Tal-Barrani	2	465	Skorfna Radiators	R	67.5
Triq Tal-Barrani	2	465	Busuttil Petrol St.	L	295.0
Triq Tal-Barrani	2	465	Schembri Concret Lt.	L	381.0
Pjazza Tal-Bjar	374	367	Fifu Bar	R	10.0
Triq il-Madonna tal-Bon Kunsill	101	100	Blue Haven Bar	L	2.8
Triq il-Madonna tal-Bon Kunsill	101	100	Mens	L	10.7
Triq il-Madonna tal-Bon Kunsill	101	100	Farrugia Lino Store	R	11.5
Triq il-Madonna tal-Bon Kunsill	101	100	U/N	L	14.0
Triq il-Madonna tal-Bon Kunsill	100	55	Michaels	R	5.0
Triq il-Madonna tal-Bon Kunsill	100	55	S.C.Mini Market	R	18.0
Triq il-Madonna tal-Bon Kunsill	100	55	Geradas Pharmacy	R	21.2
Triq il-Madonna tal-Bon Kunsill	100	55	Montebello	L	27.5
Triq il-Madonna tal-Bon Kunsill	100	55	Montebello	L	51.0
Triq il-Madonna tal-Bon Kunsill	100	55	Gift Shop	L	57.2
Triq il-Madonna tal-Bon Kunsill	100	55	Cassar Store	L	63.4
Triq il-Madonna tal-Bon Kunsill	55	53	U/N	L	11.5
Triq il-Madonna tal-Bon Kunsill	55	53	Fantasy	L	17.0
Triq il-Madonna tal-Hniena	309	313	Boutique	R	36.6
Triq il-Madonna tal-Hniena	313	322	Hair Base	R	29.3
Triq il-Madonna tal-Hniena	322	321	ACB Ironmongery	R	7.8

Street	*NDST*	*NDFN*	*Building Name*	*LR*	*Distance (m)*
Triq il-Madonna tal-Hniena	322	321	Cassar Stationery	L	10.7
Triq il-Madonna tal-Hniena	321	320	Butcher	R	19.4
Triq il-Madonna tal-Hniena	3	2	Montebello Tyres Ltd.	R	7.0
Triq il-Madonna tal-Hniena	329	4	4 Jais Boutique	L	108.0
Triq il-Madonna tal-Hniena	329	4	North Front Bar	L	164.5
Triq il-Madonna tal-Hniena	320	319	Ironmongery	R	6.8
Triq il-Madonna tal-Hniena	320	319	Green Grocer	L	14.0
Triq Toni Zahra	223	247	Leo Ironmongery	R	98.0
Triq Toni Zahra	244	213	S.Martin Store	L	32.0
Unknown	501	502	Balzan Woodworks	L	104.0
Unknown	501	502	Vella Woodworks	R	104.0
Unknown	174A	174C	U/N	R	33.2
Unknown	220A	220B	Alam Aluminium Works	R	145.5
Unknown	220A	220B	Upholsterer	L	244.5
Triq Xandru Farrugia	27	26	Pauls Silencer Repair	L	44.0

III.A3.11 Fgura Local Council Commercial Report

Details of this report were unavailable until publication of the Regional Socio-Economic Development Plan.

Table III.3.1 : Livestock breeders in the south region of Malta

(Source : Central Office of Statistics, *1991 Agriculture Census*)

	Bovines	*Caprines*	*Ovines*	*Swine*	*Poultry*	*Rabbits*	*Equines*
Zabbar and Xghajra	5	8	9	9	32	47	49
Fgura	9	5	2	1	10	11	6
M'Scala	6	2	4	-	8	12	13
Kalkara	-	-	2	-	8	6	11
Zejtun	34	25	24	6	31	39	82
M'Xlokk	5	4	4	2	2	3	15
B'Bugia	6	7	24	1	32	41	20
Birgu	-	-	-	-	-	-	-
Bormla	-	-	-	-	-	-	-
Isla	-	-	-	-	-	-	-
Total	*65*	*51*	*69*	*20*	*123*	*159*	*196*
Total Malta	*266*	*248*	*542*	*131*	*812*	*1068*	*747*
Total Gozo	*69*	*300*	*614*	*9*	*865*	*928*	*81*

Table III.3.2 : Livestock breeders in the south region as in 1997

(Source : Department of Veterinary Services)

	Bovines	*Caprines*	*Ovines*	*Swine*	*Poultry*
Zabbar	2	-	-	4	6
Xghajra	3	-	-	6	4
Fgura	3	-	-	4	1
M'Scala	2	-	-	-	1
Kalkara	-	-	-	1	1
Zejtun	22	-	-	11	28
M'Xlokk	6	-	-	3	7
B'Bugia	2	-	-	-	7
Birgu	1	-	-	-	-
Bormla	-	-	-	-	1
Isla	-	-	-	-	-
Total	*41*	*	*	*29*	*56*

* The 1997 figures show that there are only three herdsmen in the south region of Malta having a minimum of 20 goats, while only 2 shepherds have more than 10 sheep.

Table III.3.3 : Types of agricultural land in the south region

(Source : Central Office of Statistics, *1991 Agriculture Census*)

	Dryland	*Irrigated Land*	*Waste Land*	*Total Inhabitants*	*Holdings utilising Sant' Antnin treated effluent*
Zabbar and Xghajra	184	120	20	324	134
Fgura	12	1	-	13	7
M'Scala	78	34	14	126	28
Zejtun	354	46	29	429	100
M'Xlokk	132	10	17	159	7
B'Bugia	235	3	43	281	1
Bormla	1	-	-	1	2
Birgu	-	-	-	-	-
Kalkara	27	3	4	34	4
Isla	-	-	-	-	-
Total	*1023*	*217*	*127*	*1367*	*283*

Table III.3.4 : Number and area of greenhouses/polytunnels in the south region

(Source : Central Office of Statistics, *1991 Agriculture Census*)

	Glasshouses	*Area (m^2)*	*Polytunnels*	*Area (m^2)*
Zabbar and Xghajra	24	20537	20	24057
Fgura	2	1050	2	-
M'Scala	2	1918	6	-
Zejtun	-	-	-	-
B'Bugia	-	-	-	-
Bormla	-	-	-	-
Isla	-	-	-	-
Birgu	-	-	-	-
Kalkara	-	-	-	-
Total	*28*	*23505*	*28*	*24057*
Total Malta	*36*	*262724*	*165*	*45417*
Total Gozo	*18*	*14604*	*13*	

Table III.3.5 : Source of power for irrigation and number of beehives in the south region

(Source : Central Office of Statistics, *1991 Agriculture Census*)

	Deep Water Pumps	*Windmills*	*Bee Hives*
Zabbar and Xghajra	29	2	6
Fgura	1	-	-
M'Scala	8	1	-
Kalkara	5	1	-
Zejtun	9	3	2
M'Xlokk	2	-	8
B'Bugia	3	-	-
Birgu	-	-	-
Bormla	-	-	-
Isla	-	-	-
Total	*57*	*7*	*16*
Total Malta	*932*	-	*1056*

Table III.3.6 : Farming community in the south region

(Source : Central Office of Statistics, *1991 Agriculture Census*)

	Full-time Farmers	*Part-time Farmers*
Zabbar and Xghajra	61	749
Fgura	10	140
M'Scala	15	100
Kalkara	3	78
Zejtun	56	895
M'Xlokk	7	131
B'Bugia	5	497
Birgu	2	7
Bormla	-	19
Isla	-	-
Total	*159*	*2616*
Total Malta	*1293*	*16572*
Total Gozo	*217*	*4846*

Table III.3.7 : Fishing population as on 31.12.95

District	*Full-timers*	*Part-timers*	*Total*
Marsaxlokk	129	97	*226*
Gozo	101	218	*319*
Other Districts	91	1071	*1162*
Total	*321*	*1386*	*1707*

Table III.3.8 : Fishing craft statistics by size as on 31.12.95

Type of Craft	*Up to 6m*	*6.01 - 9 m*	*9.01 - 12 m*	*12.01 - 15 m*	*15.01 - 18 m*	*Over 18.01m*	*Total*
Trawler	-	-	-	-	-	9	*9*
M.F.V.	-	18	14	28	13	9	*82*
Luzzu	134	166	32	6	-	-	*338*
Caique	707	18	-	-	-	-	*725*
Firilla	15	9	-	-	-	-	*24*
Other	184	201	50	14	-	-	*449*
Total	*1040*	*412*	*96*	*48*	*13*	*18*	*1627*

Table III.3.9 : Fishing craft statistics by type as on 31.12.95

District	Power Propelled							Rowing					
	Trawler	M.F.V.	Luzzu	Caique	Firilla	Others	Total	Luzzu	Caique	Firilla	Others	Total	Total
Valletta/Marsa	6	3	1	1	-	5	16	-	-	-	-	-	16
Msida/Pieta`	-	3	20	40	7	33	103	-	-	-	-	-	103
Gzira/Sliema	-	1	11	32	-	13	57	1	1	-	-	2	59
St. Julians	1	3	22	28	-	15	69	-	-	-	-	-	69
Kalkara/Senglea	-	2	10	23	1	25	61	-	-	-	-	-	61
Gnejna	-	-	6	65	1	14	86	1	1	-	-	2	88
St. Paul's Bay	-	5	37	122	2	81	247	-	-	-	-	-	247
Mellieha	-	2	4	75	-	17	98	-	1	-	-	1	99
Marsascala/Ramla	-	5	17	58	5	36	121	-	-	-	1	1	122
Ghar Lapsi	-	-	-	13	-	4	17	-	-	-	-	-	17
Birzebbuga	-	1	11	37	-	90	139	-	1	-	-	1	140
MarsaXlokk	-	36	121	88	7	60	312	-	-	-	-	-	312
Wied iz-Zurrieq	-	1	1	1	-	1	4	-	-	-	-	-	4
Total Malta	7	62	261	583	23	394	1330	2	4	-	1	7	1337
Mgarr	2	19	54	78	1	40	194	-	-	-	-	-	194
Xlendi/Marsalforn/ Qala	-	1	12	28	-	8	49	-	2	-	-	2	51
Nadur	-	-	9	30	-	6	45	-	-	-	-	-	45
Total Gozo	2	20	75	136	1	54	288	-	2	-	-	2	290
Total - Malta & Gozo	9	82	336	719	24	448	1618	2	6	-	1	9	1627

Table III.3.10 : Local fish catches of the six main species caught from 1985 to 1995

Year	*1985*	*1986*	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*	*1995*
Total Local Catch (metric tonnes)	1219	1067	1015	803	891	726	685	539.8	681	902.1	925.7
Exports (metric tonnes)	78	43	296	62	35	81	114		124		
Stone Bass	32.8	31.2	23.3	19.9	50.6	30.2	24.4	23	28.7	15.7	22.5
% of Total Catch	2.7	2.9	2.3	2.5	5.7	4.2	3.6	4.3	4.2	1.7	2.4
Pilot Fish	130.3	213.6	239.3	61.9	43	6.8	17.6	48.9	71.7	28.7	12.7
% of Total Catch	10.7	20.0	23.6	7.7	4.8	0.9	2.6	9.1	10.5	3.2	1.4
Lampuki	464.2	360.9	285.6	263.7	306.4	259.6	304.2	187.9	174	333.4	333.7
% of Total Catch	38.1	33.8	28.1	32.8	34.4	35.8	44.4	34.8	25.6	37.0	36.0
Swordfish	95.4	65.7	114.9	140.5	100.1	108.9	105.6	70.6	75.5	42.1	58.2
% of Total Catch	7.8	6.2	11.3	17.5	11.2	15.0	15.4	13.1	11.1	4.7	6.3
Tuna	21.3	35.4	36.3	23.9	29.3	48.7	63.3	48.2	150.8	343.7	353
% of Total Catch	1.7	3.3	3.6	3.0	3.3	6.7	9.2	8.9	22.1	38.1	38.1
Bogue	124.9	92.5	101.7	128.3	106.5	81.9	36.6	46.3	42.7	19	18.9
% of Total Catch	10.2	8.7	10.0	16.0	12.0	11.3	5.3	8.6	6.3	2.1	2.0

Table III.3. 11 : Wholesale value of the six main species caught from 1992 to 1995

Year	1992	1993	1994	1995
Total Wholesale Value (Lm)	746459	1064225	1284068	1231652
Wholesale Value of Exports (Lm)		423709		
Stone Bass (Lm)	46827	58030	37960	66741
% of Total Wholesale Value	6.3	5.5	3.0	5.4
Pilot Fish (Lm)	44264	76052	24848	9556
% of Total Wholesale Value	5.9	7.1	1.9	0.8
Lampuki (Lm)	191396	246273	264384	179588
% of Total Wholesale Value	25.6	23.1	20.6	14.6
Swordfish (Lm)	186695	166960	109978	145947
% of Total Wholesale Value	25.0	15.7	8.6	11.8
Tuna (Lm)	94452	284904	642147	566622
% of Total Wholesale Value	12.7	26.8	50.0	46.0
Bogue (Lm)	27360	33905	14017	12975
% of Total Wholesale Value	3.7	3.2	1.1	1.1
% of Total Wholesale Value	*79.2*	*81.4*	*85.1*	*79.7*

Table III.3.12 : Importance of the three main species as a percentage of the total catch and of the total wholesale value

Year	*1992*	*1993*	*1994*	*1995*
Total Local Catch	539.8	681	902.1	925.7
Total Wholesale Value (Lm)	746459	1064225	1284068	1231652
Value of Exports (Lm)		423		
% of Tuna from total catch	8.9	22.1	38.1	38.1
% of Tuna Wholesale value	12.7	26.8	50.0	46.0
% of Lampuki from total Catch	34.8	25.6	37.0	36.0
% of Lampuki Wholesale value	25.6	23.1	20.6	14.6
% of Swordfish from total Catch	13.1	11.1	4.7	6.3
% of Swordfish Wholesale value	25.0	15.7	8.6	11.8

Table III.3.13 : Occurrence of tradesmen's garages in each locality

Locality	*Listed Number of Existing Tradesman's Workshop*	*Percentage Increase of Listed Number*	*Extrapolated Whole Number of Future Requests*
Birgu	9	20%	11
Birzebbuga	6	40%	8
Bormla	12	20%	15
Fgura	N/A		Assume 8
Isla	0		Assume 6
Kalkara	8	20%	10
Marsascala	8	30%	11
Marsaxlokk	6	30%	8
Xghajra	4	30%	6
Zabbar	29	40%	36
Zejtun	42	40%	58
		Total	*177*

Table III.3.14 : The number of units in each tradesman's area for groups of localities

Group of Localities	*Future Requested Units*
Bormla, Isla and Birgu	32
Kalkara and Xghajra	16
Zabbar and Fgura	44
Marsascala	11
Zejtun	58
Birzebbuga and Marsaxlokk	16

III.4.0 Environmental Health

Executive Summary

Methodology

Aims and Objectives

Background

Issues

- Air Pollution
- Noise Pollution
- Marine Pollution
- Terrestrial Pollution
- Problems Arising from Agricultural Practices
- Environmental Nuisances
- Availability and Use of Public Space
- Other Factors

Recommendations

- Policy Recommendations
- Projects

Final Comments

Main References Consulted

4.1.0 Executive Summary

The objectives of the study were to identify the main environmental health issues affecting the eleven localities in the area covered by the Regional Plan, correlating environmental factors with health effects, and attempting to find appropriate solutions. The methodology employed was to acquire updated data through meetings with representatives of the eleven Local Councils involved, supplemented by the study of available literature on the subject, mainly Local Plans for various parts of the region.

The categories of environmental factors affecting human health considered were (a) air pollution caused by industrial establishments and motor vehicles, (b) marine pollution caused by sewage, run-off and/or dumping, (c) terrestrial pollution caused by liquid and/or solid wastes of any origin, (d) problems arising from noise pollution, (e) health problems attributable to agricultural practice in the locality, (f) the presence of environmental nuisances in any form, possibly constituting stress factors, as distinct from physical health hazards, and (g) deficiencies in the availability and/or use of public space in the locality creating, or likely to create, an environmental imbalance affecting the health and/or well-being of local populations. In addition, any other problem brought up by Local Councils capable of having an impact on human health and well-being in the locality in question, were also considered.

Both from information provided by Local Councils and from earlier documentation, several problems in each area of concern were identified. Although no air quality data was available, the industries (including Malta Drydocks and the Marsa and Delimara Power Stations) affecting the region were considered to present an air pollution problem, while gas and fuel storage installations were posing an accident hazard. All coastal localities suffer from marine pollution by sewage and/or industrial activity. The illegal dumping of solid waste in all parts of the region constitutes both an aesthetic problem and a health hazard in both physical and psychological aspects due to disease-carrying rodents and the stress factor caused by living in an environment dominated by the ubiquitous presence of waste. Several nuisances, ranging from illegal parking of heavy duty vehicles in public areas to illegal garage industries and the problem of stray dogs, were identified. In every locality, the relative lack or practically-complete absence of leisure facilities and recreational space was evident.

It is recommended that relevant proposals made in earlier Plans, such as the Grand Harbour and Marsaxlokk Local Plans, including relocation of industries and development of leisure sites, be approved and implemented. The establishment of air quality and bathing water quality standards is also proposed. Various other recommendations are also made, both regarding policy decisions to be taken and implemented, and regarding study and related projects considered necessary for the acquisition of data to determine the nature and extent of environmental problems and their health implications.

4.2.0 Methodology

The general methodology employed was to identify problems in the environmental health field encountered by Local Councils in the various localities of the region, and to complement information received from these sources by the study of relevant literature, mainly previous reports, on the same or similar subject-matter.

Initially, six meetings were held with Local Council representatives : two with each group. Meetings with Group 1 (Cospicua, Kalkara, Senglea and Vittoriosa, were held on 02 June and 18 June, with Group 2 (Fgura, Zabbar and Zejtun) on 03 June and 16 June, and with Group 3 (Birzebbuga, Marsascala, Marsaxlokk and Xghajra) on 29 May and 19 June.

A wide range of problems were brought up during the first round of meetings, covering practically all the areas listed in the Environmental Health Working Committee's classification of actual or potential environmental health issues (described in section 4.3 below). Some of these could be considered as common to most, if not all, Malta, rather than the southern region alone, others were restricted to, or were more pronounced in, the area covered by the Regional Plan, and affected more than one locality therein, while still others appeared to be purely local. In practically every case, these problems had already been brought to the attention of the appropriate Ministry or Government Department, in some cases long ago, and the hope was expressed by various Local Councils that the implementation of the Regional Plan would produce some action.

During the second round of meetings, the points raised by each Local Council at the first meeting were reviewed. Each Local Council was requested to prepare a brief document listing these points, based on the categories of environmental factors being considered by the Environmental Health Working Committee, the list of which was circulated to Local Councils.

Reports and/or documentation covering various points were received from six Local Councils (Fgura, Marsascala, Marsaxlokk, Vittoriosa, Xghajra and Zabbar). A letter from Kalkara Local Council was received to the effect that they had nothing to add to the results of the discussions during the two meetings held. Nothing was received from four Local Councils (Birzebbuga, Cospicua, Senglea and Zejtun).

Documentation available at the Resource Centre of the Planning Council, as well as material obtained from other sources, was also consulted. A list of the main documentation consulted appears as an annex to this report.

4.3.0 Aims and Objectives

The aims and objectives of the study were to attempt to identify the main environmental health issues affecting the localities in the area covered by the Regional Plan, correlating environmental factors with actual or potential health effects to the extent possible, and attempting to find appropriate solutions, by reviewing earlier recommendations where such existed, and by the exercise of independent critical judgement in issues not previously identified.

The classical definition of health implies freedom from disease. The WHO definition goes much further and defines health as not only implying the absence of any disease or infirmity, but also a sense of complete physical and mental well-being. This latter definition was used in the identification of environmental factors, and in their correlation with health effects.

The following broad categories of environmental factors affecting human health, which are not listed in any order of priority, were considered :

(a) The presence of industrial complexes or single industries with particulate or gaseous atmospheric emissions creating an actual or potential health hazard, together with any recorded data on effects on local populations in the vicinity. Air pollution from vehicular exhausts was also included in this category;

(b) Marine pollution by sewage, run-off and/or dumping, together with recorded or observed effects on human activities, mainly bathing and fishing, in appropriate localities;

(c) Pollution of any part of the terrestrial environment in each locality, caused by liquid and/or solid wastes of any origin, together with actual or potential adverse effects of such pollution on human health;

(d) Problems arising from noise pollution;

(e) Actual or potential health problems attributable to agricultural practice in the locality;

(f) The presence of environmental nuisances in any form, possibly constituting stress factors, as distinct from physical health hazards; and

(g) Deficiencies in the availability and/or use of public space (including recreational space) in the locality creating, or likely to create, an environmental imbalance affecting the health and/or well-being of local populations.

In addition, any other problems brought up by Local Councils or identified during the course of the investigation which, while not falling strictly within the above categories, but capable of having an actual or potential impact on human health and well-being in the locality in question, were also considered.



4.4.0 Background

The region is comparatively heavily industrialised in relation to the other regions of Malta, and very little tourist development has taken place. Practically all the Local Councils in the region are of the opinion that the localities they serve are being side-pedalled from the general socio-economic viewpoint, particularly where maintenance and embellishment works are concerned. The environment in general is therefore different from that in the northern and central regions, and there are various factors of an environmental nature which have an actual or potential effect on populations resident in the region

A number of Local Plans with respect to one or more localities in the Region have been drawn up over the last few years. Several recommendations contained in these plans were relevant to the present task, and during meetings held with Local Councils, practically all expressed the hope that the Regional Plan would now be the means of their implementation.

4.5.0 Issues

4.5.1 Air Pollution

The Environmental Health Working Committee considered both emissions from industrial complexes and single industries, and emissions from motor vehicles capable of creating an actual or potential health hazard, together with available recorded data on effects on local populations in the vicinity.

The bulk of industrial establishments in Malta causing air pollution are located either within or peripheral to the localities comprising the south region of Malta as defined in the Plan. The main ones located in the region itself are the following :

1. Malta Drydocks and Malta Shipbuilding,
2. The Freeport,
3. The Liquefied Propane Gas (LPG) Plant at Qajjenza,
4. The Enemalta 31st March Petroleum Depot,
5. The St Lucian Oil Co. Depot,
6. The Hal-Far Industrial Estate,
7. The Ricasoli Industrial Estate,
8. The Delimara Power Station,
9. The Rinella Rank Cleaning Plant,
10. The Sant' Antnin Solid Waste Recycling Plant,
11. The Sant' Antnin Sewage Treatment Plant,
12. Various Scrapyards, and
13. Various small and medium-sized industries.

Industrial complexes and establishments located peripheral to the region and also affecting it comprise the following :

a. The Bulebel Industrial Estate,
b. The Corradino Industrial Estate, and
c. The Marsa Power Station.

In addition, Medserv, currently located in Manoel Island, is being re-located to the Freeport area.

4.5.1.1 Malta Drydocks

Emissions from Malta Drydocks mainly affect the localities in the Cottonera area (the Three Cities and Fgura). Grit blasting produces a high particulate matter content in the atmosphere. The sandblasting facility (Dock No.3) particularly affects Senglea. It is located directly below the primary school in this locality, which suffers from lack of ventilation as the windows have to be kept closed owing to the high concentration of particulate matter emitted from the blasting operation. Although an alternative technique (slurry blasting, which uses water instead of sand) exists, this has apparently not been tried. Because of this specific situation, possible alternative sites for the primary school are currently being studied by the Senglea Local Council architect.

Apart from the effects of grit blasting, which have been highlighted by two reports by E. Mintoff for the Fgura Local Council, fumes and exhaust from Malta Drydocks also affect the general Cottonera area.

4.5.1.2 The Freeport

Complaints were received by the Environmental Health Working Committee from various Local Councils that illicit dumping of containers containing radioactive and other toxic waste was occurring at the Freeport. There was no direct evidence in support of these statements and, in fact, such evidence would be difficult to obtain in view of restrictions in official Government access to the area. There is a possibility that such dumping might be happening. It has been known to occur elsewhere. If so, there is a potential accident hazard to populations in neighbouring areas, particularly Birzebbuga. Although the Freeport Authorities have manifests of all cargo unloaded at the Freeport, there is no way of telling whether any of these are false without direct inspection. In the case of radioactive waste, levels on the outside of the containers could be checked with Geiger-Müller counters. The matter requires attention in view of statements by Local Councils that this trend might increase if the Freeport project does not continue to satisfy expectations and no projection studies for the next decade are carried out.

According to the Marsaxlokk Local Plan, the Planning Authority would "encourage the use of the Freeport Terminal for the handling of cargoes for both the (relocated) LPG and 31st March Depots if these are relocated to the sites indicated inside the Local Plan area. The LPG depot and the 31st March installation will require new berthing and discharge points for ships bringing in gas and oil. It makes sense both economically and environmentally to use the facilities of the Freeport, so that risks of spillage can be contained. A pipeline connection would allow the Depots to be located some distance from the Freeport and still make use of the facilities" (Policy MPO3).

Current development strategy includes an intensification of uses of the Freeport, expansion of oil/petroleum handling, and general mitigation of effects on Birzebbuga residents.

4.5.1.3 The Liquefied Propane Gas Plant at Qajjenza

There have been Local Council claims, corroborated by Enemalta Corporation that emissions of gas from this Plant are well above the acceptable levels of 0.02%. The Birzebbuga Local Council claims that, according to Enemalta Corporation, emissions from the Plant may reach a level of 20%. It is claimed that this leakage is causing illness (mainly headaches and stomach aches) among schoolchildren, the Tal-Qajjenza Plant being in the vicinity of a primary school. It has been admitted in the Marsaxlokk Local Plan (Policy MQ02) that the Liquefied Propane Gas Plant is a major risk factor in the Plan area, particularly since its use has intensified over recent years, and that oil/gas storage tanks should be concentrated and transferred to another site.

In this context, the Planning Authority has pledged to "co-operate with Enemalta (which have agreed on the need for replacement, and are looking for an alternative, less hazardous, location for the Plant) in the identification of such suitable alternative location" (Policy MQ02). Although sites outside the Local Plan area have also be

considered, Fort Benghajsa and the land occupied by Kalaxlokk Co. has now been tentatively identified as an alternative location for the LPG Plant, as well as for any other depot with safety requirements. "This area is also a significant distance, just under 1 km, from the nearest concentration of houses" (Policy MV03).

It is also stated in the Marsaxlokk Local Plan (Policy MQ03) that once the LPG Plant is removed from Qajjenza, industrial use of the site would not be acceptable. The Enemalta Corporation's 1996 annual report states that "capital expenditure was curtailed on account of the eventual transfer of the LPG Bottling Plant to a new site".

One issue of immediate concern is that gas distributors park their vehicles overnight in the streets. Such vehicles, which are loaded with gas, represent an accident hazard. Local Councils are of the opinion that in the interests of safety, immediate arrangements should be made for them to be parked within the confines of the Plant.

4.5.1.4 The Enemalta 31st March Petroleum Depot

The 31st March Petroleum Installation acts as the main supplier of petroleum products intended for the local market. The main problem of the petroleum depot lies in its central position amidst residential areas. It occupies a large site in a central part of Birzebbuga abutting on the seafront, and is surrounded on other sides by housing. The Marsaxlokk Local Plan (Policy MB02) comments that "Although good reasons existed in the past for its choice of location, the Depot has now become an anachronism and a hazard in a built-up area. Its relocation is regarded as inevitable by the Planning Authority". Possible alternative sites for relocation of the Depot include Fort Benghajsa and the site presently occupied by Kalaxlokk just outside the Freeport, or any other suitable site outside the local plan area.

Within the framework of the same Plan (Policy MB02), the Planning Authority is pledged "to seek the long term relocation of the 31st March Petroleum Depot, including the dismantling and removal of tanks, structures and the jetty; and the treatment of any oil contaminated areas, remaining on site". For this purpose, apart from cooperation between the Planning Authority and Enemalta in the identification of a suitable alternative site, "no development permissions will be granted for any extension or intensification of use of the Depot, (unless this is related to maintenance work or safety)" (Policy MB02).

Local Councils also complained that in the Depot, there is a culvert through which tank material is discharged straight into the sea, causing pollution, and that this matter should be remedied immediately. Complaints were also raised that Enemalta were not using booms when unloading oil, and that there was no cap on the filler pipe.

There is no doubt that, because of its location, the Depot presents a considerable hazard to residents in its vicinity, and its relocation should be considered as a short term necessity, rather than a long term one.

4.5.1.5 The St. Lucian Oil Co. Depot

The St. Lucian Oil Co. Depot is close to existing housing (less than 1 km distance) and emissions are reported to be causing a nuisance, apart from a potential health hazard. Fuel storage tanks were erected after the adjacent area was already built up and had become residential. Oil is also reported to seep to the coastline.

According to the Marsaxlokk Local Plan (Policy ML05), "development permission will not be given for extension or intensification of use". Also according to this Plan, (Policy ML05) "relocation of the Plant to a more suitable location is an appropriate long term goal to adopt, although clearly impractical in the short term". Freeport officials, when interviewed by Planning Council Officials, have also recognised that this oil tanking facility should find an alternative site; and that replacement tanks should be sited on such alternative site. Fort Benghajsa has been indicated as such in line with overall considerations that oil/gas storage tanks should be concentrated and transferred there.

4.5.1.6 Industrial Estates

The Hal-Far Industrial estate is now the principal industrial development area in Malta, having most scope for further expansion. In the Marsaxlokk Local Plan, it is confirmed as a principal strategic and local industrial development zone, with priority "given to the efficient use of the site by industry on a phased basis" (Policy MH01). In the same Plan (Policy MH06), the Planning Authority, "in granting permission for the development of sites in this area, will require steps to be taken to minimise the effects of any industry located here, including treatment of emissions, sound reduction and screening...conditions requiring the exercise of stringent operational control to minimise disturbance to nearby firms or other uses will be imposed... Where a particular process may, in the opinion of the Planning Authority, have a negative effect on other land uses in the area, provision must be made to ensure that any environmental impact will be minimised" (Policy MH07).

According to the Marsaxlokk Local Plan, "the greater part of Hal Far is designated for General Industry assuming Neighbour Compatibility. Any industry likely to cause problems to neighbouring units by reason of noise, smell, vibration or emissions, or because of the nature of process carried out, will not be permitted" (Policy MH08). Environmental improvement, covering access roads, strategic planting and boundary treatment, is also planned. An area of land north of the Fire School is allocated for light Industry as defined in the Development Planning Order 1994 Class 11(c). Ancillary Facilities to provide services for the Estate are also being developed (Policy MH13).

The Ricasoli Industrial Estate is based on heavy, chemical industry. Unfortunately, 50m away from a leaded paint industry, there is a fish processing plant. Moreover, the industrial estate is near residential area. There is evidence that heavy industries will be transferred to Hal Far Industrial Estate. The Xghajra Local Council is requesting that heavy industries be removed from this Estate, which should not be further enlarged, that no garage industries be housed therein, that a boundary wall, together with a buffer zone, be set up around the Estate, that the foreshore contained in the Estate's zone be cleaned, maintained and upgraded according to the recommendations of the Grand Harbour Local Plan (Policy GK20), and that a small to medium-sized wastewater treatment plant be constructed.

Complaints were received from Xghajra Local Council that the Malta Film facilities were using considerable amounts of anti-fouling agent to improve the aspect of the sea in their tanks. This was being discharged out to sea, causing discoloration.

Under the terms of the *Grand Harbour Local Plan*, the Planning Authority "will support measures to ensure that the Ricasoli Industrial Estate is utilised more intensively to avoid the need for further substantial expansion for example by a

reduction in the area utilised for roads and parking ... No provision for General (Heavy) Industry is made on this Industrial Estate due to the nearness of Xghajra. Such industries will be expected to be located in other areas as provided for in other *Local Plans* and in the *Structure Plan* ... sites do not appear to be used intensively [at Ricasoli Industrial Estate], and scope exists for increasing the density of development. The eventual opening of the South Harbour Link Road will further underline the estate's importance" (Policy GK20).

The Bulebel and Corradino Industrial estates are located just outside the area covered by the Regional Plan, but near enough to affect various localities within the Region, depending on wind direction. In fact, complaints were received from a number of Local Councils that emissions from these Estates were both causing a nuisance and creating a potential health hazard. Both Estates contain a mixture of industries.

4.5.1.7 Power Stations

The south region of Malta is affected by both the Marsa and Delimara Power Stations. The latter is located in the area itself. Emissions from the former affect the Three Cities and have also been reported to affect Zabbar and Fgura. Oil fuel from the Power Stations is rich in sulphur, and hence emissions are sulphur-rich (SOx). There is therefore the possible formation of acid rain.

Almost all forms of energy production potentially affect human health in an adverse manner. The health effects are seen at different points in energy production; for instance, at the extraction of energy, the transmission of energy to uses and the emission of pollutants and the disposal of wastes and residues. Fossil fuels are the largest source of atmospheric pollution and the growth in pollution has paralleled the growth of modern industry, power plants and the expansion of road transport. Complete combustion of fossil fuels produces carbon dioxide and water, but incomplete combustion produces fine particulate matter of carbon and complex hydrocarbons and a range of partially oxidised organic compounds. All fossil fuels have impurities which contribute substantially to emission of pollutants; a prime example is organic or inorganic sulphur. Removal at source of sulphur is practicable for natural gas and the lighter fractions of oil, thus combustion of coal and heavier fractions of oil produces sulphur dioxide. Other inorganic impurities present are heavy metals, such as mercury which is emitted in the vapour phase. The high particulate matter of smokestack emissions was the main complaint regarding the power stations, from all local councils consulted.

In 1995, ten years of coal (anthracite) burning were terminated; instead boilers were converted to heavy oil burning. According to the *Enemalta Corporation Annual Reports* (1995 and 1996), the main reason behind this conversion is that the "use of coal in a populated area was objectionable. In addition, disposal of the fly ash...posed a problem..." The main fuel consumed at both power stations is heavy oil (*Enemalta Corporation Annual Report*, 1995). Practically, all petroleum products are purchased from the National Oil Corporation of Libya and all the crude oil is processed at the Agip Petrol Refinery in Sicily (*Enemalta Corporation Annual Report*, 1995). Although a new water-in-oil technology is being installed to improve fuel consumption efficiency and to reduce emissions (*Enemalta Corporation Annual Report*, 1996), it is feared that the heavy fractions received by Enemalta Corporation is highly sulphur-rich, defeating the purpose of the coal conversion. Thus, the objectionable sulphur dioxide emissions and high particulate matter still occur.

Sulphur dioxide in combination with particulate matter, have been associated with increased mortality, particularly cardio-respiratory disease. At lower levels, increased frequencies of respiratory symptoms have been reported.

Under existing policies, as described in the *Marsaxlokk Local Plan* (Policy MD06), "no measures to expand the Delimara Power Station, or other related works requiring a development permit, will be agreed by the Planning Authority unless it is persuaded that Enemalta will take adequate measures to deal with existing and proposed cooling effluent and smokestack emissions to E.C. standards, such measures to be subject to independent scientific verification, at Enemalta's expense".

4.5.1.8 The Ricasoli Tank Cleaning Installation

The Ricasoli Tank Cleaning Installation in Kalkara, apart from causing noise pollution, produces a regular smell of ammonia fumes. The Local Council in question stresses that methodology in use should be updated. According to the *Grand Harbour Local Plan* (Policy GK19), the Planning Authority "supports the relocation of the Tank Cleaning Facility, ... and permission will not be given for any development operation requiring the Authority's consent which results in an intensification or expansion of use of the depot, with the exception of measures designed to improve safety and security. Prior to any development occurring at Fort Ricasoli, ... an independent safety study carried out by an independent, competent organisation will be required. This must indicate possible risks and the measures necessary to reduce them, and comment upon the advisability of the project proceeding".

Within the framework of general development policy under the *Grand Harbour Local Plan* (Policies GK19 and GE07), the Planning Authority has stated that it will support measures to reduce the impact of the Ricasoli Tank Cleaning Installation, and that in the long term, the removal of this installation will be pursued.

4.5.1.9 The Sant' Antnin Sewage Treatment Plant

The Sant' Antnin Sewage Treatment Plant is located in a valley just outside Marsascala, and has been operational for more than a decade. It currently treats approximately 12% of the total volume of sewage produced up to the tertiary stage, the treated effluent being used for irrigation of agricultural land in the general area. There have been no air pollution problems connected with the Sewage Treatment Plant, and complaints regarding odours have been far less than those regarding the Solid Waste Recycling Plant which was later erected adjacent to it. The Plant is currently being upgraded, and will shortly be able to work at full capacity.

4.5.1.10 The Sant' Antnin Solid Waste Recycling Plant

This Plant was built on a site adjoining the Sewage Treatment Plant. It is currently recycling about 10 to 15% of household waste into compost, which is sold for use in agriculture and horticulture. The technique used for composting is open windrows, and the smell emanating from the Plant has been a source of concern to residents of Marsascala for a number of years, particularly to those in adjoining residential areas which were already in existence when the Plant was erected. Depending on wind direction, odour effects are also felt in Zabbar, Zejtun and Fgura.

The rehabilitation of Sant' Antnin Solid Waste Recycling Plant, both for removal or minimisation of the odour problem, and for increasing the efficiency of the Plant itself, has been one of the main concerns of the Ministry of Foreign Affairs and the Environment since end of 1996, both specifically and within the general framework of a national waste management policy, the final draft of which is currently being discussed by Cabinet. A team of experts from the Consultative and Advisory Board on Environment (CABE) and the Environment Protection Department (EPD) visited a number of overseas solid waste composting plants in Europe during the second week of July 1997, and the relevant report is currently under official consideration by Cabinet. Among other things, it was found that composting techniques which cause no offensive odours exist and are in current use abroad, It is therefore expected that, in the near future, a solution to the Sant' Antnin problem which will ensure that odours emanating from the Plant will be eliminated or, at the very least, minimised to the extent of not constituting a nuisance, will have been found, and the relative implementation measures taken.

4.5.1.11 Scrapyards

There are a number of scrapyards within the region, mainly in Birzebbuga (Wied Zemba), Kalkara, Ricasoli, Zabbar and Zejtun. On the whole, these cause no air pollution problems.

4.5.1.12 Small and medium-sized industries

There are a large number of small to medium-sized industries within the area, some of which cause air pollution problems. The steel cutting activity of the Hompesch Metal Steel Co. in Zabbar/Fgura (near the windmill) produces high particulate matter which affects both the Fgura and Zejtun areas. Quarrying activity in Zejtun also produces high levels of particulate matter in the atmosphere.

Both the Marsaxlokk and Grand Harbour Local Plans propose specific site allocations for "s.m.e. workshops causing problems in residential areas" or "larger or expanding garage industries" in industrial estates, namely Hal Far, Corradino and Ricasoli Industrial Estates (Policies GB14, GG22, Gk21 and MB21). Moreover, Policy MH06 comments that "garage industries (class II of the Draft General Development Order) are accepted in residential areas where they do not, or are unlikely to cause 'bad neighbour' problems or detract from the general amenity of the area". It is similarly admitted that "expansion may provide difficulties, and that Hal Far may provide an alternative site " (Policy MH06).

4.5.1.13 Vehicular traffic

Vehicular emissions have a significant weight on exposure because air pollution tends to concentrate close to the ground. The primary pollutants are carbon dioxide, nitrogen oxides, ozone and photochemical smog given the right weather conditions, and lead from leaded petrol. The main exposure pathways of air pollution is through direct inhalation affecting the respiratory and cardiovascular systems and indirect exposure through contaminated food and water and contact with skin. Airborne lead poses a major contributor to ill health world-wide and is one of the most serious long-term environmental problems in urban communities.

Practically all Local Councils pointed out air pollution and related problems relating to emissions from vehicles. In Kalkara, Senglea and Vittoriosa, the predominantly hilly nature of the localities causes most vehicles to run on low gear when climbing, which accentuates exhaust problems. There could also be a problem with pollution of food (mainly fruit and vegetables sold from open stalls), as markets are exposed to traffic fumes. In Zejtun, several heavy duty vehicles bound for other destinations have to pass through the town. This traffic problem would be alleviated by completion of the ring road, of which only a small section is completed. In Birzebbuga, the presence of the Freeport is causing heavy traffic to pass through the town. There is the need for a bypass road to avoid this.

The Sunday market in Marsaxlokk is causing various problems. It has been estimated that 30,000 cars come to the locality in connection with this market, causing air pollution from exhausts, and creating a severe nuisance through parking in every available space. Apart from this, the waste material left all over the place is creating both an eyesore and a health hazard, and the Local Council does not have enough personnel to cope with it. Marsascala has a similar problem over the weekends, especially in summer. The village has over 100 bars, restaurants, discos, pubs and miscellaneous food outlets. Vehicular traffic leading to air pollution and congestion prevails in the evenings, with a resultant litter problem.

4.5.1.14 Health effects of air pollution

It is difficult to assess the degree to which human health in the various localities is being impaired by air pollution because direct epidemiological evidence of adverse health effects is completely absent. Practically no data are available on local long term air pollution levels, which makes it impossible to achieve any correlation between air quality and respiratory diseases. Thus, their correlation with the incidence of cardio-respiratory diseases in the incidence of heart and lung disease in the various communities. The Local Councils of Kalkara and Vittoriosa stated that there is a relatively high incidence of cancer and asthma among residents of both localities. At a more general level, it was stated that this high incidence of asthma and cancer is prevalent throughout the Cottonera area. It was also stated by Local Councils that Marsascala has the highest incidence of breast cancer and a high incidence of respiratory tract diseases, and Zabbar has high incidences of tuberculosis and asthma. Fgura was stated by the Local Council to have the second highest incidence of asthma.

The only scientific report available on asthma and other allergic conditions in childhood in the Maltese Islands showed that there was a fairly high prevalence of wheezing and rhinitis among children in most of the localities covered by the Plan as compared to the rest of Malta and Gozo, but the overall results of the study did not indicate that this a general phenomenon.

Air pollution is a common consequence of industrial activity with physical or chemical agents. In their 1992 report, the Panel on Industry of the WHO Commission on Health and Environment stressed that in various parts of the world, studies of communities with significant air pollution from industrial activities compared with control areas have shown many diverse health effects, primarily increased mortality and morbidity due to respiratory tract problems, but also such effects as adverse reproductive outcomes and impaired blood macrophage function.

As stated by the same Panel, the extent to which air pollutants emitted by industry pose a risk to the general population depends on a number of factors, which include:

1. The hazard of the compound that is released or the hazard of the derivatives that may be formed through chemical processes occurring within the air, and the stability and persistence of the agent within the environment;

2. The amount released, and the height at which it is released, that is, tall chimneys tend to protect local people, but disperse the pollutant over a wider area;

3. The atmospheric conditions leading to the dilution and dispersal of the pollutant, including worst case inversion conditions and local geographical considerations;

4. The number of people downwind, and their distance from the source;

5. The activities and location of the general population in relation to the time of release, for example, whether children taking exercise are present, or the extent to which the pollutant is capable of penetrating indoors;

6. The presence of particularly susceptible individuals in the exposed groups; and

7. The extent of the biomagnification of persistent pollutants within the food chain.

There is voluminous literature both on the emission of air pollutants from specific industries, and on the adverse health effects associated with each. The concentration of industries in and adjacent to the south region of Malta, and the comparative lack of data on, and control of, emissions to the atmosphere in this region makes it very important to determine all the relevant parameters, with the aim of finding out whether there is an unacceptable air pollution problem or not. Although, by and large, industries in Malta are relatively small, emissions from those in and around the southern region may be sufficient to affect populations in various localities. It is also likely that some, if not all, localities may be affected by more than one pollutant, so possible synergistic effects should also be considered. From indirect evidence (as opposed to scientific data) available, it would appear that a problem does exist, but its degree is still unknown. A comprehensive air pollution survey, including the collection of data on industrial processes, and a monitoring programme to collect data on pollution levels both at source and in potentially affected areas, is required. In addition, morbidity data classified according to geographical distribution on diseases normally associated with, or attributable to, air pollution could be compiled as a first step, while arrangements for the survey and air quality monitoring programme are made. These exercises should form part of a proper epidemiological study correlating air quality with observed adverse health effects on exposed population groups.

When considering epidemiological studies of this nature, it should be noted that :

1. The levels of health and disease in a population of any particular locality or region are influenced by a large number of determinants that fall into four main groups : genetics, lifestyle, environment and health

services. The contribution made by each of these domains depends on the health condition under study. It is a common fallacy to attribute differences in health to differences in physical environment in the absence of a scientific proof of a cause-effect relationship. An example of such a typical mistake is attributing different levels of lung cancer to air pollution for a smoker; the former is a minor determinant while the latter is a major one. There are multivariate statistical analytical techniques that allow the relative contribution of the different determinants to be objectively assessed. The most basic determinant of difference in the health levels is the age composition of the population. Most non-communicable diseases are age-related, thus morbidity data should be age-standardised. Thus, the comparison of statistics is meaningless for the purpose of epidemiological comparison. If one were to correlate hospital admissions of respiratory ill-health consequence in relation to air pollutant levels in Malta, a time series study is the best study design. A specific methodological procedure to control confounding factors may be used; this procedure includes modelling of all potential confounding factors together with the best available air pollution models. Interactions between pollution levels and co-variants of age, sex, type and place of occupation, and smoking should be studied. Only then can one relate the number of hospital admissions with respect to pollution levels at predetermined monitoring sites.

2. Air pollution is unique in that it is not a localised phenomenon but is easily dispersed; thus exposure cannot be avoided and it is nearly impossible to identify unexposed control groups for an epidemiological study. Moreover, humans tend to convey from one place to another so that exposure patterns may be quite different for different groups of people. Exposure also depends on the amount of time spent outdoors, which in turn depends on the local meteorological conditions that affect dispersion of pollutants.

3. The adverse health effects range from those caused by relatively high exposures of small populations to those of the general public under, usually, lower levels of exposure. On a global basis, few definitive exposure-response relationships have been established (WHO, 1992). Acute effects from short term exposure have been easier to define than chronic effects. Area profiles are meant to provide descriptive data on the relations between acute and chronic poisoning and environmental data. Such profiles would need to be developed in a considerable range of different areas to represent different levels of industrial and urban development and energy use. These profiles should include information on :

    a. demographic characteristics of the population,

    b. leading causes of mortality and morbidity as well as data on birth rates, perinatal mortality, congenital anomalies and miscarriages,

    c. industrial, agricultural, energy-use and geographical characteristics,

    d. levels of chemicals in the environment, their industrial origin and the corresponding human exposure,

e. long-term surveillance of industrial poisoning incidents, and

f. case studies of illness caused by environmental and industrial contamination.

4. Data from local populations may not be statistically valid due to the small size of the samples concerned.

It is also important to set air quality standards, and ensure that these are enforced, as early as possible. There are a number of EU Directives on this, as well as the WHO Air Quality Guidelines. It would not be relevant to quote these in detail here, but they could form the basis for interim standards which would be applied until the local situation is known well enough to enable the establishment of more permanent ones. This knowledge would be acquired from the results of the epidemiological studies referred to above. Any standards set would, of course, apply to the whole of Malta and Gozo, not merely to the south region of Malta, but this region would certainly be the one to benefit most.

4.5.1.15 Existing Legislation On Air Pollution In Malta

The main law on air pollution is the *Clean Air Act* (1967) which regulates emissions of dark smoke from chimneys. Emissions from chimneys may not last for more than a time specified in the *Dark Smoke (Permitted Periods) Regulation* (1969). A Clean Air Board was set up to keep under review the progress made in abating the air pollution in Malta, and to obtain advice on preventing air pollution. At present, there are no regulations to control emissions of various gases. The Clean Air Board was recently reconstituted by the Ministry of Health, and has started work on the preparation of new Clean Air legislation. Discussions are currently in progress as to whether such legislation should be in the form of a separate Act or incorporated into a new version of the 1991 *Environment Protection Act*.

4.5.1.16 General Policies related to air pollution from industry

There are a number of general policies in the *Marsaxlokk Local Plan* which touch on a number of environmental aspects, including air pollution. These policies, which should be applied immediately, include the following :

MS01 : Limits to Development : Priority 1: "Sites which, because of external factors, experience conditions detrimental to residential amenity should not be chosen (e.g. air pollution, noise, danger-quarry edge)";

MS05 : Action Areas : "(iv) Development permission will not be granted to intensify or extend existing non-residential uses which are causing environmental or amenity problems, or which would prejudice positive redevelopment proposals. The Planning Authority is prepared to advise on the relocation of such sites"; and

MP01 : Industrial Expansion : " Further industrial development of the (Marsaxlokk) Port itself, and the areas around it, will not be granted development permission beyond what is committed and the specific provision made in the area policies. Industrial development will therefore be limited to Delimara Peninsula on the Power Station site, and in the Freeport area".

4.5.2 Noise Pollution

The Environmental Health Working Committee considered any problems reported regarding noise pollution, including those originating from both industries and motor vehicles.

The industrial establishments identified to cause noise pollution are :

1. Malta Drydocks and Malta Shipbuilding,
2. The Rinella Tank Cleaning Plant,
3. The Freeport, and
4. Malta International Airport.

Noise appears to be endemic in urban conditions. The sources of noise vary from place to place and involve aircraft, road traffic, building construction, entertainment and activities of neighbours. The main effects of noise are hearing loss, sleep disturbance, impaired mental performance, aggression and anxiety. Although hearing loss is often associated with occupational exposure, continued or repeated exposure can cause irreversible hearing loss even for residents. Night-time noise is a major disturbance to sleep above an indoor level of about 40 dB, especially for older people and in the early hours of the morning. While sleep may not always be affected, it has an adverse effect on daytime performance, especially on elderly people.

One of the major complaints is from Birzebbuga, which is directly in line with the flight path of aircraft using the main runway when landing from and/or taking off towards the south-east. The noise is particularly disturbing at night, and the Birzebbuga Local Council feel that, as is the case with a number of other airports, Malta International Airport should be closed during the night. The *Birzebbuga Business Plan* (1996-1998) proposes a reduction in noise levels by aircraft taking off or landing at night. This is carried out in some airports abroad, but is not preferred by pilots as it involves a reduction in power, and could lead to accidents. The *Birzebbuga Malta Labour Party (MLP) Report* suggests that Malta should adopt a system of silent hours where the airport should not operate, since it is during take-off and landing that noise generation is at its maximum due to the aircraft's vicinity to land. It recommends that visual landing should be adopted at Malta International Airport as soon as possible.

In the same locality, there is also noise pollution from the Freeport, caused by the impact of containers on trucks and by the siren when cranes are moved, as well as from construction works at Terminal II of the Freeport, which allows ships to call sailors in by means of an air horn, even in the middle of the night. Marsaxlokk residents complain about noise pollution from the Freeport, and from the gas turbines of Phase II of the Delimara Power Station.

The *Marsaxlokk Local Plan* states (Policy MB12) that "The Planning Authority will encourage [the Malta] Freeport [Corporation] to take action to reduce noise generation at source. If it can be demonstrated that this is not possible, then [the] Freeport will be expected to provide finance to assist in the implementation of projects of benefit to the communities most directly affected by the noise". While it is true that The Freeport Corporation has already spent about LM 60,000 to upgrade the Birzebbuga promenade as compensation money, more thorough noise abatement programmes should be carried out, given the vicinity of the Corporation to residential area.

The Drydocks area, including the Ricasoli Tank Cleaning Installation, is also a source of noise all over the Cottonera area. If part of this area were to be converted into a yacht marina, as proposed, this could become a new source of noise (Malta Maritime Authority, July 1996).

A more decentralised source of noise pollution is vehicles, especially in urban, narrow streets such as occurs in the Cottonera area. Concern regarding noise pollution from vehicles was expressed by nearly every Local Council in the Region. Another frequent source of noise are the multiplicity of small scale industries such as panel beating; these are often scattered throughout the town to give rise to particularly high levels of noise. This was expressed in a recent report on Fgura (Mintoff, Report for Fgura Local Council refers) where residents complained that noise pollution occurs 24 hours a day, especially from garages with or without permission.

4.5.3 Marine Pollution

The Environmental Health Working Committee considered pollution of the sea by sewage, run-off and/or dumping, together with recorded or observed effects on human activities, mainly bathing and fishing, in appropriate localities.

Of the eight coastal localities in the area covered by the Regional Plan, four (Cospicua. Kalkara, Senglea and Vittoriosa) are located within the Grand Harbour complex. Bathing in these areas is therefore not allowed, although it is practised, particularly in Kalkara. The other four localities are variously affected by pollution, Xghajra is located near to the main sewage outfall at Wied GHammieq, Marsascala is situated near enough to the outfall to be also affected, although to a lesser extent, while Birzebbuga and Marsaxlokk are affected by a number of industrial establishments, including the Freeport and the Delimara Power Station.

4.5.3.1 Sewage Overflows and leakage

Households in all coastal areas in Malta are connected to the sewerage system and the total production of sewage has been estimated (Ministry for Development of Infrastructure, Malta, 1988) as 51,800 cubic metres per day in Malta and 3,800 cubic metres per day in Gozo. Approximately 60 kilometres of galleries dug in the rock act as substitutes for pipes along some stretches of the system. Improperly laid sewer pipes, including faulty joints of house connections, unlined manhole walls and galleries result in the exfiltration of sewage and its seepage into basements of buildings, and in potential pollution of underground water. It also results in the infiltration of seawater in low-lying sewers along the coast. This contributes to coastal pollution by sewage and increased sewage salinity levels, as well as to overburdening of sewers and pumping stations.

The sewerage system is designed on the separate system, that is, sewage and storm water pass along different paths. However, illicit connections to surface run-off are very common, and result in overloading of sewers and consequent overflowing during rainy spells. This problem, as well as the overloading of certain trunk mains by the connection of more habitations than originally planned, have been considered difficult to solve. Also, certain stretches of the sewerage system are considered difficult to repair and maintain. In addition, proper surface water drainage is lacking in Malta. The rainwater infiltrates into the drainage network, which was not designed to cope with the extra flow. During recent years, a

comprehensive sewerage upgrading exercise has been in progress.

There are three main sea outfalls, two in Malta and one in Gozo. In Malta, the larger one, located at Wied GHammieq, south of the Grand Harbour, discharges all the sewage from the central and southern regions out to sea through a 700-metre submarine outfall structure at 11 metres depth with multiple diffusers. The sewage is discharged untreated, but the prevailing oceanographic conditions at the site are such as to prevent pollution of all but the immediate coastal areas. There are two smaller outfalls located at Ic-Cumnija, near Anchor Bay, in the North of Malta, and in Gozo, situated at Ras il-Hobz. The mean Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) loads at Wied GHammieq are estimated at 10250.6 and 16029.9 tons per year respectively, as compared with 2412.54 and 3599.58 for Ic-Cumnija, and 1273.21 and 3318.81 for Ras il-Hobz. The bulk of the sewage of the Maltese Islands is therefore discharged into the sea off the coast of the south region.

There are two potential sources of pollution of coastal recreational waters by sewage, both of which are intermittent and irregular in nature. Under certain oceanographic conditions, polluted seawater from the vicinity of any of the outfalls may spread along the coastline to varying extents. This, however, is considered the lesser problem. The main source is leakage of sewage into the sea from overflows in the sewerage system at various points along the inhabited part of the coastline. In both cases, the situation is only of a temporary nature, as the former type of pollution is caused by freak oceanographic conditions which soon return to normal, while the latter type can be remedied by appropriate remedial action at the relevant sewerage point. In the latter case, however, when sewage leaks occur in narrow bays, where water circulation is comparatively slower, dilution and dispersion takes a longer time than in the case of pollution of open coastlines.

Overflows of drainage into the Grand Harbour are common throughout the Cottonera area. The sewerage system at the Cottonera area dates back to the 1920s. The effects are especially felt at Senglea waterfront (Ix-xatt ta' l-Isla) and Marina Gate, where direct leakage form drainage occurs. Raw sewage outflows also occur into the Senglea waterpolo pitch. It was also reported by Local Councils that sludge from the Ricasoli Tank Cleaning Installation is being disposed of on the rocks, from where it eventually goes into the sea.

Xghajra is particularly prone to marine pollution by sewage because of the location of the main sewage outfall at Wied GHammieq, where sewage enters the sea through a submarine outfall structure 700 metres in length. There have been regular problems with this structure, and a lot of raw sewage ends up in Xghajra Bay. It was also stated by Local Councils that remote sensing experiments have indicated that traces of mercury exist in the sewage. This should be further investigated. The situation at Xghajra is further aggravated by the fact that a number of pig farms are situated in the vicinity, and some of the manure, following emptying of the cesspits, is discharged by bowsers straight into the sea, instead of into the sewerage network, which is the normal practice. In Marsaxlokk Bay, spillage of raw sewage from overflow points occurs regularly. In Birzebbuga, there is direct disposal of human excreta from the service vessels to the sea.

A number of diseases have been associated with bathing in polluted waters. Such diseases have been reported to include bacterial diseases such as salmonellosis (typhoid and paratyphoid fever), shigellosis (bacillary dysentery), cholera, viral diseases such as infectious hepatitis, illnesses caused by a number of

enteroviruses, gastro-enteritis caused by a number of bacteria and viruses, and diseases caused by a variety of animal parasites, such as amoebic dysentery. In addition, a number of diseases and disorders affecting the ear, eye, skin, upper respiratory tract and vagina have been associated with bathing.

With the exception of those associated with pathogens having a relatively low infective dose, diseases affecting the gastrointestinal tract are much more easily contracted by man through the consumption of raw or partially cooked food, particularly shellfish. A number of epidemics and outbreaks of various diseases attributed to the consumption of contaminated shellfish have occurred in various parts of the world, and the number of individual cases, particularly of the less insidious diseases, is very high. In those regions of the world where conditions favour the proliferation of certain species of algae (resulting in "red tides" or "algal blooms") which produce toxins, shellfish become contaminated by these algae and on ingestion by man, the toxins cause a number of diseases, mainly Paralytic shellfish poisoning (PSP) and Diarrhoetic shellfish poisoning (DSP). To date, no epidemics resulting from consumption of contaminated shellfish have been recorded in Malta.

Sea water from the major bathing beaches in Malta and Gozo is monitored for microbiological quality by the Department of Public Health every week between May and October. Results over the last five years (1992-1998) show that the water in Xghajra is generally unfit for bathing, that in Marsascala variable, part of the pollution resulting from leakage occurring during upgrading of the sewerage system, while water in Birzebbuga, Marsaxlokk, St George's bay and St Thomas Bay has been generally acceptable. The relative ratings between 1992 and 1996 are shown in Table III.4.1. There are no data available on the correlation between the microbiological quality of local seawater and health effects on bathers and swimmers. Data on the former are mainly limited to recorded concentrations of faecal coliforms, the most commonly-used bacterial indicator organism, in the various localities throughout the summer months. Apart from this main programme, conducted by the Department of Public health, there is another, smaller, programme carried out by the Environmental Protection Department, in which seawater from a few selected localities is monitored monthly throughout the year for a number of microbiological and related parameters. Unfortunately, none of the beaches monitored as part of this programme is located in the south region of Malta, so the situation there is still comparatively unknown. Similarly, although there are increases in the incidence of both gastrointestinal and non-gastrointestinal diseases in Malta and Gozo as a whole during the summer months, there is no indication as to what proportion of the former can be attributed to the ingestion of polluted seawater. In the case of the latter, contact with polluted seawater probably contributes to the incidence of diseases of the eye, ear, skin and upper respiratory tract, but as no records are kept (as these are not classified as infectious diseases), no indication is available either on the degree of incidence, or on what proportion could be due to exposure to polluted seawater. This applies to the whole of Malta and Gozo, not only to the south region of Malta.

It should be borne in mind that the criteria and standards for bathing water quality used by the Department of Public Health and the Environment Protection Department are based on the interim criteria adopted by Mediterranean States in their capacity of Contracting Parties to the 1976 *Barcelona Convention on the Protection of the Mediterranean Sea against Pollution* and its related protocols in 1985. These criteria are based on only one bacterial indicator organism, and represent a political compromise which falls short of the recommendations of WHO

and UNEP. If evaluated according to these standards, or by EU standards, no beach in the area would be acceptable for bathing. In this context, it should be noted that this situation is not restricted to the south region of Malta, but applies to practically all beaches in Malta and Gozo.

The *Grand Harbour Local Plan* Policy GK22 under the heading of Public Utilities Provision states that "The general area of Wied GHammieq is identified in the *Structure Plan* under Policy PUT11 as the site for a sewage treatment plant. Possible locations were identified in the Sewerage Master Plan produced by the Drainage Department ... the site most suited from a local planning perspective is the one on the existing industrial estate".

4.5.3.2 Industrial Effluents

The main industrial establishments identified as causing marine pollution in the south region of Malta are :

1. Malta Drydocks and Malta Shipbuilding,
2. The Freeport,
3. The Delimara Power Station,
4. The St Lucian Oil Co. Depot, and
5. Has Saptan.

4.5.3.2.1 Malta Drydocks and Malta Shipbuilding

As expected, there is considerable marine pollution in the Grand Harbour Area. Normal operations by Malta Drydocks and Malta Shipbuilding contribute to this to a large extent, especially through grit-blasting, which, according to a 1994 report by Professor V. Axiak on the environmental impact of the Drydocks on the Cottonera area, produces approximately 10,000 to 14,000 tonnes of copper and nickel grit per year. According to the same report, other chemicals discharged into Grand Harbour include large amounts of tributyltin (TBT) and a variety of metals, all of which are harmful to marine life. Moreover, visiting tankers and ships pump bleached water directly into the Harbour waters. Unfortunately, absolutely no data on the biochemical oxygen demand, pH, salinity, dissolved oxygen, trace metals; the latter especially in view of the grit-blasting process, and macronutrients could be traced. Although the main polluter is the Drydocks, several other sources, which have still to be identified, are also present.

Dockyard Creek and Kalkara Creek have been identified as two sites (out of four) offering the best prospects for a major marina and merit further investigation. These are the only sites in the South of Malta; the other two sites being Xemxija and Lazaretto Creek in Marsamxett Harbour. The presence of such marinas, even under good management, would contribute to further pollution of the Grand Harbour area. However, as is the case with other harbours overseas, bathing is prohibited in Grand Harbour.

4.5.3.2.2 The Freeport

The activities of the Freeport capable of giving rise to air pollution (section 4.5.1.2 above refers) are also conducive to marine pollution, both from the point of view of routine operations, and from that of accident risks. The Freeport has a containment

area so that if an oil spill occurs, a boom will prevent exit into the open sea to contain the spill in the Marsaxlokk Bay.

4.5.3.2.3 The Delimara Power Station

In the *Marsaxlokk Local Plan* (Policy MD06), it is stated that effluents from the Delimara Power Station "discharged into Il-Hofra z-Zghira have increased the ambient temperature of the water. It has also been suggested that the chemical composition of the effluent has caused changes in the marine ecology. Any increase in effluent can be expected to magnify such results unless firm, effective measures are introduced. This is particularly important because of the marine conservation interest near the discharge pipe, and use of the general area for bathing". According to the *Marsaxlokk Business Plan* (1996-1999), the Malta Freeport, effluents from Delimara Power Station and drainage outflows from Il-Maghluq (Marsaxlokk) and Il-Qajjenza (Birzebbuga) are causing marine pollution. In Birzebbuga, there is direct disposal of human excreta from the service vessels to the sea.

From the general viewpoint, Marsaxlokk Bay and its environs are suffering from marine pollution from the various industrial sources discharging into it, as well as from the sewerage system, which is regularly blocked, and overflows into the sea. Marine life in the Bay is stated to have practically disappeared, while fishermen complain that very few fish can now be caught from inshore areas in and near the Bay. The sandy beach has also disappeared.

4.5.3.2.4 The St Lucian Oil Company Depot

Apart from the air pollution problems this installation is creating (section 4.5.1.5 above refers), it can also be considered a major source of marine pollution. The main concern of the Local Councils is the potential threat of oil seeping to the coastline and wreaking havoc on the entire coastal ecosystem.

4.5.3.2.5 Has Saptan

More tankers are expected to make use of the Marsaxlokk "dolphin" to discharge and load products. During 1995, more than 500,000 metric tonnes of fuel were stored at Has Saptan excluding Enemalta's own products, and more than 150,000 tonnes in 1996. The installation is undergoing a general maintenance programme (*Enemalta Corporation Annual Report*, 1995). The main concern of the Local Councils is its precarious condition considering its potential health hazard if a fuel spill occurs.

According to the *Marsaxlokk Local Plan* (Policy MP03), the Planning Authority "will encourage the use of the Freeport Terminal for the handling of cargoes for both the relocated L.P.G. and 31st March Depot; if these are relocated to the sites indicated inside the Local Plan area." The *Local Plan* continues to comment that "the LPG depot and the 31st March Installation will require new berthing and discharge points for ships bringing in gas and oil. It makes sense both economically and environmentally to use the facilities of the Freeport, so that risks of spillage can be contained...A pipeline connection will allow the Depots to be located some distance from the Freeport and still make use of the facilities."

4.5.3.2.6 Other sources of marine pollution

Some Local Councils expressed concern about the possibiiity of an oil spill at Marsaxlokk Bay, which would destroy the entire Bay. According to the *Marsaxlokk*

Business Plan (1996-1999), the Malta Freeport, effluents from Delimara Power Station and drainage overflows from Il-Maghluq (Marsaxlokk) and Il-Qajjenza (Birzebbuga) are causing marine pollution. The Xghajra Local Council pointed out that the Malta Film Facility is regularly flushing its systems with an anti-fouling agent straight into the sea. It has also been stated by the Marsascala Local Council that the location of the Plant in a valley is causing subsidence, with consequent seepage of liquid into Marsascala Bay. There is a certain amount of subsidence in parts of the Plant, particularly where the windrows and the maturing compost are located, but Government Officials responsible for the Plant have stated that there is no liquid seepage.

Effluents from the industrial estates and small to medium-sized industries end up in the municipal sewerage system regardless of the nature of the wastes. This, together with all the waste from animal farms, which is also dumped into the nearest sewage manhole, is contributing significantly to the overall pollution load entering the sea, the bulk of which is discharged from the Wied GHammieq outfall.

Regulations controlling the concentrations of pollutants in industrial effluents discharged into the municipal sewage system were passed under the powers of the 1991 *Environment Protection Act* in 1993, but are not currently being enforced due to lack of resources. As far as pollutants contained in industrial effluents are concerned, the situation is still practically unknown.

4.5.4 Terrestrial Pollution

The Environmental Health Working Committee considered pollution of any part of the terrestrial environment in each locality, caused by liquid and/or solid wastes of any origin, together with actual or potential adverse effects of such pollution on human health.

4.5.4.1 Illegal Dumping

In every locality, the main complaint concerns the large number of illegal rubbish dumps which litter both the peripheries of towns and villages and the surrounding countryside. Xghajra has been described as the dumping site of the Cottonera area, and two large illegal dumping sites - Wied Zammitellu and Wied Hal Ginwi - are covered with building and other inert waste. There are other large dumping sites in the general Plan area. The majority of dumping sites are small to medium, and a large number of abandoned building plots are also used for this purpose In Garden Road, Zabbar, (between Zabbar and Cospicua) there is an illicit dumping site. In St. Joseph Street (between Zabbar and Zejtun) there is illegal dumping with illicit incineration. The main attraction for dumping is open skips in the road and the poor condition of roads which is in dire need of surfacing. It was pointed out that road surfacing has to be organised by central government because St. Joseph Street is too wide and hence would be too expensive for the respective Local Councils to tackle.

The *ERCU Report* (Oct 1995) points out that building wastes formed 2% of the total litter in one of the survey localities covered by the Plan. In addition, contractors involved in electricity, gas and water supply works were found to be regular contributors to the waste problem, as any waste materials resulting from such works are usually left on site or gathered and then dumped in the nearest convenient place. Flytipping is largely made of inert waste, domestic refuse, commercial wastes and significant quantities of agricultural, horticultural and organic materials.

One or more of the local refuse collection services are either inappropriate to the characteristics of the local area and population or the services are being poorly implemented and managed. Open skips are the main focal points for dumping and flytipping. Skips actually create more dirt and negative visual impact. In a number of areas, the rate of use of skips exceeds the capacity of the Local Councils to empty them, and overflows are common throughout the Region.

4.5.4.2 Street Cleansing

The overall poor state of street cleansing was a general complaint of Local Councils. Most local councils agreed that the number of street cleansers per each locality is inadequate, with the consequence that some streets are cleaned only once a week. In fact, this issue was presented in some of the Local Councils' *Business Plans* for the coming financial years. In two recent reports, poor street cleansing management was one of the major complaints and a main inhibitor of upgrading the area (Mintoff, Report to Fgura Local Council and Mintoff, 1992). The *ERCU Report* (Oct 1995) found that major recreational sites were found to be intensively littered and planted and grassed areas, were heavily littered. The *ERCU Report* commented that the layout of planted and grassed areas was generally good but maintenance is practically non-existent with heavy littering.

The *ERCU Report* also points out six main obstructions for a satisfactory street cleansing and refuse collection operations :

1. concrete ramps,
2. disrupted asphalt coatings and loss of wearing surface,
3. cobbled channels,
4. shattered channels made of concrete or stone,
5. parked vehicles, and
6. public footways and carriageways occupied by businesses.

In the surveyed localities covered by this Plan, the *ERCU Report* states that the efficiency of street cleansing was rated to be poor since "the cleansing technology adopted appears to be unable to cleanse detritus from under and around adjacent structures, parked vehicles and items of street furniture, and in unfinished streets; the frequency of its use and the effectiveness of its application were not being optimised...The quality of local maintenance and management regimes played a significant role because incidence of weed growth varies greatly between localities".

Although the major source of street litter is from pedestrians and travellers, unlike in most European countries, the overall contribution of pedestrian litter to total litter, which normally is the largest source of litter, is lower than normal. The *ERCU Report* found that of the pedestrian and travellers' litter, smokers' materials were the most widely spread items; the main contribution is the little or no provision made for stubbing plates on any of the litter bins surveyed; this is followed by confectionery packaging, drinks containers and snack packets. The predominant type of drink

container is the 0.5 to 1.5 L capacity plastic drinking water bottles. Other drinks are consumed in glass bottles; few of these were found amongst the litter, presumably because of the effectiveness of the bottle deposit scheme. In the two surveyed localities covered by this Plan, the contribution pedestrian litter has to the overall

litter is, on average, 74%. This was because the proportionate contributions made to general litter from domestic refuse and commercial waste sources were considerably greater in Malta than is normally found elsewhere. In fact, domestic refuse formed 9-10% of the total litter in the surveyed areas covered by this Plan. The *ERCU Report* comments that this is very high compared to other localities where the refuse collection is more efficient. The *Report* raises concern over the practices that are being adopted for storing, placing out and collecting domestic refuse in these areas. Most householders simply place refuse out in plastic carrier bags. Very few formal waste containers were seen to be used.

The *ERCU Report* goes on by stating that in the surveyed localities covered by this Plan, between 40-60% of the litter bins were no longer functioning effectively due to a physically unsatisfactory or wholly unusable condition, whether because they had consistently no liners or because they had been damaged. A third or more of the litter bins were full or overflowing, especially near recreational areas.

Most littered areas were around social settings, such as boat slipways, promenades and sports areas. Most people were careful enough to pile litter neatly on top of and around overfull bins. Over 40% were no longer functioning effectively due to significant damage. Full /overflowing bins give rise to easy removal of litter by wind, vermin, animals or birds. The report comments that all litter bins were assessed to be poor and unless new bins of adequate design are invested in the near future, there could be a further decline in standards. Their design and construction needs to be reviewed; the capacity of the bins is inadequate and/or the maintenance regimes are not well tuned to the patterns of use.

Many Local Councils of the littoral area complained about the poor state of sandy beaches. Beach attendants are under-equipped, having to empty litter bins (mostly oil barrels) and clear litter from the beach with bare hands. This was commented upon in the *ERCU Report* and in one of the surveyed areas dog fouling was found to occur all the way along the promenade. In the surveyed localities covered by this Plan, bird and animal faeces formed, on average, 6% of the total contamination. This is the highest incidence of dog fouling in any area surveyed by the ERCU team. Most of the faeces was found to be of animal rather than bird origin, and contained mainly of dog fouling. The *Report* commented that "most of the animals appeared to be domestic pets under control of their owners. There were a high level of contamination and staining caused by animal urine in urbanised parts".

Street staining was found to be acute in the surveyed localities of the *ERCU Report* covered by this Plan. Major recreational sites were found to be extensively and prominently oil stained, especially at the bus termini, parking venues and on the promenades. This was also commented upon by the Local Councils and in one instance it was commented that spent oil from yachts/boats were often left uncollected, with the result that the spent oil is spilt over by children.

Another comment put forward by the *ERCU Report* was the poor state of tree grids. Many tree pits were found to be made of concrete which suffered from cracking and erosion. These often acted as litter traps and presented a safety hazard to pedestrians

The *ERCU Report*'s main concluding remarks on the overall environmental condition of the surveyed localities covered by this Plan was that the cleansing grade, staining, detritus, weed growth, flytipping, cleaning of channels, sweeping margin, and paved areas, grids and access covers, obstruction of channels, and planted areas and grassed areas were generally poor in overall condition. The vehicle and pedestrian traffic density were found to be good, while vandalism /damage was satisfactory, so that it is evident that the main culprit for the unsatisfactory overall environmental condition was mainly due to poor cleansing management and poor operations of street cleansing. The *ERCU Report* concluded that the overall standard of cleansing in the surveyed localities covered by this Plan is poor.

In some localities, particularly those which are summer resorts, there are seasonal problems regarding waste and litter due to the influx of summer residents. In Marsascala, the population doubles during the period July - September. The same problem, though possibly not to the same extent, prevails in Birzebbuga.

4.5.4.3 Household Wastes

The use of the standard dustbin has practically vanished, and the bulk of household refuse is deposited outside doors for collection, or deposited in skips, in a miscellany of containers, mainly plastic bags. In many cases, these are not closed properly, and are deposited in the streets in the evening, rather than in the early morning just prior to collection, with the result that a significant amount of spillage occurs.

The *ERCU Report* (Oct 1995) pointed out that in one of the surveyed localities covered by this Plan, most of the household refuse surveyed had been spilt. The *Report* states that this is largely due to placing household refuse in plastic carrier bags and boxes; this is not in compliance with the regulations set out in the '*Use of Standard Dustbin (Amendment) Order* of 1975'. In fact, the *ERCU Report* points out that only once was the domestic dustbin seen.

Skips for household waste have proved to be a mixed blessing. They provide the means for household waste to be deposited in a specific container which is designed to prevent spillage, and also protects the contents against interference by animals. On the other hand, the number of skips is still far from being sufficient. One factor associated with skips is that they must be relatively easily accessible to the householder, that is, located within easy walking distance - otherwise, they defeat their purpose, as nobody can be expected to walk long distances, especially uphill, to deposit household waste, when the container can be left outside the door for future collection. There are other problems with skips. In certain localities, particularly in the Three Cities, siting may not be easy. Nobody wants a skip right outside his or her doorstep.

In a number of areas, the rate of use of skips exceeds the capacity of the Local Councils to empty them, and overflows are common throughout the Region. In addition, in at least one locality (Fgura), skips are also used by non-residents, several of whom bring their rubbish in bags by car, and throw the bags in the general direction of the skips, with the result that the area around the skip becomes an eyesore.

The Ministry of Foreign Affairs and Environment, in conjunction with the Ministry of Public Works and Construction and the Planning Authority, have recently prepared a national Waste Management Policy which is currently under consideration by

Cabinet. On approval of this policy, a Waste Management Strategy will be prepared and implemented. In the meantime, steps taken under existing legislation for the prevention of illegal dumping of waste have not so far been successful, owing to the widespread prevalence of the problem, and the considerable manpower and related resources necessary to bring it under some form of control. The increased availability of legal dumping sites should alleviate the problem to some extent, but the problem with regard to small-scale dumping of building and related debris will remain unless strict legal steps are taken. In may cases, a number of Local Councils stated that residents had seen and identified persons dumping waste, but were afraid to report the incident or name the culprit for fear of retaliation. This does not make the problem any easier.

Apart from dumping of waste and lack of proper cleaning, other problems connected with pollution of the terrestrial environment were reported by Local Councils. In Birzebbuga, the drainage system is poorly structured, and leakage occurs regularly, with consequent health implications. In the Senglea area, there is constant rodent infestation from water culverts, the dockyard and abandoned houses, which constitute approximately 14% of the total number of houses, in Senglea. Examples of abandoned houses in a poor state of hygiene, especially due to illicit dumping of organic refuse, are St. Joseph Street corner with St. Francis Street and Sirena Street. Also in Senglea. There is contamination of rainwater runoff with drainage in Triq tax-Xatt. In Xghajra, sludge is being re-pumped into the sewerage system causing clogging and rodent infestation. In Kalkara and Vittoriosa, there is a problem with sewage overflows, which occur regularly. A number of sites in both localities are still served by cesspits, and not yet connected to the drainage network. In Senglea, water culverts and drains require maintenance - because of leaks, a mixture of sewage and rain water is evident in various places. The Senglea Local Council have also complained about a problem with rats in the locality, which is partially due to lack of disinfestation of the drainage and storm water systems.

There are a number of pig farms situated on a ridge between Xghajra and Zabbar. There are frequent overflows of liquid manure from the cesspits into which the manure is deposited, when these are not emptied at the proper stage. The topography of the area causes the overflow to move downward into Xghajra, where it causes problems. In Xghajra, there is the added problem that the drainage system is inadequate, and there are constant overflows into the village.

There is scope for improving commercial waste management practices. The *ERCU Report* (Oct 1995) comments that, frequently, commercial wastes were stored in containers, such as oil drums, that were not designed for this purpose. In other instances, wastes were seen to be escaping from industrial premises where there was evidence of a generally poor environmental management practice. Firms/contractors fail to properly dispose of wastes at approved waste disposal sites.

Practically every Local Council complained about the rodent problem. The presence of waste material scattered all over the peripheries of towns and village and the surrounding countryside, as well as in abandoned areas within the towns or villages themselves, is providing a large number of havens and breeding sites for rats and mice, as well as, in certain cases, for a variety of insect pests. This was considered by Local Councils as a serious public health problem -as an example, the Zabbar Local Council stated that that were several cases of typhus recorded by local physicians. It would appear evident that the Department of Public Health does not have enough personnel available for pest control operations.

4.5.5 Problems Arising from Agricultural Practices

The Environmental Health Working Committee considered any actual or potential health problems attributable to agricultural practice in the Region. Very little information was made available in this respect. A significant proportion of the area covered by the Regional Plan is used for agriculture, and treated wastewater from the Sant' Antnin Sewage Treatment Plant is used for irrigation in many localities in the area. The water is not piped but is distributed along open culverts. Though bacteriologically pure on leaving the Treatment Plant, the water has been found to be slightly to moderately contaminated when stored in farmers' reservoirs, which are uncovered. This is also creating a problem with mosquitoes. There are other problems of a social nature connected with the present distribution system, which have to be remedied.

At the moment, the Sewage Treatment Plant is dealing with approximately 12% of the raw sewage which would otherwise be discharged at Wied GHammieq, this portion being drawn from areas where no industries are located. As industrial liquid waste is discharged by industries straight into the municipal sewerage system, the current policy of utilising sewage from non-industrial areas minimises the presence of chemical pollutants in the raw effluent which the treatment process cannot remove. A problem will, however, arise when all sewage is treated and the bulk of the reclaimed treated effluent is used for irrigation, which will mean that sewage entering the Treatment Plant will be from both industrial and non-industrial zones, and will contain a number of chemical pollutants discharged by industries straight into the municipal sewerage system. As the orthodox treatment process cannot remove these, they have to be eliminated at source. As has already been stated in section 4.5.3.2.6 above, regulations controlling the concentrations of pollutants in industrial effluents discharged into the municipal sewage system were passed under the powers of the 1991 *Environment Protection Act* in 1993, but are not currently being enacted due to lack of resources. Such enforcement will become absolutely necessary in the future when effluent from industrial zones is treated prior to irrigation.

A number of Local Councils complained that the water from the Sant' Antnin Sewage Treatment Plant compares badly with borehole water used for irrigation, and that plants wilt after being irrigated with it. This may be due to the relatively high degree of salinity of the water in question. Actually, the Sant' Antnin treated effluent has medium salinity, comparing well with borehole water, while the heavy metal content is at present below contamination levels. Further investigations are needed. The main drawback of the use of treated effluent is that it cannot be used for surface crops, although this is a common practice.

In a number of localities, complaints were raised about the presence of animal farms. In Xghajra and Zabbar, liquid manure from pig farms situated on a ridge between the two villages sometimes overflows down the gradient. In Fgura, the presence of cattle and chicken farms in the area causes problems with animal waste - mainly odours and houseflies. The same is reported from Zejtun, where the presence of chicken farms in certain areas is creating similar problems.

No mention was made by Local Councils of possible pesticide residues in food or drinking water supplies. This matter, which has still to be investigated to find out whether there is a problem or not and, if so, to what extent, is common to the whole of Malta and Gozo.

The increased output per unit land has increased disease and pest problems. The most common response to the growing problem of pests is the use of pesticides. The result has been the disruption of ecosystems because of the death of non-target species, accumulation of pesticide residues in the food chain and the environment, and the build-up of pesticide resistance on the target species.

Insecticides are the agrochemicals that cause most health concern; the local scale and nature of such effects cannot be assessed because symptoms of pesticide poisoning is usually ascribed to other causes. It is also difficult to assess the main factors contributing to mortality from pesticide exposure. However, there is a global growing feeling that health impacts of agrochemicals may have been underestimated, especially in developing countries. Lack of legislation, non-enforcement, widespread ignorance of the hazards involved, poor labeling, inadequate supervision and not wearing protective clothing in hot weather greatly increases the hazard both to agricultural workers and to the general public. Many pesticides known to be highly hazardous and either banned or severely restricted are actually available to farmers through illegal means. These are often used without precautions.

As in other parts of Malta and Gozo, pesticides are extensively used in the south region. The legislation currently in force (the *Pesticides (Control of Importation, Sale and Use) Act* of 1966) and the regulations issued under its powers provide effective methods of protection, though updating has now become necessary. What is required is a good analytical programme to enable routine monitoring both of pesticides themselves as a form of quality control, and of food crops and drinking water to ensure that any levels of pesticide residues therein are in conformity with international safety standards.

4.5.6 Environmental Nuisances

The Environmental Health Working Committee considered the presence or otherwise of environmental nuisances in any form, possibly constituting stress factors, as distinct from physical health hazards. In this regard, the main contributors were identified as scrapyards and small to medium-sized industries, mainly garages and workshops. A number of these also contribute to various extents to terrestrial pollution.

There are a number of scrapyards within the region, mainly in Birzebbuga (Wied Zemba), Kalkara, Ricasoli, Zabbar and Zejtun. It is reported that some scrapyards are utilising gas cylinders as a source of steel. The *Birzebbuga Malta Labour Party (MLP) Report* is proposing that "once works at Ix-Xoqqiet is terminated, the scrapyard is transferred from Wied Zemba to Ix-Xoqqiet".

In the Three Cities area, the scrapyard at Ricasoli is causing an aesthetics problem, apart from air pollution. The Zejtun Local Council also complained about the presence of four scrapyards, three at Tal-Barrani and one in Delimara Road, which were causing nuisance problems and serving as rodent breeding grounds. In Senglea, approximately 14% of the houses in the locality are currently unoccupied. A number of houses have been abandoned, and some of these have reached a state where they cannot be repaired. Certain houses are located in relatively inaccessible areas, which make repair or demolition difficult. A number of abandoned houses are currently being used as illegal rubbish dumps. One example is Two Gates street. In Fgura, there are problems in the Primary School -

part of the school area is occupied by a scrapped bus. Two horses are being kept in this area, and the presence of waste results in mosquitoes and rats. Also from four to five buses are continually parked in the street in which the school is situated, where they cause considerable obstruction. The present recreation yard, which has to cater for 900 children, is only 37 by 18 metres in size.

In Zejtun, there are several unlicensed garages which are leading to pollution of the streets by oily and related wastes (MSU report of September 1996 refers). The village core is being cluttered by around 80 garages. In the same area, historic buildings, including an old villa, are being demolished. Also in Zejtun, empty drums are creating an eyesore in the fields around the town, where they are being stacked in place of rubble walls. Triq il-Bettieh has become a scrapyard. Several garages with no facilities inside perform all their work in the street itself.

A number of Local Councils complained about heavy duty vehicles parked in public areas overnight. These include trucks, buses and even refuse collection and compression vehicles. In Zejtun, for instance, it was pointed out that refuse compression vehicles were being parked near public gardens and residential areas. The prevalent opinion of Local Councils was that refuse vehicles should be parked at the Refuse Disposal Centre, and that other heavy duty vehicles parked in private garages or other areas.

Several Local Councils complained of stray dogs roaming all over the place, with their excreta creating both a nuisance and a health hazard. In Birzebbuga, dog excreta have been encountered in the sand on the beach itself.

The valleys in the Marsaxlokk area have been completely blocked by construction waste, and require urgent rehabilitation. Also in Marsaxlokk, it was stated that damage is being done to Fort St. Lucian, currently used as an Aquaculture Centre, because of the vast quantities of seawater used within the fort complex, which are leaking throughout, and affecting the structure.

According to the *Grand Harbour Local Plan* (Policy GE05), "scrapyards will normally be permitted within industrial areas where their environmental impact can be minimised and absorbed without detriment to other development and uses, and where they will be required to treat/recycle the scrap. They will therefore not serve as storage/dumping sites, and environmental impact requirements will be specified according to already published Policy and Design Guidance - Environmental Impact Assessment in Malta (May 1994)". According to the same *Plan* (Policy GK16), Wied Rinella is identified as "a Site of Scientific Importance and will be safeguarded from development. Action will be taken to remove the scrapyard operating here, and to restore the site".

The *Grand Harbour Local Plan* (May 1997) deals extensively with small and medium industrial establishments (S.M.E.), particularly garages and workshops. According to this *Plan* (Policies GB14 and GG22), S.M.E. workshops causing problems in residential areas, and those which need to be relocated in terms of Policies GB09 and GG16, will be expected to move to appropriate alternative sites (Policy GD02), which are identified at Kordin and, on a smaller scale, at Ricasoli Industrial Estate (Policy GK21). An area of Ricasoli Industrial Estate has been reserved for the development of SME workshops. "An area of land near the Customs Warehouse is allocated for small scale industries. Priority will be given to those relocating from Birzebbuga and Marsaxlokk because of incompatibility problems in residential areas" (*Marsaxlokk Local Plan* Policy MH06).

The *Grand Harbour Local Plan* (Policy GK21) also refers to the *Marsaxlokk Bay Local Plan*, wherein it is stated that a specific site allocation for Small Scale Industries has been made at Hal Far Industrial Estate. It has also been proposed that, as in Corradino, a similar allocation be made at Ricasoli Estate.

Garage industries (Class II of the Draft General Development Order) are accepted in residential areas where they do not, or are unlikely to cause 'bad neighbour' problems or detract form the general amenity of the area. Expansion can, however, create difficulties. Hal Far has been identified as a possible alternative site for such industries. In referring to the southern part of Birzebbuga, the *Marsaxlokk Local Plan* (Policy MB22) states that "the development of buildings suitable for garage industries (i.e. any use as defined by Class 11 of the Draft Use Classes Order) will be encouraged on the site off Triq il-GHirghien ... Provision is made at Hal Far for an area devoted to meeting the needs of larger or expanding garage industries."

Local Councils in the Marsaxlokk area stated that the Delimara Power Station constituted a major eyesore, and that no trees were planted to hide it, contrary to what was promised. *The Marsaxlokk Local Plan* (Policy MD04)states that with regard to the Power Station Industrial Site, "a landscaping and planting scheme to reduce the impact of the Power Station will be implemented. Any scheme implemented will also be designed to take into account possible development of the area around and to the south of the fuel storage area. In addition, any proposed new buildings or structures within the site must take into account, in their design and layout, the need to reduce their visual impact from the western shore of the Bay".

The Power Station and its associated buildings are massive structures which are impossible to screen or hide. Yet the impact could be very much diminished if an appropriate landscaping and planting scheme were completed. A landscaping scheme was a condition of the original permit for the site and remains to be implemented. The same *Plan* also states (Policy MD05) that "subject to the operational requirements of the Power Station site, and strict pollution safeguards, the land immediately to the south of the Power Station will be considered for public utility services provision or uses requiring storage/working space on some scale and related to berthing and other marine activities".

Cospicua, apart from being generally affected by the overall dockyard environment, which creates dirt as a result of grit blasting, is also hit by the negative visual impact of Dock No.1, which is ruining a major area of the waterfront. In this context, within the framework of the *Grand Harbour Local Plan* (Policy GP05), the Planning Authority has pledged to "seek the removal of the industrial use of Dock No.1 and will support the opening up of the site for tourism, residential and other community related uses".

According to Local Councils, the stagnant waters in tanks and ships at Malta Drydocks provide ideal breeding grounds for mosquitoes, which are affecting inhabitants of houses in the vicinity of Senglea bastions.

4.5.7 Availability and Use of Public Space

4.5.7.1 Industrialisation and Amenities

The Environmental Health Working Committee considered reported deficiencies in the availability and/or use of public space (including recreational space) in each locality, creating, or likely to create, an environmental imbalance affecting the health and/or well-being of local populations. A number of issues were identified by Local Councils in this area.

Malta Drydocks formerly used part of Wied Blandun as a dumping site. This is now being used as a parking area for Dockyard employees. This is affecting joint plans by the Fgura Local Council and those of adjacent localities to convert the Wied Blandun area into a natural park and leisure area.

At present, the industrial estates in the south region of Malta are actually groups of factories lumped together into estates, with little or no concern for adequate pollution control, waste separation depots and health centres. Apart from this, the general embellishment set-up is poor, and there is ample scope for improvement. The *Marsaxlokk Local Plan* (Policy ME03) proposes a programme of afforestation in industrial areas "to contain visually intrusive factories and buildings, reducing their impact and improving the amenity and appearance of the zone". In the case of industrial zones, "tree planting on a large scale ... will help to 'enclose' industrial areas ... warehouses and plant. In addition, trees can provide an important amenity for the workforce." Given the vicinity of most industrial estates to residential and recreational areas, the need for strict pollution control should be emphasised. Policy MS01 on Limits to Development : Priority 1, states that "sites which, because of external factors, experience conditions detrimental to residential amenity should not be chosen (e.g. air pollution, noise, danger-quarry edge)".

Traditionally, Hal Far has always been a recreational area. It should be noted that the area still has a very important function in this respect. The two uses - industry and leisure - are compatible if designed and managed properly. The *Marsaxlokk Local Plan* (Policy MH09) states that "permission for further expansion and development of the industrial site just north of Hal Far industrial estate will be refused. The Planning Authority will take measures to reduce the negative impact which this site has on the environment". Regarding storage of containers, the same *Plan* (Policy MH10) states that "pending further strategic considerations, only containers in operational use by factories at Hal Far will be allowed to be stored. The containers are to be stored within the curtilage of the factory and in a visually acceptable manner". It is also stated that there is need to identify suitable alternative sites for storage of containers such that the visual impact is minimised, and that the use of disused quarries may be a feasible option.

The entire Marsaxlokk Bay aesthetics is largely affected by industrial activity. The *Marsaxlokk Local Plan* (Policy MP01) states that "Further industrial development of the Port itself, and the areas around it, will not be granted development permission beyond what is committed and the specific provision made in the area policies. Industrial development will therefore be limited to Delimara Peninsula on the Power Station site, and in the Freeport area." However the crucial thing is not to develop further but to ensure a healthier environment both in terms of occupational health and also in terms of residential health.

4.5.7.2 Recreational Space

A health-promoting environment is one where not only are health risks minimised but personal and community fulfilment, self-esteem and security are encouraged. Violence and alienation are associated not only with poor job prospects but also with poor-quality housing, deficient services and inadequate provision for leisure, recreation, children's play and development.

An individual's self-worth is an important determinant of health. In this aspect, unemployment can damage health. Research has found large discrepancies between social groups; higher income groups are more active. If this is due to unaffordable expenses to sports facilities and transport then such facilities should be easily accessible in each locality (Consultation Report from the Department of Primary Health Care, PHCD 13/97).

Children are especially vulnerable to lack of recreational space, facilities and services. For instance, child's play is known to have a central role in learning, motor and communication skills, problem-solving and logical thinking, emotional development and social behaviour (WHO, 1992). In most of the localities studied, the public provision for safe and stimulating children's play is very inadequate.

Lack of indoor space and gardens, crowded housing conditions and lack of adequate playing areas in the community means that children are more likely to play unsupervised in the streets. Therefore, the provision of public gardens and play areas can no longer be considered as a luxury but must be regarded as a pre-requisite for health.

There is a pronounced lack of organised recreational space in the region as a whole, and several proposals have been made by Local Councils for this situation to be remedied. One proposal is that Xrobb l-GHagin and Delimara should become a national park, while Fort Delimara should be rehabilitated as a historical centre and become the office of the Malta Maritime Authority as watchdogs on the spot. At Bighi Housing Estate, there is a proposal for a public garden to be established just in front of Bighi Hospital Complex. At Marsascala, a small public garden is proposed at Zonqor Housing Estate. In Zejtun, a public garden is proposed to be established at Ta' Ganza, above the existent water reservoir, landscaping is proposed at Hal-Tmiem Housing Estate, and the planned Gebel San Martin Housing Estate is also supposed to include a Sports Complex. In Xghajra, a public garden at San Pietru Housing Estate is planned. In Marsascala, which has a complete lack of sports and related facilities, is proposing to convert a large tract of Government-owned land sited between the Solid Waste Recycling Plant and the Park of Friendship into a Natural Park and Sports Area incorporating a football ground, tennis courts, a BMX track, a mini golf course, natural trails, picnic areas and car park. The Local Council, however, does not have the financial resources necessary to implement this plan.

The *Marsaxlokk Business Plan* (1996-1999) comments on the limited amount of open spaces and the need for public gardens as regional lungs. The Marsaxlokk Local Council have repeatedly complained that re-organisation of the village square, which has been promised, has never been carried out. Fishermen's Wharf (Xatt is-Sajjieda) has also been left in a dilapidated state, with most of the benches broken, and the cars that pass along it constitute a danger to pedestrians.

In the *Marsaxlokk Local Plan*, provision is made for upgrading of the waterfront at Birzebbuga, improvement of the waterfront at Il-Qajjenza, and upgrading of the waterfront and market at Marsaxlokk. In treating the question of recreational use of the seafront in general, under the terms of the *Plan*, the Planning Authority (Policy MC02) will "encourage investments from both the private and public sectors for improvement and embellishment of the urban seafront and the provision of appropriate facilities for recreation". San Patrizju Promenade is dominated by the presence of the Freeport. Nevertheless, it is a popular recreational area and, according to the *Plan*, it will be reserved as a promenade for informal leisure uses (Policies MB23 and MB24).

The *Plan* proposes that "any use allocated to the area of land at Wied il-Buni should act as a buffer to shield leisure activity along the seafront from the industry of the Freeport, and in any case should not cause inconvenience to nearby residents due to noise, fumes, vibrations and/or hours of work. The preferred use is as a public open space" (Policy MB28). The site is currently used partly as a sailing club, and the rest as a dumping yard. It is close to houses along St Patrick Street, and if not carefully controlled, its eventual use could have a detrimental impact on local residents. It also presents an opportunity to assist in reducing the effects of the industrial activity of the Freeport.

The *Birzebbuga Business Plan* (1996-1998) envisages the establishment of a sports complex, indicating the plot behind the administrative block of the Freeport between Triq Hal-Far and Triq il-Kunċizzjoni as a tentative site. The *Birzebbuga Malta Labour Party (MLP) Report* points out that Triq il-Port Hieles, which is a dilapidated road, should be converted into a garden with endemic trees. The area marked MB16 on the *Local Plan* is in the centre of Tal-Papa Housing Estate and a public garden should be established there. Parts of Triq Ferretti is so wide that central strips with trees could easily be set up. Sports facilities are inadequate in Birzebbuga which is surprising considering its vicinity to the seaside. The waterpolo pitch is suffering from sand deposition from the enlarged sandy beach and regular dredging is needed. There are no football facilities in the area.

The *Marsaxlokk Local Plan* also provides for recreational and sports facilities in the area. In general, it is stated that no permit will normally be given for a proposal which will result in a loss of sports facilities. As the number of sports and recreational facilities are limited in the *Local Plan* area, the *Plan* provides for an increase in the number of facilities as well as the protection of existing ones. A site at Hal Far covering an area of more than nine hectares is to be designated exclusively for recreational use (Policy MH02). There is to be an "Open Land" Policy for St. Lucian Peninsula (Policy ML01).

Within the same *Plan*, an "Opportunity Area" is envisaged for St George's Bay (Policy MB10). The waterfront (Ix-Xatt Ta' San Gorg) is to be developed for a wide range of leisure and recreational facilities, including a promenade to be provided from Triq iz-Zejtun up to Ferretti Battery and beyond, and a suitably designed garden with possibly some facilities for children's play is to be provided in the vacant land behind Ferretti Battery. The existing garden is to be upgraded and properly maintained. To ensure public access to the water's edge, no boat storage will be permitted in the garden, subject to suitable alternative provision of space in Birzebbuga or Qajjenza. This policy is intended to create a quality leisure hub along Ix-Xatt Ta' San Gorg (Policy MQ01).

In the *Marsaxlokk Local Plan* (Policy MB13) St George's Bay has also been identified "as an area for a small marina development, subject to the outcome of a feasibility study, including an environmental impact analysis, and full consultation

with the Malta Maritime Authority". The provision of this small yacht marina is considered to be useful to dispel the negative image of the area.

According to Policy MD01, the greater part of the Delimara Peninsula is to be designated as a National Park where "priority will be given to conservation, protection and improvement of the natural heritage. In this location, positive provision will also be made for recreational uses consistent with this objective...".

The *Marsaxlokk Local Plan* (Policy MB18) quotes the Development Brief for Il-GHirghien as stating that the uses to be allocated to the site include garage industries (as indicated in Policy MB22); public open space including a formal play area for children; sports facilities; and a home for the elderly. Permission will be refused for development of this land which would conflict with these uses".

There is a lack of recreational activity in the Cottonera area as a whole, due to lack of funds. Each locality is considering the upgrading of existing sports facilities and the provision of new ones. St. Michael's Bastions, the Macina and waterfront in Senglea are proposed recreational areas. Lack of recreational areas means lack of dog fouling facilities. In front of De La Salle College, there is an afforestation area where trees have been left unpruned, and which is used mostly for bird trapping. This site is a proposed sports complex and recreational area. A marine recreational Centre has been proposed for Kalkara.

The General Policies section of the *Grand Harbour Local Plan*, in reviewing the question of open space in built-up Areas, states (Policy GE03) that open spaces "located within the built-up area which add significantly to the amenity of the settlement will be protected from development". In addition (Policy GE06), the reclamation of derelict and despoiled land will be pursued, and it is the Planning Authority's intention "to prepare a programme of derelict land reclamation and to seek government assistance to ensure that this work is carried out".

Regarding afforestation, the same *Plan* (Policy GE04) states that "for amenity, recreational and landscape improvement purposes, a programme of afforestation in the form of structural planting will be undertaken". The *Plan* continues to comment that "Planting has an aesthetic appeal, helps to increase recreational and play opportunities, provides shade, and helps to sustain wildlife...Landscaping and planting schemes from developers will be routinely required as a normal feature of development applications. It is expected that indigenous species, selected to suit the particular growing conditions and for their ability to provide screening, shade, form and colour, will be used". Also, according to Policy GC07, the Planning Authority will "seek the improvement of afforested zones within the *Plan* area. It will encourage the responsible authorities in developing the potential of these zones into well managed, picnic and recreational areas with a woodland setting". The Policy continues to comment that "These areas are usually neglected, leading to anti-social practices, and there is need for more recreational spaces. If developed in the right manner, these areas have the potential to serve as well-landscaped, wooded urban parks".

More specifically, the *Grand Harbour Local Plan* (Policy GB12) provides that "the area between the Margherita and Cottonera Lines bounded by Triq L- Immakulata,

the Margherita Ditch and the peripheral access road, is designated as an urban park, that is, land kept predominantly in its natural condition freely accessible for public enjoyment". In accordance with Policy GB01, this area is defined as being outside development zone, and therefore no development other than that appropriate to an urban park will be allowed. The proposed park is a prominent area of open space, partially wooded, on the fringe of Cospicua, and forming a distinctive and appropriate setting for the bastions. Also in Cospicua, a public garden in St. John's Street is projected, although this is tentatively planned for establishment four to five years from now.

Again within the framework of the *Grand Harbour Local Plan* (Policy GC03), the Planning Authority "will encourage investment from both the private and public sectors for improvement and embellishment of the urban waterfront and the provision of appropriate facilities for recreation". This applies to the whole waterfront on the southern side of Grand Harbour. Also, the southern edge of the town of Vittoriosa, facing Cospicua, will retain its open character. The open nature of the area between the Margherita and the Cottonera Lines, and that of the Ricasoli area, will be maintained subject to provision being made for the purposes of agriculture and forestry, excluding animal raring units; and the establishment of sport, recreational or leisure facilities appropriate to an area of open character.

In dealing with sites for Education and Sports, the *Plan* (Policy GB13) provides that "the area between the Margherita and Cottonera Lines in the vicinity of Notre Dame and San Klement Bastions, to the west of Triq il-Kottonera, is allocated for regional education and sports activities. In order to ensure the proper development of this site, taking into account the range of facilities necessary to serve the area on a 'regional' basis, a development brief will be formulated. To ensure a high standard of development, the Planning Authority will expect strong emphasis at the outset on appropriate advance landscaping and planting". The use of the former cinema in Triq D'Homedes for sports activities and indoor recreation is mentioned in the *Plan* (Policy GL18), but is not supported by the Senglea Local Council, which has stated that the establishment of recreational facilities in this street is practically impossible, and that a better alternative would be Misrah G.Mitrovich.

The same *Plan* (Policy GL18) also states that the above do not exclude other facilities from being developed in outdoor areas, and the use of open areas adjoining the bastions in the vicinity of Triq Mons. Panzavecchia at the entrance to the town for outdoor sports activities not requiring a building, would also be acceptable.

A number of areas have been designated as Site of Scientific Importance. These include the area of Tal-Hawli, where development which could "prejudice the unique natural characteristics of the site will not be permitted" (Policy GG19), Il-Kalanka tal-Patrijiet, the GHammieq cross fault, the general coastline (Policy GK15), and Wied Rinella, which will be similarly safeguarded from development (Policy GK16). In the case of Wied Rinella, "action will be taken to remove the scrapyard operating there, and to restore the site. The beach and waterfront of Rinella Bay will also be included ..., and can serve for the development of a public water sports facility through the reuse of existing buildings (Policy GK16)".

In the *Bormla Business Plan* (1996-1999), the lack of formal policies for environmental enhancement is lamented. There is a necessity to undertake rehabilitation and embellishment of the only accessible waterfront area (Ix-Xatt ta' Bormla) a public recreational area by clearing all maritime activities. Apart from the proposal to remove Dock No.1, there are also proposals for the construction of a

playing field in San Gwann t'GHuxa, for a sports complex to be established in Cottonera Street and St. Clement's Ditch, and for a public garden outside St Helen's Gate.

In the *Birgu Business Plan* (1996-1998), proposals include regeneration of St. Angelo waterfront and upgrading and embellishment of Kalkara Creek (it-Toqba) and construction of a playing field in Tal-Hawli Housing Estate. The Vittoriosa Local Council has made a number of preliminary proposals for the repair and embellishment of the local environment. These include removal of the quarters occupied by the Chinese community, re-opening of the Menqa, construction of an adequate bridge between the wharf and the Fort, rehabilitation of the wharf through the introduction of commercial and retail outlets, the according of importance to maritime activity in the area, and rehabilitation of the Collacchio (the old part of the city) by road improvements and traffic restrictions.

In the *Isla Business Plan* (1997-1999), proposals include the establishment of a recreational area on the roof of the Macina Complex, and a Yacht Marina, which would enhance maritime and tourist activity, as well as a new public garden in St Michael's Bastion. Upgrading of Gnien il-Gardjola, upgrading of Ix-Xatt and provision of playing fields are some of the needs to upgrade the environment of Senglea. Ix-Xatt was identified to be the most popular area for residents of the locality (Mintoff, 1992).

The *Kalkara Malta Labour Party (MLP) Report* points the need for a playing field in the vicinity of Santu Rokku Street. Also a sports complex should be set up in the area known as the Married Quarters. At Bighi Housing Estate, there is a proposal for a public garden to be established just in front of Bighi Hospital Complex (Ministry for Housing, GEN 9725). A similar Policy to Policy GG01 applies to Ricasoli area (Policy GK01).

The *Zabbar Business Plan* (1998-2000) notes that the playing fields in Triq il-Kunvent have now been completed, and envisages new playing fields at St.Peter's, a Zabbar Regional Park, with better maintenance of the olive grove, and the conversion of Dawret ix-Xatt into a camping site.

The *Fgura Business Plan* (1996-1999) notes that the public garden in Pjazza Redent Gauci needs reconstruction, and that the only sports facility available to Fgura residents is the football ground which will most probably be demolished by the Cottonera Rehabilitation Project. According to a survey carried out by E. Mintoff on behalf of the Local Council, 80.9% of Fgura youths do not practice any sport, but 61.9% of these would consider practising some sport if an appropriate sports facility was made available. In general, Fgura residents, as well as those of other localities, have repeatedly complained about the lack of public gardens, the poor maintenance of the few in existence and the lack of recreational areas.

In Zejtun, a sports centre will soon be completed, but there is dire need of a football pitch. Also, in Zejtun, a public garden is proposed to be established at Ta' Ganza, above the existent water reservoir, landscaping is proposed at Hal-Tmiem Housing Estate, and the planned Gebel San Martin Housing Estate is supposed to include a sports complex (Ministry of Housing, GEN 9725).

It should be noted that although the need for open spaces is clear, provision for their maintenance, as distinct from their initial establishment, is often completely lacking during the planning process. This was pointed out in the *ERCU Report* (Oct 1995),

where it was found out that, in the surveyed localities covered by this Plan, the condition of planted areas were poor, as a result of insufficient maintenance. This pitiful situation was commented upon by several Local Councils; for example, trees in front of Fortini San Nikola are abandoned, with many of them dead and burnt. Some Local Councils pointed out that, even though acacia trees (*Acacia retinodes*) were linked with high pollen counts and hence with the induction of hay fever, there are still several mature specimens in open public spaces. This should be taken care of, and large conglomerations of such trees should be cut down to reduce the onset of hay fever.

4.5.8 Other Factors

The Environmental Health Working Committee also considered any other problem brought up by Local Councils not falling strictly within the categories listed above, but capable of having an actual or potential impact on human health and well-being in the locality in question. A number of problems were raised. Some of these are not of environmental origin in the strict sense of the word, but are environmentally linked.

4.5.8.1 Drinking Water Quality

A number of Local Councils complained that in the south region of Malta as a whole, drinking water is of inferior quality. A recent report conducted on behalf of the Fgura Local Council (Mintoff, *Report for Fgura Local Council*), pointed out that the drinking water of the locality is of very poor quality. There are still some localities in the south where domestic water supply is absent. Marsascala suffers from a shortage of drinking water. This was collaborated by the *Marsascala Malta Labour Party (MLP) Report* which identified a number of places where the drinking water supply is still unavailable: Triq il-Gran Mastri, Gdid F, Triq il-Mahrel, Triq il-Hamrija, two new streets in Triq il-Qaliet area tal-Hamrija, Triq San Frangisk, all the new streets between Triq tal-Gidwet and Triq in-Nadur.

Unfortunately, the proposed Reverse Osmosis Plant at Is-Swali conflicts with the sewage outfall at Wied GHammieq. The Xghajra Local Council pointed out that there would be the danger of the membranes being destroyed by the high organic content of the seawater.

A 1993 report by Professor A. Vella on drinking water in the southeast of Malta shows that, at least at the time, levels of a number of physical and chemical parameters in the drinking water of most of the localities covered in the report (Birzebbuga, Marsascala, Marsaxlokk, Zabbar and Zejtun) were well beyond acceptable levels.

The many point sources of groundwater contamination include illegal dumping sites and poorly-managed scrapyards. A case in point is the Kalkara scrapyard (Tal-Pikles) which, according to the Kalkara Local Council, is above an aquifer. Intensive agricultural practices are also inherently contaminating in nature. Poor management leads to groundwater contamination from the use of agrochemicals (pesticides and fertilizers) and illicit dumping of animal wastes.

Moreover, the groundwater is being over-pumped at an alarming rate, with the result that the groundwater is significantly increasing in the total dissolved solids. Irrigation has greatly enhanced the overall productivity of local agriculture. The use of trickle irrigation has greatly minimised the need of water for irrigation and hence should alleviate over-pumping of water. However, its use is very limited in the Maltese Islands due to the high capital cost involved; thus the use of furrow irrigation, which is water-wasteful, is still prevalent. If mismanaged, irrigation can have negative impacts on health. Two main examples are the following :

1. Water reservoirs act as breeding grounds of mosquitoes and other vectors of diseases. Thus, the use of open reservoirs and open channels should be discouraged, especially when treated effluent is used, and

2. Over-pumping of the groundwater increases the salinity of the irrigated water with adverse effects on the local crop husbandry, indirectly intensifying the use of agrochemicals.

4.5.8.2 Housing Conditions and Health

A detailed description of housing conditions in the south region of Malta is outside the scope of the present report. However, it would be relevant to point out that inadequate housing is intimately linked with adverse health effects, both physical and mental.

In its report to the 1992 United Nations Conference on Environment and Development, the WHO Commission on Health and Environment has singled out nine features of the housing environment that have important direct or indirect effects on the physical and mental health of the residents :

1. the structure of the house,

2. the extent to which the provision for water supplies is adequate, from both a qualitative and a quantitative point of view,

3. the effectiveness of provision for the disposal of excreta and liquid and solid wastes,

4. the quality of the housing site,

5. the consequence of overcrowding, including household accidents, air-borne infection, acute respiratory disease, pneumonia and tuberculosis,

6. the presence of indoor air pollution associated with fuel used for cooking and heating,

7. food safety standards, including the extent to which the dwelling has adequate provision for storing food,

8. the presence of vectors and hosts of disease associated with the domestic environment, and

9. the home as a workplace where occupational hazards may need consideration.

Another aspect of housing which has a direct impact on the health of the occupants is the disincentive for tenants to invest in improvements to the structure and services since the owners would benefit more than they would themselves. Housing also has important social aspects that influence the safety and the sense of well-being of the occupants. Dissatisfaction with housing in terms both if the internal characteristics and of the quality and safety of the neighbourhood, and with its inadequacy to meet social needs of the occupants, may have important repercussion on mental illness and psychosocial problems.

The WHO Commission was addressing the problem on a global scale, with particular reference to the situation prevalent in many Third World countries. However, the basic problems apply to a number of population groups in developed countries, including Malta (and, in this particular case, the south region of Malta) to some degree. Throughout the region, unbuilt plots of land often end up as dumping and rodent nesting sites. In the Senglea area, constant rodent infestation from water culverts, the Dockyard and abandoned houses which form approximately 14% of the total number of houses in the locality all contribute to an overall low standard of housing. Examples of abandoned houses in a poor state of hygiene, especially due to illicit dumping of organic refuse, occur in St. Joseph Street, corner with St. Francis Street and in Sirena Street. In the bastions of Cospicua, there are a number of illegal buildings. Old urban areas suffer from lack of open spaces.

A 1995 Department of Education survey (Table III.4.2.) shows that there are over 3,000 dwellings which are substandard from the points of view of ventilation, natural lighting and humidity, apart from adequate space. There are a number of instances where overcrowding is a possibility, such as ten cases of 8 to 9 person ground floor tenements in Birzebbuga, Cospicua, Fgura, Kalkara, Zabbar and Zejtun; a 7 person suite of rooms as part of a housing unit in Birzebbuga and two cases of a 6 person basement or cellar in Vittoriosa and Zabbar. No information on substandard houses could be obtained.

A report by E. Mintoff (1992), indicates that Senglea has the lowest standard of living, followed closely by the Cottonera area. Both these localities are suffering from an exodus of inhabitants. The report reveals that this is mainly due to environmental factors such as dockyard activity, noise and the small size of the houses. The report continues to comment that because of these problems, rents are low and thus attracting the poorer members of society. The Cottonera area is one of the areas with the highest number of rented houses; Senglea has 84.4%, Cospicua 81.7% and Vittoriosa 77.62%.

The Ministry of Housing is implementing a programme to upgrade specific localities (Ministry of Housing, GEN 9725). In the localities covered by this Plan, the Ministry will be undergoing slum clearance in 1, Triq il-Papa Alessandru, Vittoriosa in the coming year and at Sta. Lucia between Triq l-Ajkla and Triq Sta. Tereza, Cospicua by the end of this year. Moreover, the Department of Public Health is collecting data and maps of dilapidated premises by ownership and supervises overflow/discharge of sewage at land with the overall aim of eliminating cesspits by gradual connection to public sewers (Consultation Report from Department of Health, DH310/91).

4.5.8.3 Health Care Clinics

Most Local Councils complained about the relative lack of Health Care facilities in their locality. Zejtun, with a population of over 11,000, has no Civic Centre, and

there is a dire need for one. At present there is only a Health Clinic with steps leading to it, which creates an uncomfortable situation for the 90 residents attending daily, most of whom are elderly. In Zabbar, there is a high incidence of diabetes, yet the nurse at the Health Clinic refuses to gives insulin injections, even though this is part of her job description. In a survey held in Fgura, 96.3% of responders considered that there should be a Civic Centre in the locality, 86.3% a Day Care

Centre for the Elderly, and 76.3% a House for the Elderly. The *Fgura Business Plan* (1996-1999) considers the establishment of a Civic Centre as a major priority, taking the current Fgura population into account. The *Bormla Business Plan* (1996-1999) considers the upgrading of the polyclinic there as a necessity. The *Birzebbuga Business Plan* (1996-1998) envisages the establishment of a Civic Centre and a Home for the Elderly.

There is currently only one main Health Centre in the south region of Malta itself, located in Cospicua, together with a number of local village clinics which open for specific hours on set days in the week (Consultation Report from Department of Primary Health Care, PHCD 13/97). The Cospicua Health Centre also caters for residents of Senglea, Vittoriosa and Kalkara. The Paola Health Centre, located just outside the Region, caters for the other seven localities in the Region. Table III.4.3.shows the percentage workloads of the Paola and Cospicua Health Centres in terms of the total workload of all clinics in the Maltese Islands for 1996, as compared to other clinics.

According to the Department of Health (Consultation Report from Department of Health, DH310/91), the Cospicua Health Centre is currently being modernised and expanded to bring its standards at par with other major health centres. Once completed, it will cater for the Cottonera area as well as for Xghajra, Zabbar, Marsascala and part of Fgura. At present, the Cospicua Health Centre caters for 17,000 people, but once the expansion is completed, it will cater for about 38,000 people. Thereafter, pressure on the Paola Health Centre, which currently caters for 80,000, will be reduced, to cater for about 60,000 people. As from next year, the Paola Health Centre, as part of the Paola Civic Centre, will be upgraded and expanded as well. In addition, local clinics at Senglea, Vittoriosa, Zejtun and Marsaxlokk have been recently refurbished. Work is currently being carried out at Birzebbuga Health Clinic. There are plans for the Kalkara Health Clinic to move to more appropriate premises within Bighi Hospital Complex. The only clinics which can take further expansion are those in Senglea and Birzebbuga. Most of the other clinics cannot be expanded further. In future, it may be essential to change the role and function of local Government clinics. Consideration could be given to the setting up of a new Health Centre at Bir-id-Deheb to cater for Zejtun, Marsaxlokk, Birzebbuga, Gudja and Ghaxaq, to further reduce pressure on the Paola Centre by about 30,000 people. The Departmental target is one Health Centre for every 30,000-40,000 people. Table III.4.4. shows the proposed alterations to the catchment areas of the Paola and Cospicua Health Centres.

4.5.8.4 Other Problems

There were other specific complaints. Illegal buildings have been erected on the bastions at Cospicua, and no action has been taken for their removal. In Zejtun, there are no toilet facilities for dispatchers at the Bus Terminus. The promenade at Marsascala is dangerous because there is no fencing.

The Birzebbuga Local Council states that the structure of the Dolphin should be examined by experts, as it has been damaged by a ship. Damages have already been paid to Enemalta.

The Local Council of Zejtun pointed out that there are no toilet facilities for dispatchers and bus drivers at the Zejtun Bus Terminus. The lack of public toilet facilities at Fgura was noted by a recent report on Fgura. The *Marsascala Malta Labour Party (MLP) Report* noted that new toilets are needed near Misrah Mifsud Bonnici and near Ix-Xatt ta' Varjeta.

A number of Local Councils pointed out that most of the schools in their localities required upgrading in accommodation and facilities. Most of the problems concerned have already been identified by the Department of Education, which is taking the necessary steps to eliminate them.

4.6.0 Recommendations

For the purpose of this section, all matters requiring formal Government decisions and the activities arising out of these decisions, are classified as policy recommendations, while those constituting activities to be undertaken by Local Councils, as well as surveys and studies to be carried out by Government Departments, Local Councils or third Parties under contract, are classified as project recommendations. Some of the recommendations listed in the Policy section, therefore, could also be classified as projects. Long-term is understood to mean an activity requiring more than five years for completion, Medium term means a period of three to five years, and Short term a period of one to two years.

A certain number of recommendations, particularly, but not only, those involving legislation, will obviously apply to the whole of Malta and Gozo, and not only to the south region of Malta. In a number of instances, however, where action has necessarily to proceed in stages on an area basis, the south region of Malta could be accorded some degree of priority.

4.6.1 Policy Recommendations

4.6.1.1 Long Term

4.6.1.1.1 Air Pollution

It should be a matter of policy that industries in the various Estates in and around the south region of Malta producing atmospheric emissions likely to affect populations in residential areas be relocated to areas, where such emissions or noise are less likely to produce such effects. Decisions on individual industries could be taken after the results of short-term remedial measures become available.

There are a number of fuel and gas storage installations, mainly in the Marsaxlokk and Birzebbuga areas, which are much too near to residential areas for safety. These installations are posing a serious accident risk. To eliminate such risks to local populations from such storage installations, relocation of these installations to other appropriate sites should also be a matter of policy. Although this matter may be classified as long term solely from the practical point of view, as relocation normally takes time, in most cases, alternative sites have already been identified in the Marsaxlokk Local Plan, and action therefore should be taken as early as possible.

4.6.1.1.2 Noise Pollution

As a long term policy, steps should be taken to reduce noise from industrial and other installations, including small and medium-sized industries, to the extent possible, and to arrange for relocation of such industries where reduction of noise to acceptable levels is not possible.

4.6.1.1.3 Marine Pollution

Construction of the projected new Sewage Treatment Plants, which will ensure that

all domestic sewage is treated, should be accelerated. In this context, priority could be accorded to the one scheduled to be constructed in the south region of Malta, originally proposed to be sited at Wied GHammieq, as the existing outfall deals with the bulk of sewage in Malta.

As a matter of policy, a more effective long-term programme of continuous upgrading and maintenance of the sewerage network in the south region of Malta should be implemented.

4.6.1.1.4 Terrestrial Pollution

A National Waste Management Strategy, which should incorporate waste reduction measures, the introduction of waste separation at source, recycling of compostible and other recoverable waste, and effective disposal of non-recyclable waste, should be developed and implemented by the appropriate Ministries. In view of the acuteness of the problem in the south region of Malta as compared to other parts of Malta and Gozo, priority in implementation should be accorded to this region.

4.6.1.1.5 Problems Arising from Agricultural Practice

A policy decision should be taken to ensure that animal farms are required by law to have basic facilities for efficient storage and eventual disposal of manure (a) to ensure that no pollution through overflows and leakage from cesspits occurs, (b) to prevent pollution of the aquifer to the extent possible, and (c) to reduce the fly problem through erection of concrete-floored structures for manure stored for eventual use as fertiliser. Priority in implementation could be accorded to the south region of Malta.

4.6.1.1.6 Environmental Nuisances

As a long term policy, the recommendations made in the *Grand Harbour Local Plan* and the *Marsaxlokk Local Plan* regarding garage industries, blocking of valleys, and other specific nuisances should be approved for implementation, and the relative work started as early as possible.

4.6.1.1.7 Availability and Use of Public Space

Long-term plans should be made to ensure that every locality in the south region of Malta is provided with updated leisure areas and sports facilities. For this purpose, the proposals and recommendations made in the *Grand Harbour Local Plan* and the *Marsaxlokk Local Plan*, as well as those in the various *Business Plans*, should be evaluated and a phased implementation programme initiated as early as possible.

4.6.1.2 Medium and Short Term

4.6.1.2.1 General

In its National Environmental Policy, Government should include the following policy objectives :

1. To ensure, through review, revision and enactment of relevant legislation, that laws and regulations covering the environment and its protection are integrated to the greatest possible extent, and cater both for national

requirements and for national commitments under the terms of international legal instruments to which Malta is, or plans to become, a Party.

2. To ensure, through the establishment of appropriate Government procedures, that decisions and long-term strategic planning affecting the environment and, through it, human health and welfare, are not taken on the basis of economic factors alone, but also in full consideration of potential environmental consequences in accordance with the requirements of sustainable development. It will also be ensured that such decisions are taken with the fullest possible knowledge of their environmental implications and potential consequences through effective consultation involving all affected parties.

3. To improve the availability, relevance and quality of data on the various aspects of the environment, especially where the quality of life is affected, for the purposes of situation trends and impact analyses and, on the basis of such information, to develop specific priorities for action and for monitoring of progress.

4. To ensure that effective mechanisms exist for the identification and assessment of environmentally-determined hazards, and to apply control measures for individual activities on the basis of objective assessments of such hazards without penalising other activities unnecessarily.

5. To improve the functioning of market and planning mechanisms in the private and public sectors so that they take environmental values into account, and make prices reflect the full cost to society of production and consumption. Also to encourage, through fiscal measures and investment in environmental concerns.

6. To provide appropriate environmental education, training and re-training at all levels in order to enhance environmental awareness among schoolchildren and adults. To create Environmental Health Working Committees of environmental professionals who would be responsible for the implementation and management of specific programmes to improve the environment and prevent health and other hazards.

7. To ensure and enhance participation of the public at the earliest stage in environmental planning, priority setting and programme implementation on the principle of openness and equal partnership of all involved. To encourage active participation by the public through the distribution of the necessary knowledge on the environment, and on environmental health, through the development of easily-accessible information sources.

8. To provide for the continuous collection of scientific data as a basis for the formulation of policies aimed at the identification of trends leading to environmental changes. To encourage the use of appropriate technology which maximises environmental and other benefits.

The *Environment Protection Act* of 1991 should be given a complete overhaul to ensure adequate coverage of several aspects of environmental pollution which are lacking in the current version of the Act. It is understood that a new Act designed to remedy such deficiencies is presently in preparation by the Consultative and

Advisory Board on Environment. This work should be given a higher degree of priority.

4.6.1.2.2 Air Pollution

National Air Quality Standards should be developed on the basis of international standards (such as the W.H.O. Air Quality Guidelines and/or the various EU Directives) and formalised within the framework of regulations issued under the 1991 *Environment Protection Act*. The initial standards could be interim in nature in the sense that they would be based mainly on existing international practice. More permanent standards could be developed and enforced after comprehensive studies of the situation in Malta indicate the most effective standards to satisfy local requirements. Steps should be taken to make possible the enforcement of such standards by the Environment Protection Department.

The Malta Development Corporation should consider the possibility of assisting local industries to install the necessary pollution control equipment to enable compliance with Air Quality Standards as soon as these come into force. In this context, account should be taken of the Polluter Pays Principle, which is one of the keystones of Government's environmental policy as declared in its Electoral Manifesto.

Immediate measures should be taken to reduce emissions from the Delimara and Marsa Power Stations through installation of the necessary filters, scrubbers and other pollution-reduction equipment.

Steps to remove or minimise the odour problem originating from the Solid Waste recycling Plant at Sant' Antnin should be further accelerated.

Pending relocation to more appropriate sites, immediate steps should be taken to reduce the accident risk from fuel and gas installations situated within or near residential areas, by strict enforcement of all necessary precautions, such precautions also to include the banning of vehicles carrying fuel or gas for distribution from long term parking within residential areas and outdoor public sites. Arrangements should be made to ensure the safety of parking facilities within appropriate industrial precincts where safety precautions can be exercised.

Steps should be taken to ensure that small to medium-sized industries, such as the Hompesch Metal Steel Co. in Zabbar/Fgura operate under conditions less likely to result in particulate matter being discharged into the atmosphere.

Government should develop and implement a national energy strategy giving due consideration to the health and environmental aspects and promote the most efficient use of fossil fuels. The promotion of alternative sources of energy such as solar power and wind power should be encouraged, and consideration could be given to the introduction of Government subsidises on such appliances. In the Enemalta Corporation Annual Reports, alternative energy sources are mentioned only as a social obligation where solar heaters are periodically donated to philanthropic organisations, and no serious effort appears to have been made to exploit such sources. A more thorough cost-benefit analysis should be carried out, the ultimate aim being to minimise fuel combustion and maximise the use of alternative sources of energy.

Where vehicular emissions are especially dense and dispersal of pollutants very limited, consideration should be given to conversion of the areas in question into pedestrian zones, or the necessary arrangements made to divert traffic. This approach was already stated in the *Grand Harbour Local Plan* (Policies GL07 and GL08).

Indoor air pollution from combustion of kerosene in the home can be one of the largest sources of ill health associated with inadequate housing conditions. It is important that in relevant households, stove efficiency and ventilation should be regularly checked by health inspectors.

The possibility of toxic waste being accumulated or held at the Freeport should be investigated by appropriate means, including the use of Geiger-Müller counters, for detecting radioactive waste.

4.6.1.2.3 Noise Pollution

Immediate steps should be taken to eliminate or reduce noise from appropriate industries, where this can be done in the short or medium term.

Noise abatement regulations should be developed and enforced following the establishment of a proper audiometric monitoring programme has been set up. The degree of enforcement should be stricter during the summer months, when the tendency to open windows increases.

As the most intense and continuous exposure to noise occurs in the working environment, especially in industry, consideration should be given to enforce the use of ear protectors in circumstances when engineering control of noise levels is not possible.

4.6.1.2.4 Marine Pollution

It should be a matter of policy to ensure an accelerated programme of upgrading and maintenance of the drainage system in the south region of Malta, particularly in those localities which have the most problems, to prevent leakage and overflows. As maintenance and upgrading of the drainage system are currently ongoing throughout Malta and Gozo, what is required here is the according of a higher priority to this work in localities of the south region of Malta.

Immediate steps should be taken to prevent the dumping of animal manure directly into the sea at Xghajra and other localities in the south region of Malta.

The Department of Public Health and the Environment Protection Department should immediately review the current bathing water quality standards, with a view to adopting those formally recommended to Mediterranean Governments in 1996, but shelved on purely political considerations. These standards are based on a formal EU proposal to amend the 1976 *Bathing Water Directive*, and are already in force in a number of Mediterranean countries, including both EU Member States and other States. The problem, whereby most beaches in Malta and Gozo would have to be classified as unfit for bathing if these are evaluated according to these standards, can be solved by upgrading the drainage system wherever necessary, and by preventing illegal dumping of material into the sea.

Immediate steps should be taken to prevent sludge from the Ricasoli Tank Cleaning Installation being dumped on the rocky foreshore, from where it eventually pollutes the sea.

Pending the development and enforcement of a new Environment Protection Act which will adequate cover marine pollution control requirements, discussions should be held between Government and Malta Drydocks with a view to the latter amending their modus operandi in such a way as to avoid the current gross pollution of Grand Harbour and the immediate offshore areas.

Steps should be taken to control the discharge of effluents from the various industrial establishments into Marsaxlokk Bay, and to ensure that whenever oil is transferred from ship to shore, the area in question is contained by appropriate booms.

4.6.1.2.5 Terrestrial Pollution

Steps should be taken to prevent illegal dumping of waste along the countryside and in town and village perimeters through strict enforcement of existing legislation.

Local Councils should make it a policy to increase the number of skips in each locality to enable easy access by all residents.

Litter bins and waste containers should be more purpose-designed for maximum performance. The *ERCU Report* (Oct 1995) suggests "the introduction of the small Euro-standard wheeled bins (90-240L capacities), commonly used throughout Europe for domestic refuse collection and which give high levels of performance".

Commercial waste should be contained in Euro-standard wheeled bins (360-1100 L capacity) or larger covered waste containers and skips (about 15 cubic metres capacity). Control of handling, storing, transport and disposal of commercial wastes should be enforced.

The Department of Public Health should upgrade and expand its Pest Control Branch in order to be able to deal with the problem of rodents breeding in the sewerage and storm-water systems, in scrapyards and (pending their eventual elimination) in illegal refuse dumps.

The Ministry of Foreign Affairs and the Environment and the Ministry of Public Works and Construction should give priority to the south region of Malta when expanding the various aspects of their Waste Separation Programme.

The necessary action should be taken to ensure that metal scrap in recognised scrapyards is shredded or compacted, and the area walled to a sufficient height for the contents not to be visible to public view. The owners of such scrapyards should be required by law to carry out pest control operations to ensure that such sites no longer remain breeding sites for rodents.

Sandy beaches should be thoroughly cleaned regularly. The setting up of beach attendants to prevent stray cats and dogs from fouling the areas is recommended.

Street hawkers should be enforced to clean-up, especially after market; this has been successful in Zejtun.

Local Councils should be provided with the necessary resources to increase their capability of cleaning up their respective localities, particularly in abnormal circumstances such as that resulting from the Sunday Market at Marsaxlokk and the weekend influx into Marsascala.

4.6.1.2.6 Problems Arising from Agricultural Practice

Pending the introduction and enforcement of appropriate legislation, steps should be taken to ensure that animal farms in the south region of Malta are kept in such a condition, particularly regarding storage and disposal of manure, as to minimise environmental repercussions in the area. It is important to start considering agricultural wastes as important organic resources, with a high fertiliser value. Moreover, due to their general low carbon to nitrogen ratio (C:N), they are excellent enhancers of the composting process. Excreta of animals is of special value to the composting process, especially if the wastes are being currently disposed; a case in point is the highly nutritive horses' excreta.

As a matter of policy, analysis of food crops and drinking water for the possible presence of pesticide residues should be undertaken on a continuous basis, and should commence as early as possible.

4.6.1.2.7 Environmental Nuisances

The recommendations made in the *Local Plans* regarding garage industries, blocking of valleys, *etc.* should be implemented as early as possible.

Action should be taken by the appropriate Government departments to ensure that specific environmental nuisances, such as the situation in the Primary School at Fgura, the lack of toilet facilities at the bus terminus at Zejtun, *etc.* are identified, investigated and remedied as soon as possible.

Immediate steps should be taken to prevent buses and other heavy duty vehicles from parking in streets and other public areas where they constitute an obstruction and an environmental nuisance.

Action should be taken by the appropriate Government Departments to remove the problem of stray cats and dogs.

4.6.1.2.8 Availability and Use of Public Space

Open spaces should provide excellent landscaping and design to act as focal points to the local environment. The maximum possible use should be made of Mediterranean plants together with traditional heritage marks, such as rubble walls. Landscape design and maintenance is crucial in acting as natural focal points in the local environment. A natural setting has a positive effect on society. Upgrading an area from the socio-economic point of view demands quality environments which are maintained and serviced to a consistent standard. Local initiative should be emphasised.

Local Councils should be provided with the means to ensure the necessary upgrading of facilities under their jurisdiction and all possible assistance should be provided to projects aimed at the conversion of unused public land into natural parks, leisure areas, and sports centres.

Steps should be taken to designate Delimara Peninsula as a National Park where priority will be given to conservation, protection and improvement of the natural heritage, in accordance with *Structure Plan* Policy RCO14, with provision also being made for recreational uses consistent with this objective.

4.6.1.2.9 Other Factors

Housing standards based on size, stability, humidity, natural lighting and ventilation, water and drainage facilities and other sanitary aspects, should be developed.

The rent regulations should be modified to encourage upgrading of rented houses. State-landlord-tenant cooperation should be optimised in the upgrading of buildings. An excellent example is the British General Improvement Areas and Housing Action Areas Schemes, where the State provides the funds to ameliorate the environment, and grants to upgrade the buildings and to provide alternative residences during the upgrading programme. The residents contribute any residual expenses and some of them act as contractors.

An inventory of empty houses should be established. Such an inventory would aid the development of a financial set-up to encourage their reuse.

A meeting should be held between the Ministry of Health and Local Councils in the Region regarding the matter of Health Clinics to try and reach an acceptable compromise on those points where the plans of the Department of Health do not coincide with Local Councils' demands.

The situation in the Primary School at Fgura should be investigated and remedied as soon as possible. The Department of Education should also take appropriate action to remedy already identified deficiencies in accommodation and facilities in schools in the region as early as possible.

4.6.2 Projects

4.6.2.1 Long Term

4.6.2.1.1 Terrestrial pollution

A phased project should be undertaken to rehabilitate valleys and other natural sites by removal of all accumulated illegal waste and prevention of further dumping. Priority should be accorded to those sites indicated in the *Marsaxlokk Local Plan*. This project could be undertaken or coordinated by the Environment Protection Department.

4.6.2.1.2 Problems Arising from Agricultural Practice

A piped distribution system of treated effluent from the Sant' Antnin Sewage Treatment Plant to agricultural areas should replace the present open system, and reservoirs should be required to have adequate covers. As this project would be extended to other localities following construction of the new Sewage Treatment Plant in the Region, it can be considered as a long-term one.

4.6.2.1.3 Availability and Use of Public Space

A phased project should be developed and finalised for the conversion of areas indicated in the *Grand Harbour Local Plan* and the *Marsaxlokk Local Plan* into leisure and related areas. This project should also cover other areas indicated by Local Councils, such as Wied Blandun and the Verdala area in Cospicua.

4.6.2.2 Medium and Short Term

4.6.2.2.1 Air Pollution

Comprehensive data should be collected by the Environment Protection Department on the type and level of emissions from individual industries, and the adaptations required in each case to bring such emissions, where necessary, down to acceptable levels.

Data should be collected on the geographical distribution of individuals, possibly starting with patients at St. Luke's Hospital, suffering from diseases and disorders related to, or attributable to, air pollution. Such data should eventually be correlated with levels of the various pollutants in the localities in question through an appropriate epidemiological studies.

Malta Drydocks should carry out a study to determine what alternatives to grit blasting, such as slurry blasting, are feasible in practice, with a view to replacing the current technique by a more environmentally-friendly one, should such be found satisfactory.

Projects to (a) complete the ring road around Zejtun and (b) construct a bypass to obviate the need for vehicles proceeding to the Freeport from having to pass through the centre of Birzebbuga, should be undertaken by the Ministry of Public Works and Construction.

4.6.2.2.2 Noise Pollution

A study should be undertaken by the Environment Protection Department on noise levels from the various industries in and around the south region of Malta, the results of such studies serving to indicate what noise reduction measures could be implemented, and whether any particular industry will require relocation.

4.6.2.2.3 Marine Pollution

A further study should be held on the state of pollution of Grand Harbour to update data on the types and amounts of the various pollutants discharged therein and to identify the various sources of pollution. This study should be commissioned by the Environment Protection Department.

A study on ways and means to minimise pollution of Marsaxlokk Bay should be undertaken by the Environment Protection Department as early as possible. As a precursor to such a study, current levels of pollution should be measures and their sources identified.

The Department of Public Health should conduct a baseline study of the degree of pollution of bathing waters in the south region, concentrating not only on bacterial indicator organisms, but mainly on bacterial pathogens such as Salmonella, and on viruses. For the latter purpose, funds should be made available to the Department of Public Health to upgrade its laboratories through acquisition of equipment and training of personnel to be able to undertake virology work.

In view of conflicting views on whether leakage from the Sant' Antnin Solid Waste Recycling Plant is polluting Marsascala Bay or not, an appropriate study should be carried out, possibly by the use of tracers.

4.6.2.2.4 Terrestrial Pollution

A study should be undertaken by Local Councils in each locality to determine the best possible siting for refuse skips.

4.6.2.2.5 Problems Arising from Agricultural Practice

Trials should be undertaken by the Department of Agriculture on the effects on crops irrigated with treated wastewater from the Sant' Antnin Sewage Treatment Plant as compared with normal borehole irrigation water.

A baseline study on levels of pesticides in drinking water and food crops should be undertaken by Government as early as possible. While this should apply to all areas in Malta and Gozo, a certain degree of priority could be afforded to the south region of Malta. The results of this study, which would be correlated with internationally accepted levels of such substances in food and water, would form the basis of (a) a future regular monitoring programme and (b) any legal and/or administrative action which may be indicated as necessary if any problem is identified.

4.6.2.2.6 Environmental Nuisances

A project should be undertaken to landscape the area around the Delimara Power Station to reduce its adverse aesthetic impact.

A comprehensive survey should be carried out by Local Councils, possibly in cooperation with the Environment Protection Department, to identify all environmental nuisances, such as unlicensed garages, illegal scrapyards, etc. in the south region of Malta, with a view to their possible elimination.

4.6.2.2.7 Availability and Use of Public Space

A study should be made by each Local Council in the region, or jointly by Local Councils in adjoining localities where appropriate, with the aim of producing a plan for the best possible use of public space in the area under their jurisdiction. This would convert the present mosaic approach into an integrated one for each locality and the region as a whole.

4.7.0 Final Comments

1. The main environmental problem of the south region of Malta is its relatively high degree of industrialisation as compared to the rest of Malta. This, together with the fact that prevailing winds result in atmospheric emissions from peripheral industries affecting the region more than anywhere else, produces an air pollution problem throughout the region the extent of which is still largely unknown, but which, in overall regional terms, certainly presents a higher potential threat to human health than elsewhere in the Maltese islands. The situation is rendered more acute by the fact that a number of industrial establishments are located adjacent to, or actually within, residential areas, which suggests an actual, rather than a potential, health risk to the more exposed population groups.

2. In addition to this, the bulk of sewage generated in Malta is discharged in the South, and of the two main commercial harbours, one (Marsaxlokk) is situated within the region itself, while the other (Grand Harbour) is on the region's northern coastline. Marine pollution, therefore, is more prevalent in the South, and affects all its coastal area, including both inshore living marine resources and bathing beaches.

3. While terrestrial pollution due to the illegal dumping of waste is prevalent throughout the Maltese Islands, the problem does appear to be more accentuated in the South. There is therefore more risk of contracting diseases spread by rodents and insects breeding in waste material in this region.

4. From the aesthetic point of view, there is no doubt that the general landscape in the South has been neglected as compared to other areas.

5. All the above, together with the housing problem in the Three Cities and the acute lack of leisure space (as well as indoor recreational facilities) in the area as a whole, can be said to have produced a general regional environment which can affect human health to various degrees from both the physical and mental aspects.

6. There is therefore an urgent need to alleviate these problems, both by legislative and related measures which will naturally cover the whole of the Maltese Islands, but the positive effects of most of which would be felt mainly in the South, and by addressing the specific problems of the south region of Malta itself. The former would mainly involve the updating and enforcement of environmental and health legislation and the enhancement of the capabilities of the relevant Government Departments to enforce such legislation and to carry out a number of essential services, such as pest control operations, more effectively. The latter would involve the carrying out of a general face-lifting operation in the South, including the relocation of industries wherever necessary, the alteration of land-use patterns to provide more leisure and related areas and facilities, and the removal of the large number of environmental nuisances of various natures which might appear insignificant when taken individually, but become serious when taken as a whole.

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Table III.4.1: Microbiological quality ratings of bathing waters in the south region of Malta, 1992 - 1996, based on faecal coliform concentrations

(Source : Department of Public Health / Environment Protection Department Annual Reports on Bathing Waters)

Locality	*Station*	*Quality Rating*				
		1992	*1993*	*1994*	*1995*	*1996*
Marsascala	MS 03	2	2	3	-	2
	MS 04	2	3	3	3	2
	MS 05	1	2	3	-	1
	MS 06	2	2	2	3	2
	MS 08	2	3	3	3	2
	MS 09	2	3	3	2	1
Marsaxlokk	MX 09	1	1	2	2	2
	MX 10	1	1	2	1	2
Pretty Bay	MX 01	2	2	2	2	1
	MX 03	1	1	2	1	2
St George's Bay	MX 04	1	2	2	-	1
	MX 05	1	2	2	2	2
	MX 06	1	2	1	2	2
	MX 07	1	3	1	-	2
St Thomas Bay	MS 01	1	1	2	1	2
	MS 02	1	2	2	1	2
Xghajra	S 03	-	-	-	2	3
	S 04	-	-	-	3	3

Note: Stations classified as 1 and 2 comply with the Interim Criteria for Bathing Waters agreed on by the Contracting Parties to the 1976 *Barcelona Convention for the Protection of the Mediterranean Sea against Pollution* and related Protocols in October 1985.

Table III.4.2 : Distribution of substandard dwellings in the south region according to size and type of dwelling

(Adapted from Consultation Report of the Education Department, 26 November 1995)

Locality	*Ground floor tenement*	*Suite of rooms part of a housing unit*	*Cellar / basement*
Birzebbuga	434	3	1
Cospicua	268	21	2
Fgura	519	3	4
Kalkara	105	1	1
Marsascala	164	1	5
Marsaxlokk	65	5	0
Senglea	136	2	6
Vittoriosa	110	1	5
Xghajra	36	2	0
Zabbar	692	12	10
Zejtun	597	27	0
Total	*3126*	*78*	*34*

Table III.4.3 : Percentage workload of Health Centres in Malta in terms of total workload

(Compiled from Consultation Report of the Department of Primary Health Care)

Health Clinic	*Floriana Health Centre*	*Gzira Health Centre*	*Mosta Health Centre*	*Qormi Health Centre*	*Paola Health Centre*	*Cospicua Health Centre*
Psychiatric Clinic	12%	14%	16%	28%	30%	-
Speech Therapy	36%	6%	13%	9%	37%	-
Syringes to Addicts	13%	31%	3%	18%	28%	7%
Treatments	12%	17%	15%	17%	30%	8%
Well Baby Clinic	14%	15%	29%	11%	27%	4%
Podology	30%	13%	20%	12%	25%	-
X-Ray	7%	13%	25%	17%	38%	0%
Diabetic Clinic	20%	12%	28%	11%	24%	5%
ECG	20%	18%	29%	7%	25%	-
Glaucoma Screening	11%	21%	34%	13%	20%	-
Immunisation	44%	11%	15%	11%	16%	4%
Ophthalmic Clinic	25%	16%	18%	13%	28%	-
Paediatric Clinic	5%	10%	18%	7%	56%	3%
Pathology	7%	17%	24%	20%	25%	5%
Physiotherapy	22%	2%	28%	21%	27%	-

Table III.4.4 : Current and proposed catchment areas of Paola and Cospicua Health Centres

(Compiled from Consultation Report of the Department of Primary Health Care (PHCD 13/97))

Paola Health Centre		*Cospicua Health Centre*	
Current catchment area	*Proposed catchment area*	*Current catchment area*	*Proposed catchment area*
Paola, Tarxien, Sta. Lucia, Fgura, Zabbar, Marsascala, Xghajra, Gudja, Ghaxaq, Birzebbuga, Marsaxlokk and Zejtun	Paola, Tarxien, Sta. Lucia, Fgura, Gudja, Ghaxaq, Birzebbuga, Marsaxlokk and Zejtun	Cospicua, Senglea, Vittoriosa and Kalkara	Cospicua, Zabbar, Marsascala, Xghajra, Fgura, Senglea, Vittoriosa and Kalkara
Total Population : 82, 305	Total Population : 58, 489	Total Population : 15, 530	Total Population : 39, 346

III.5.0 Heritage

Executive Summary

- Key Issues
- Recommendations

Methodology

Guiding Principles and Objectives

Background Information

- Defining the Cultural Resources of the Region

The Key Protagonists

Issues

- The Socio-Cultural Factors
- Discussion of the Root Problems - Why is the South's Heritage not being properly managed ?

Recommendations

- Reform of the Heritage System at Central Government Level
- Heritage Management at Regional Level
- Specific Problem-Oriented Recommendations

5.1.0 Executive Summary

5.1.1 Key Issues

The south region of Malta does not enjoy a real heritage management system. The considerable cultural resources of the region are not being managed rationally by the Maltese Government, nor can the local entities make up for this lacuna.

The principal causes for this rampant system of cultural mismanagement may be synthesised as follows :

central Government's involvement with the heritage sector of the region is generally feeble, ineffectual and uncoordinated;

there is no established medium through which central Government and the local communities can work or communicate together in heritage-related matters; and

the technical and financial resources dedicated to the region's heritage sector are severely inadequate, both at a national and local level.

5.1.2 Recommendations

Improving the quality of the cultural product in the south region of Malta will require Government to take effective action, immediately and concurrently, on all three issues mentioned above. The Heritage Working Committee's recommendations have consequently been structured along three distinct levels, namely :

Level 1 - policy and management reforms required at central Government level, specifically aimed at improving the effectiveness of Government's involvement in cultural heritage management.

Level 2 - a new policy and management interface between central Government and the Local Councils, aimed at opening up the heritage sector to local initiative and enterprise, under Government's centralised guidance. The sectors which appear to provide the best scope for such an interface are those of (i) heritage education, and (ii) the conservation and presentation of heritage sites.

Level 3 - specific, problem-oriented initiatives aimed at resolving the most pressing resource problems that are being felt in the region currently, or which will arise in the near future.

5.2.0 Methodology

Membership of the Heritage Working Committee was drawn from two Government bodies directly involved with the heritage sector.

The professional experience of all committee members has heavily influenced the present report. Considerable importance was given to the themes and ideas raised by the members of the eleven Local Councils effected by the present study. For this reason meetings were held with members of all eleven Councils. Relevant documentation provided by the Local Councils and located at the Resource Centre of the Planning Council was also consulted.

Interviews were also carried out with several Government officials involved, directly or otherwise, with the heritage sector : Anthony Pace and Reuben Grima (Museums Department), Piju Busuttil (Cottonera Rehabilitation Committee), the Social Issues Working Committee, National Tourism Organisation of Malta (NTOM) and with the Education Department.

5.3.0 Guiding Principles and Objectives

The area so defined encompasses a homogenous geographical region, consisting of the stretch of land contiguous with the important system of harbours located along Malta's eastern seaboard. However, the region's limits were established according to socio-economic considerations unrelated to the area's heritage situation. Historically, the South actually includes a larger area than is presently being discussed, and should involve neighbouring localities such as Marsa, GHaxaq and Santa Lucija. This notwithstanding, the present study is limited in scope to the eleven localities included in the Regional Plan.

The aim of this exercise is to assess the current heritage situation within these eleven localities, locate problems in the present system, recommend solutions and identify possibilities for developing the heritage sector in the South. However, it is important to realise that the 'Heritage Sector' is actually a nation-wide problem, requiring solutions on a national level. Restoring a few historical buildings and sites while leaving the major problems at central government level untouched, will not help the people of Malta's south to better enjoy and appreciate the heritage built into their everyday surroundings. This text explores ways in which such a radical, positive, cultural change may be attempted.

5.4.0 Background Information

5.4.1 Defining the Cultural Resources of the Region

The area under study contains a broad range of different cultural resources, including archaeological sites, standing architectural monuments as well as entire historical landscapes.

Our scientific understanding of this resource is very uneven. For example, much archaeology is known of in the environs of Marsaxlokk Harbour, while absolutely no archaeological data is currently available for the Cottonera area. This discrepancy cannot be taken to signify that Marsaxlokk was historically more important than the Grand Harbour area. It does however warn us against assuming that our present knowledge of the cultural resource in the South of Malta is in any way up to the required standards.

For the ends of this report, the cultural resource lying within the study area can be broadly grouped under three general categories - namely the cultural resource located within the:

urban zones,
rural zones,
marine environments.

The heritage sites found within any of the above zones present strong similarities caused by their being located on identical terrain and by having been exposed to similar historical patterns of land use. Likewise sites from within any one given zone tend to suffer from similar management and conservation problems.

5.4.1.1 Urban Environments

5.4.1.1.1 Old Urban Cores

Such cores are characterised by a very dense concentration of architectural monuments belonging to different historical periods. Within such historical cores one may still find traces of architectural activity dating back to the Middle Ages - as in Birgu or Zejtun. Monuments range from the very grand - such as the big parochial churches - to the very humble - small alleys with domestic residences. However, all these different architectural elements - domestic structures, churches, old industrial plants, fortifications - combine into a single tightly-packed landscape. In fact, the real monument may be said to be the entire historical urban core itself, rather than its separate architectural parts.

Considerable archaeological remains may also be actually located under the buildings and structures of the old urban cores. Such remains should enable us to document the origins and the earlier history of any given historical community. Yet no archaeological work at all has been carried out to date under the historical urban cores of the South. This is particularly surprising, given the existence of such promising long-inhabited localities as Birgu, Zejtun and Zabbar.

Quite a lot of the historical streetscapes in the older villages, such as Zejtun and Zabbar, are fairly well preserved. By contrast the Cottonera district has lost a great deal, but not all, of its older streetscapes due to the ravages of World War II and the equally disastrous reconstructions that followed, right into the 1990's. Nonetheless even the Cottonera area has much to offer, particularly along the Dockyard Creek and Kalkara Creek waterfronts and along the town fortifications. It is also true however that most of the historical architectural fabric in these old town or village cores is generally in a very poor state of conservation.

Popular appreciation of this great store of architectural heritage is hampered by the very shabbiness and unsoundness of most of this historical fabric. For the resident population, the value of this architectural heritage is clouded by the fact that it usually provides very uncomfortable, frequently sub-standard, lodgings. The cost of maintaining such historical property is actually prohibitive for a low-income earner, and unprofitable for the developer due to the low financial returns they attract, due to the existing rent law structure.

Despite such negative feedback, the inhabitants of old urban cores often retain a strong emotional attachment to these historically loaded townscapes. This attachment is due to the fact that so much of their personal and social identities are invested in these very townscapes, which they have known and inhabited since childhood and which were actually constructed by their ancestors. The strong lure of parish life and parish festivities provides another strong emotional bond with the historical fabric of these older urban cores.

The difficult nature of these surroundings is also borne out by the fact that hardly any external visitors - tourists and Maltese alike - are attracted to visit these historical cores. This is so notwithstanding the fact that Birgu alone houses two major museum collections - the Inquisitor's Palace and the Maritime Museum. It is to be said however that many of the more interesting architectural monuments of these districts are actually almost impossible to access - either because they are generally closed to the casual visitor (as are many chapels, Fort St. Angelo and Dock No.1, for example) - or because it is simply too physically demanding - such as most of the Cottonera fortifications.

5.4.1.1.2 New Urban Districts

New urban districts consist of those areas that were almost entirely constructed over the last five decades - such as Fgura, Xghajra, Marsascala and Birzebbuga. Such areas clearly do not contain much historical urban fabric or extensive archaeological deposits. The heritage of these newly urbanised areas is made up of elements that until the recent past had formed isolated monuments within a now vanished agricultural landscape. Today these monuments form jarring 'monument islands' within an entirely modern townscape.

The existence of such a monument - be it a fort, a windmill or an ancient tomb - did not in any way affect the design of the modern roads and houses. Modern development tends to advance right up to the monument, break off for a few meters, and then proceed as before. In some cases - as in the case of the Marsascala Catacombs - the modern development passed right over the archaeological remains, leaving no visible sign on the surface, save the street name, that is, Triq Il-Katakombi !

Such situations are clearly the result of poor architectural design and even worse town planning. Enjoyment of these sites is severely hampered by the fact that they are so incongruously sited within the new townscapes. Many of the residents quite frankly state that they would rather such monuments were demolished, if that would result in an improved road surface or a less dusty environment. Unlike old town centres, the residents of newly urbanised centres have no sentimental attachment to the heritage sites and buildings located in their neighbourhoods. To such communities, 'heritage' is simply not on their political or social agenda. The interest shown recently by Xghajra Local Council towards recovering a number of dilapidated historical properties is, in this respect, quite exceptional.

5.4.1.2 Rural Environments

The rural or agricultural landscape of the South of Malta is in itself the product of long-standing historical processes dating back in parts to the Middle Ages. Yet, within this same rural landscape can be detected numerous archaeological monuments belonging to the prehistoric and classical eras. Most of the recorded archaeological sites are to be found on the hill tops - such as at Borg In-Nadur. Such remains include both ancient structural remains (roman villae, megalithic sites) and rock-cut features (tombs, catacombs, cisterns). Being located on hill tops, such sites often suffer from erosion, but otherwise present a fair state of preservation, and are easily viewed.

Any archaeology which may be sited on the valley beds is probably today buried under a deep layer of alluvial silt and is therefore not easily accessible, although very well protected from the erosive effect of wind and rain.

Important, but isolated, architectural monuments may also be located within such rural environments. Of particular importance are the string of military constructions located along the eastern coastline. These constructions are, more often than not, put to inappropriate commercial uses, generally as animal farms, a fact which is seriously impairing the physical integrity of these buildings.

The principal characteristics of the cultural heritage located in the rural landscapes of Malta's South are its dispersed nature and a fair degree of conservation. However, important exceptions exist to this rule.

In reality hardly any of these sites are regularly visited, either by Maltese or by foreign visitors - the GHar Dalam Museum being the main exception to the rule. Visiting such important archaeological sites as Tas-Silg and Borg In-Nadur is spasmodic at best, and once on site, the visitor will find no assistance in making any sense of these complex archaeological remains.

Given the dispersed nature of the heritage sites in such rural environments, the best way of visiting them is by means of hiking trips. However, arguably the most daunting problem faced by the casual visitor to these sites arises from the frequent confrontations which occur with the more habitual users of the landscape - farmers, hunters and trappers. Heated arguments often arise over disputed rights to cross abandoned pathways or field terraces. Such verbal litigation is frequently followed up by more tangible action - such as the blocking off of public pathways with rubble heaps in an effort to ward off the few casual hikers that may chance to pass that way. Generally speaking, visitors to these precious rural heritage sites are made to feel uneasy and even unsafe, rendering the continuation of such visiting trends a virtual impossibility.

5.4.1.3 Marine Environments

5.4.1.3.1 The Harbour Beds

The great majority of Malta's marine archaeology is actually located within the enclosed harbour waters, rather than in the open seas. Over the centuries, large quantities of archaeological materials have been trapped, often in high densities, in the heavy silting that occurs over the beds of enclosed harbours. The combined action of shipwreck and of the dumping off anchored ships off the mainland has resulted in considerable archaeological material being deposited in the harbour bed silts.

It is characteristic of archaeological materials recovered from harbour beds to emerge in a good state of conservation, due to the undisturbed conditions existing in such situations. Indeed, it is not unusual for complete ceramic pots to be recovered off harbour beds - unlike the generally fragmented remains usually encountered with on-land recoveries.

The concentration of natural harbours along the south eastern coastline of Malta - the Grand Harbour, Marsascala, St. Thomas Bay and Marsaxlokk - means that this region actually constitutes Malta's most promising repository of marine archaeological heritage. This is partly confirmed by two separate investigations carried out by the Museums Department over the last few years at Marsascala and in Drydock Creek. It is significant that both investigations recovered a surprising amount of complete ceramic pieces.

Although of primary scientific value, archaeological sites in harbour conditions are however most inappropriate locations for cultural/tourist sightseeing. Harbour waters are characteristically very murky and frequently highly polluted. Diving operations in these enclosed waters also have to take account of the dangers posed by the constant passage of sea craft. The busier industrial ports of Marsaxlokk and the Grand Harbour clearly present the greater dangers.

Harbour spaces are limited resources that are being constantly contended for by an aggressive range of competitive users - heavy industrial concerns, fishing, and amenity services such as yacht marinas. All these activities involve a heavy disturbance of the seabed deposits and of the littoral conditions through such subsidiary activities as dredging, anchorage and land reclamation for the creation of berthing facilities. The loss of archaeological material to this type of activity must be considerable, but it passes largely unnoticed.

5.4.1.3.2 Open Sea Conditions

The number of archaeological sites located in open sea conditions is considerably less than those found in harbours. The constant erosive action of the open sea and the great spaces over which ancient wrecks might be located mean that archaeological sites are actually rather sparse on the sea bed and may be badly conserved. On the other hand, diving in open sea conditions to visit submerged sites, even if only a few meters off the shoreline, is both feasible and highly rewarding. The damage, dangers and pollution encountered within enclosed harbours are practically inexistent along the open shoreline. The only exception to this rule consists in the industrial activities of off-shore fish farms. Archaeological sites in shallow, open waters are in fact so accessible and visible, that they are constantly targeted by sport divers and stripped of any portable antiquities. A large

number of wreck sites and ancient anchorage have been entirely wiped out in this way, without any official records having been taken.

5.4.2 The Key Protagonists

Malta's cultural resources are managed by a number of different organisations, the more important of which are public. These public organisations operate on different legal briefs, and no effective operational interfaces have been created to make up for these differences. The result is consequently a degree of mismanagement, caused by the disorientation of government institutions which should be ordering and conducting the heritage sector in Malta.

The key actors in the cultural heritage sector of the south east of Malta are the following :

1. The Museums Department and the Antiquities Committee,
2. The Planning Authority,
3. Works Division,
4. Cottonera Rehabilitation Project,
5. The Local Councils and
6. Non-Governmental Organisations.

5.4.2.1 The Museums Department and the Antiquities Committee

The oldest legal act effecting the heritage sector in Malta is the *Antiquities (Protection) Act* of 1925. The Act provides Government with the means to regulate the sale, export or development of any property or movable object having a specifically cultural value. The Act identifies the Minister for Culture, acting through the Antiquities Committee and the Director of Museums, as being in charge of its own implementation.

It is important to note that the Museums Department and the Antiquities Committee have distinct and separate legal personalities, and follow different operational briefs.

The Act provides the Museums Department and the Antiquities Committee with far reaching powers to intervene in a number of different heritage related sectors, which include :

the right to supervise and direct all archaeological excavations being undertaken in the Maltese Islands and territorial waters;

the right to study, record or excavate any property deemed to be of cultural interest, be it publicly or privately owned;

the right to retain portable antiquities discovered in the course of archaeological excavations;

the right to receive any information regarding the discovery of new culturally significant sites or monuments;

the duty to prepare, maintain and publish a list of culturally significant properties, or antiquities, for development regulation ends;

the duty to regulate the development of culturally significant properties through the agency of the Antiquities Committee;

the right to carry out any works which may be required for the purpose of protecting from decay or injury any culturally significant building or site, even if privately owned;

the right to resort to the expropriation of land in cases where privately owned cultural properties are in danger of being damaged or destroyed.

The Museums Department is in fact rather heavily involved in the south of Malta, particularly due to the location of three important museum collections within the region under discussion. These are the GHar Dalam Cave and Museum, the Inquisitors' Palace and the Maritime Museum. The Department is also responsible for a number of 'dormant' archaeological sites and buildings, such as the Sanctuary at Tas-Silg, the two Roman Villae at Ta' Kacciatura and at the Zejtun Secondary School, and the Auberge de France in Birgu. These sites fall under the direct responsibility of the Museums Department, but are currently not open to the general public. Most of them are in a very bad state of repair and require considerable resources to bring them back into a visitable state, and to maintain and keep them open on a regular long term basis.

The Museums Department's role in the conservation of the architectural heritage has been traditionally insignificant, due to a lack of adequate technical staff. This lacuna will be in part amended with the opening of an Institute of Conservation Studies at Bighi Palace (Kalkara), under the aegis of the Department, in the near future. This Institute should allow the Department to provide a more active service in the area of architectural conservation, but it will not be expected to take on board the sort of executive role best exercised by such organisations as the Works Division and the Cottonera Rehabilitation Project.

5.4.2.2 The Planning Authority

The major developments in the heritage sector in the 1990's were related to the enactment of the *Development Planning Act* in 1992. This Act resulted in the establishment of the Planning Authority and the launching of the *Structure Plan for the Maltese Islands*. The scope of this Act is the promotion of proper land development patterns and the control of such development, through the implementation of an adequate body of policy.

The Act is therefore not directly interested in heritage management per se, but touches upon some key conservation issues. Both the *Development Planning Act* and the *Structure Plan* recognise that the cultural heritage is a material consideration in the planning process. A number of policies have been furthermore developed within the *Structure Plan* with the specific task of ensuring that the cultural heritage is actively safeguarded.

The policy and management tools provided by the Planning Authority to meet its commitments in the field of heritage conservation include :

a) enablement to prepare and implement three different types of land management programs, namely :-

Subject Plans which discuss the way in which Structure Plan

policies are to be applied over the entire national territory,
Local Plans which detail discussions of the means by which Structure Plan policies are to be applied to a particular area,
and
Action Plans which comprise detailed descriptions of the means by which Structure Plan policies are to be applied to an area intended for some major public development;

b) the preparation of a list of heritage sites which are to be scheduled for conservation and over which the Authority may issue conservation orders to better regulate the conservation of the same scheduled property;

c) the power to issue emergency conservation orders in cases were a heritage site is being threatened by imminent demolition or damage;

d) the power to turn down or curtail a development proposal destined to cause some form of negative impact upon a heritage site;

e) the power to unilaterally take steps to counteract any injury being done to any, otherwise unscheduled, open area, garden or land of heritage value;

f) the power to create Urban, Rural and Marine Conservation Areas in zones containing particularly sensitive cultural monuments or natural resources.

In the south of Malta the Planning Authority has carried out two major planning exercises, namely the *Marsaxlokk Local Plan* and the *Grand Harbour Local Plan*. The heritage element features prominently in both texts, although always from a specifically development planning point of view. The plans include a number of comments and recommendations relating to the protection of the archaeological heritage as well as to the conservation and presentation of the built heritage. Both of these documents are essentially concerned with amplifying the policies contained in the *Structure Plan* and are not action plans as such. Nonetheless, a lot of the policies contained in them are sound and practical and could be immediately implemented or enforced.

5.4.2.3 Works Division

The general aim of the Works Division is to provide a comprehensive service to Government in the design and implementation of public infrastructure works and projects. This includes works aimed at conserving and upgrading public architectural monuments. The list of such architectural heritage is indeed vast, and has not been actually comprehensively listed. The more prominent monuments on that list include forts and fortifications, palaces, old residential quarters, warehouses as well as public ecclesiastical buildings. The services of the Works Division are also occasionally extended to cover conservation projects on private architectural properties.

Those projects which entail some form of conservation or upgrading of a public architectural heritage are actually entrusted either to the newly constituted Restoration Unit, which is located within the Building and Engineering Department, or to the Department of Construction and Maintenance. In the south of Malta, the

services of these two bodies are mainly carried out in conjunction with the Cottonera Rehabilitation Project.

5.4.2.4 Cottonera Rehabilitation Project (CRP)

The role of the CRP is to promote the rehabilitation of the historical urban environment of the Cottonera area - namely, Bormla, Birgu, Senglea and Kalkara. This objective has been pursued largely through the designing and execution of a series of conservation projects on the district's architectural and urban fabric - be it privately or publicly held. The Cottonera fortifications, including an area of up to a kilometre outside the limits of the same fortifications, also forms part of the CRP's responsibilities.

In the past, the CRP concentrated its energies on carrying out conservation projects on a succession of isolated architectural monuments, including important stretches of the fortifications. However, this is set to change as the CRP is finding it very difficult to operate only from its public funds. A greater emphasis is being placed on the rehabilitation aspect of their brief, requiring that restoration works should preferably be carried out on buildings that can sustain themselves economically in the long term. This, the CRP holds, can be achieved by attracting investors - both public and private - to occupy the rehabilitated buildings in an economically productive manner. In this way, besides guaranteeing the long-term conservation of the area, the restoration of the building can provide an economic profit even to the local community in terms of increased jobs, tourism and the gradual eradication of squatting and bad or wasteful landuse. However, the limited resources allocated to the operations of CRP and the lack of an adequate body of policy regarding the rehabilitation of old urban cores are proving to be serious impediments in the execution of CRP's social vision for the future.

5.4.2.5 The Local Councils

The Councils were created by virtue of the *Local Councils Act* of 1993, which defines them as being a local statutory government authority, having a distinct legal personality from that of central Government.

The Act does not specifically state that the Local Councils have a right to intervene in matters relating to the management of cultural heritage. When the Act does refer to heritage it is specifically to exclude it from the agenda of the Local Councils. Thus, Section 33.2 of the *Local Councils Act* states that 'national monuments' are excluded from the competence of the Local Councils. Likewise, the Act's Fourth Schedule, entitled 'Items excluded from the responsibility of Local Councils', actually lists the heritage sites and monuments that do not fall under the responsibility of the Local Councils, including the Cottonera Fortifications, Fort Ricasoli, Fort St. Angelo and "all the archaeological sites registered with the Museums Department".

The Act is not clear with regards to whether the Local Councils are enabled to play an active part in the management of the minor (*sic.*) architectural monuments, such as the various coastal fortifications, chapels, windmills *etc.* The uncertainty stems from the fact that the Act does not define what difference passes between a 'national' and a 'local' monument - indeed nowhere in the Act is the term "local monument" mentioned. The Heritage Working Committee is simply not in a position to answer as simple a question as 'Is Fort Luciano a national monument or a local one ?'!

This notwithstanding, the Local Councils are entrusted with a number of important aspects of landscape management which touch directly upon the conservation and the presentation of the heritage resource. These include :

a) the maintenance of roads and footpaths,
b) the processing of planning permits,
c) the issuing of guidelines for the upkeep, restoration, design or alteration of building facades, as well as of entire streetscapes.

Finally the Local Councils may overcome a limitation to its powers imposed upon it by the 1993 Act, by negotiating an *ad hoc* agreement with central Government on any specific subject. A case in point is the important initiative started by the Xghajra Local Council to acquire, restore and rehabilitate a number of military structures sited along the locality's coastline.

However, the Xghajra case is exceptional also in view of its uniqueness. In the great majority of cases, the limited human and financial resources of the Local Councils cannot be stretched far enough to cover yet another item on their agenda. This is an unfortunate situation since most local councils feel a sincere interest and concern in the well being of their locality's cultural heritage. However, often enough, this concern for the local heritage cannot translate itself into an effective form of action.

5.4.2.6 Non-Governmental Organisations (NGOs)

Considerable cultural property, particularly architectural heritage, is privately owned, including private residences, business locations, ecclesiastical properties and amenity areas. Many of these properties fall under the responsibility of a number of NGOs, most of which are not concerned with the cultural heritage at all - such as the Curia, the parish organisations or the musical and sporting associations. For such private bodies, the need to care and maintain their aging historical properties, may be actually perceived to be a nuisance, rather than a source of local prestige.

For this reason, the input of NGOs in the management of the country's cultural resources has been, all said, a rather negative one. Numerous cases exist in which local religious or lay organisations have carried out insensitive or destructive re-developments of historical properties entrusted to their care. A number of exceptions to this general negative trend do exist - such as the notable parish museum at the Zabbar Sanctuary or the recent rehabilitation of a 16th century house at Dar It-Tama, Bormla - indicating that the situation is not entirely beyond remedy. However, much remains to be done on the educational front, before the full heritage potential of such local or parish-based organisations may be realised.

A different picture is provided by the work of such culturally orientated NGOs as Din L-Art Helwa and Fondazzjoni Wirt Artna. The work of such NGOs in the South of Malta include the restoration of Torri Mamo by Din L-Art Helwa and the ongoing restoration work at Fort Rinella by Fondazzjoni Wirt Artna. However, the work of these organisations suffers from their being sporadic in nature, improving matters only in very localised contexts and in total alienation from the residents of the locality. It should also be stated that the quality of the restoration work sponsored by such non-public organisations is frequently not of a sufficiently high standard.

5.5.0 Issues

The poor state of cultural heritage management in the south of Malta is due to a number of local social factors and to the Government's long-standing mismanagement of the situation. These two elements have been interacting with one another since the 1950's and have today culminated in a veritable situation of heritage chaos.

5.5.1 The Socio-Cultural Factors

The main social features of this situation may be synthesized as follows :

Government is not delivering a workable heritage service to the region;

This, in turn, creates a diffuse sense of alienation at grass root level towards any type of cultural message or initiative being put forward by central Government. Locals are particularly upset by the way enforcement of the various regulations on land-use are not seriously implemented;

On the other hand 'heritage' and 'culture' are not items on society's private and social agenda. There is a general, unrealistic expectation that Government should take care of the entire heritage sector single-handedly. Private investment in the correct conservation and maintenance of the cultural resource of the region is very scarce;

Education on cultural issues is markedly absent. Society at large is not aware of the values and possibilities invested in the cultural resource. Social passivity is resulting in a trend towards accepting that the region's cultural resources be progressively brutalised through squatting or through incorrect forms of land-use (such as illegal dumping or scrap yard sites, unauthorised animal breeders, noxious industries sited in culturally sensitive areas, hunting and trapping installations);

The absence of an effective public heritage management program is pushing the local communities and organisations to undertake individualistic initiatives, which are often of poor quality and may result in causing further damage to a monument's original historical fabric; and

Heritage sites and buildings are often valued only as items of parochial pride and may become involved in long-standing parish rivalries, particularly when a monument stands on the border between different localities or parishes. The rehabilitation of a local monument is not seen as a task undertaken by local communities on behalf of the entire national community, but rather becomes a matter of parish politics.

5.5.2 Discussion of the Root Problems - Why is the South's Heritage not being properly managed ?

Four areas of critical management failure may be identified in the heritage sector, namely :

1. The Maltese Government cannot supply the services that are normally provided by a centralised cultural authority;
2. Coordination amongst the various public bodies is non-existent;
3. The Local Councils do not have a heritage role; and
4. Resources are critically inadequate.

5.5.2.1 The Maltese Government cannot supply the services that are normally provided by a centralised cultural authority

The Museums Department is the Government organisation that comes closest to providing a centralised, public, cultural service in Malta. However, the historical and legal set-up of this Department is, in many respects, severely limiting in its effectiveness.

The Museums Department - as conceived in the 1925 *Antiquities Act* - is limited to a purely reactive heritage role. The legally defined powers of the Department and of the Antiquities Committee usually come into play only when an unforeseen circumstance has arisen - such as during development, export or sale of an antiquity, or during excavations carried out by third parties.

The Act does not contemplate Government ever requiring the Department to carry out a proactive heritage role. Serious limitations in the *Antiquities Act* of particular note regard :

1. the creation of a body of national cultural policy;
2. the setting up of a national action plan for the improved conservation and enjoyment of the Islands' cultural heritage;
3. the development of a national heritage database; and
4. the Government's obligation to promote the educational/cultural value of the national cultural heritage.

Since 1925, the Museums Department has not succeeded in filling up these lacunae in its own operational brief - largely due to the severely limited human and financial resources it has suffered to date. Further to such historical weaknesses, the Department is now also facing the consequences of developments (??) that occurred over the last decade. In particular, two such developments should be highlighted :

The Antiquities Committee has not been convened since 1992. This misguided omission on behalf of Government has resulted in the virtual suppression of most of the independent legal tools provided by the Constitution to protect the national cultural heritage. Without the Antiquities Committee, most of the provisions of the Antiquities Act cannot be effectively implemented. Since 1992, some aspects of the Antiquities Committee's role have been taken up by other Government bodies - most notably by the Director of Museums Department, the Planning Authority's Heritage Advisory

Committee and the Cottonera Rehabilitation Project. Yet the full independence of action guaranteed by the Antiquities Committee in favour of the cultural heritage, is one element that cannot be transferred to any other public body. In other words, no other government body is equipped, legally and logistically, to adopt the Antiquities Committee's role without enduring a loss of effectiveness or independence of action.

The Museums Department lacks in-house architectural/conservation expertise - This feature had in the past been overcome by maintaining a close operational link with what is today the Works Division. However in the early 1990's this link was entirely severed, following a restructuring of the Works Division's organisational layout. This separation left the Museums Department entirely incapable of providing a professional service in the sector of architectural conservation, as well as in development cases touching with the architectural heritage. The Department's input in the national heritage sector is now effectively restricted to the comparatively less important sectors of archaeology and art history.

The outcome of these various limitations - both long-standing and recent date - is that the Museums Department is progressively retreating away from the role of a central public cultural service it should in reality be providing. This is a particularly serious development since no other organisation within the Maltese public sector can be realistically expected to fill up such a role within the foreseeable future.

5.5.2.2 Coordination amongst the various public bodies is non-existent

Lacking centralised direction, Malta's heritage management system must unavoidably register a degree of chaos in the outlying operational sectors. The operational briefs and resources of the various public bodies involved in the sector (see 5.4.2 above) are not coordinated with one another, resulting in an overlap of responsibilities and initiatives. Other sectors are simply not covered by any organisation. Problem areas include :

1. conservation and rehabilitation;
2. cultural education;
3. data management;
4. development control;
5. enforcement; and
6. policy control.

5.5.2.2.1 Conservation and Rehabilitation

Government's powers to intervene in the conservation sector or to promote the rehabilitation of historical landscapes is dispersed over a number of different organisations : Museums Department, Planning Authority and the Works Division/Cottonera Rehabilitation Project duo. Other public bodies - such as the Housing Authority, the Lands Department and the Joint Office - also play crucial roles in the rehabilitation of historic urban cores. In theory, therefore, the conservation sector should rely on the human and financial resources of at least four different public bodies. Yet, this is not the case, since in reality each organisation is working in complete isolation from one another. The cutting of the links between the Museums Department and the Works Division has already been noted above. A comparable situation exists within the Planning Authority. Furthermore, the conservation rules and parameters followed by each entity varies considerably from

case to case, resulting in a great variation in the quality of the finished products. Finally, the drive to upgrade and rehabilitate the heritage property situated in the Cottonera area is being seriously undermined by the Government's inability to harmonise together the issues of the rent laws, social housing and development regulations.

5.5.2.2.2 Cultural Education

No type of standing arrangement exists between the Education Department and the Museums Department to promote the educational aspect of the national cultural heritage. There is therefore no way of making the Museums Department's large holding of cultural heritage immediately available and enjoyable to the educational sector - both in the classroom and during field visits.

5.5.2.2.3 Data Management

Data collection and data sharing in the heritage sector is not regulated by any legislative act. The various references to monument listing and scheduling noted above are actually related to development regulation, and have little to do with data management as such. Heritage data is today being collected by the usual public organisations - Museums Department, Works Division, Planning Authority - without reference to one another. Data sharing is also problematic - access to the archives of the Museums Department and the Works Division is difficult due to logistic shortcomings, while Planning Authority data is generally not divulged as a matter of corporate policy. In the absence of a centrally organised archive of heritage information, heritage management in Malta will continue to be poor due to a lack of reliable information.

5.5.2.2.4 Development Control

The Planning Authority's handling of the development consultation process is proving to be problematic and, at times, rather arbitrary. For example, hardly any consultations are forwarded to the Museums Department for proposed developments in the archaeologically very promising historical urban cores and harbour beds of the South/East (see 5.4.1.1 and 5.4.1.3 above). It is worrying to note that the same attitudes have been repeated in the *Grand Harbour Local Plan*, which inexplicably downplays the archaeological potential of such historically precious a town as Birgu. The reason for such discrepancies is squarely due to the lack of communication, coordination and in the dirt of data sharing currently going on between the Planning Authority and the Museums Department.

5.5.2.2.5 Enforcement

The suppression of abusive development in culturally sensitive areas is proving difficult to enforce - much to the general public's chagrin - notwithstanding the voluminous land use studies and planning documentation produced so far. This situation again appears to be partly due to the lack of coordination between the various relevant public organisations. When law enforcement is attempted, it usually occurs in a very sporadic manner and depends upon the initiative of a single - therefore politically more isolated - organisation. Better results may be expected from a more collective legal action - therefore enjoying a broader base of political support. Enforcement of land use and building regulations should also be immediately followed up with a plan of action aimed at a district's rehabilitation.

However the degree of inter-departmental collaboration required to carry out such a task is currently entirely missing - as witnessed by the enforcement debacle along the Cottonera Lines.

5.5.2.2.6 Policy Control

The *Structure Plan* has extended itself beyond the limits of land-use policy to include certain aspects which strictly pertain to the sphere of heritage management and conservation. A similar situation may occur within the body of a national tourism policy currently being planned. Such overlapping of national policies can result in series misunderstandings both between one public body and another, as well as with the general public. The problems resulting from diverging attitudes towards conservation and development regulation have already been noted above.

5.5.2.3 The Local Councils do not have a heritage role

As described above (section 5.4.2.5 refers), the problems relating to a possible heritage role for Local Councils stem originally from the ambiguous wording of the *Local Councils Act*. Yet there is a lot of opportunity to actively involve the Local Councils in the heritage sector, even within their present, rather restricted, legal remit.

In fact, the Local Councils' remit to manage the landscape is an open invitation to curate the routes of access to the archaeological and architectural monuments hosted by their locality. Similarly, on reaching an agreement with the Museums Department, theoretically nothing should stop the Local Councils from becoming responsible for the long-term care, maintenance and presentation of the same cultural monuments.

However, the situation is in reality rather bleak - not a single site-management agreement having been reached to date between the Museums Department and a Local Council. Much of the problem lies with the usual logistic shortcomings of the same Local Councils - lack of manpower (most of which has to be procured on a voluntary basis), of finances and of technical know-how. Yet another problem relates to the way in which the Local Councils may perceive their own work as being somewhat bound up by the limits of annuated parish identities, and by the inevitable, associated parish rivalries. Symbolic of the situation is the problem of rehabilitating the Cottonera Lines - each Council expresses a sincere desire to adopt its own stretch of the Lines and undertake its restoration but in isolation of one another, with the inevitable 'patch-work' results. Greater national and regional coordination of the Local Councils' heritage initiatives is clearly required.

5.5.2.4 Resources are critically inadequate

The public finances made available for heritage related activities are chronically out of scale with the extent of the problems being faced on the field. The lack of coordination between the public bodies involved in heritage management (noted above in 5.5.2.2) signifies that the pooling of resources is never resorted to, while the wasteful duplication of tasks is not so uncommon an occurrence.

Technical heritage skills are similarly very scarce, both within the public service as well as on the open market. There is simply not enough personnel adequately

trained in conservation and archaeology, to deal with the national requirements of the heritage sector. Other important, if specialised, heritage skills - such as the archaeological recording of standing heritage buildings - although readily available abroad, are entirely absent from the local market. Training opportunities are likewise scarce or non-existent.

5.6.0 Recommendations

5.6.1 Reform of the Heritage System at Central Government Level

The successful management of the South's cultural heritage decidedly requires a more powerful heritage management organization at the heart of the Governmental set up. No long term results will be achieved at the level of the Local Councils without the far-sighted support and guidance of an adequate national heritage management organization.

The key heritage requirement at central Government level is the transformation of the Museums Department into a proactive heritage management organisation, occupying a central, positive, cultural role within Maltese society.

Government should press for reforms within the Museums Department and coordination of the various heritage related public bodies should be maximised through the provision of the right framework.

5.6.1.1 Internal reforms required at the Museums Department

1. The development of a body of national cultural policy, specifically aimed at helping to build up a rational system of Maltese heritage management, and at servicing its long term requirements is recommended. This should include policy guidelines and regulations for the following areas of activity :

    - Conservation
    - Cultural Education
    - Data Collection and Management
    - Maintenance and Presentation of cultural sites and monuments
    - Mapping of the national heritage resource
    - Monument Evaluation for development ends.

2. The re-convocation of the Antiquities Committee

3. The setting up of a national heritage database

4. The development of an action plan for the improved conservation and enjoyment of the national cultural heritage

5.6.1.2 Improved coordination of the various heritage related public bodies

Coordination between the various heritage-related public bodies can be enhanced by :

The creation of a close working relationship between the Education Department and the Museums Department;

The re-establishment of close operational links between the Museums Department and the Restoration Unit of the Works Division, particularly in the following areas of activity :

1. development and control of national conservation policy,

2. archivisation and sharing of heritage-related information,
3. sharing of expertise in the fields of archaeology and conservation, and
4. collaboration in the design and development of specific conservation projects;

The resolution of the various policy overlaps and operational breakdowns that currently characterise working relationships between the Museums Department and the Planning Authority; and

The identification of appropriate work procedures that will permit the Museums Department and the Local Councils to closely coordinate their activities in the heritage sector.

5.6.2 Heritage Management at Regional Level

Reversing the current situation of heritage mismanagement in the South entails the harnessing of both public and private resources and enthusiasms. Government funding on its own cannot be realistically expected to cover the entire conservation and management needs of the heritage sector. Without such cooperation between the public and private sectors, one shall simply have to resign oneself to the fact that most of the cultural heritage will not survive the 21st century.

Government initiatives and expenditure in the heritage sector should be directed towards the creation of a sustainable system of heritage management, which has to be based in part on private investment.

At a regional level, this requires urgent attention to two major areas of activity, namely :

the development of cultural heritage education to create greater popular consensus and enthusiasm around the issue of heritage study and conservation; and
the revision of the Local Council's heritage role to create an actual working interface between government and the local communities.

Developing heritage management at the local level should not entail the decentralisation of the national heritage system. It is rather a case of developing new management tools and resources at the local level, through a more judicious use of Government's centralised powers and finances.

The strong presence of a centralised cultural authority will still be required, if nothing else to direct and coordinate the different, and often divergent, heritage initiatives that may be undertaken by the Local Councils. It will be the Government's duty to ensure that local heritage sites and monuments stay within the fold of national interest and are not hived off by partisan parochial concerns (see 5.5.2.3 and 5.6.1).

5.6.2.1 The Educational Dimension

It is widely acknowledged that the lack of education in cultural heritage is one of the root causes for the present heritage problems being experienced in the South, as in the rest of the country.

Education in cultural heritage is required for all age groups, and for widely different types of social groups - schoolchildren, craftsmen, tourist operators, property owners and developers, *etc.* Thus, the cultural content of educational initiatives has to vary according to the audiences being addressed. The challenge is to develop a range of different types of educational services in the heritage sector.

The crux of the problem appears to be the lack of heritage studies from the primary and secondary school curricula. As discussed earlier (5.6.1.2), inclusion of the heritage element within the national educational system is entirely the responsibility of central Government and lies outside the scope of the present study.

5.6.2.1.1 Introducing Heritage Studies in Primary Schools

The possibility of modifying the national curriculum in order to introduce a specifically regional approach to heritage studies, merits closer consideration, particularly in view of the great potential presented by primary school level.

Student population in primary area schools tend to originate from well defined geographical districts. This factor renders these schools well suited to host the introduction of a regional approach to heritage studies. This advantage tends to be lost with the geographically, more mobile, student populations in secondary schools. Hence, as students moves from primary to secondary classes, the emphasis in heritage studies could likewise shift from a micro (regional) approach to a macro (national) perspective.

Thus, it is recommended that a pilot project be devised for the inclusion of heritage studies in one or more primary schools situated in the South of Malta. A working group - which will include members nominated by the Education Department and Museums Department - will be created with the specific task of preparing a technical action plan for the implementation of the pilot project.

The working committee's report should include a close study of the following points :

1. the feasibility of developing heritage studies at primary level, within a regional context; and

2. the use of local museums and sites as teaching aids on regional history, and the development of such sites where they are missing or not functioning.

5.6.2.1.2 Heritage Skills

Another educational aspect that presents strong local and regional associations relates to the training of personnel in heritage-related crafts, such as boat building, fishing or building-related crafts, *etc.* Many of these old crafts are in sharp decline or have stopped from being practiced altogether.

Often, the loss of such skills has repercussions on related heritage sectors; for example, collapsed rubble walls ('hitan tas-sejjieh') are rarely re-built or maintained simply because there is a lack of experienced workmen in this specialised construction skill. The survival of a heritage craft is furthermore intimately related to the survival of old, historical communities - a clear example of this is the relationship binding the old village core of Marsaxlokk with the fishing industry.

The decline of these traditional heritage skills is broadly attributable to two main causes :

1) the educational aspect - it is difficult to obtain training in these traditional skills, either because living memory of these ancient technologies is today entirely lost, or because the last few practitioners are unwilling to divulge what they consider to be trade secrets.

2) the economic aspect - the continuation of these crafts is simply not economically feasible, either because there is no demand for their products, or because the finished goods cost too much compared to the mass-produced wares.

Any attempt at reviving these traditional skills should therefore address itself to both the economic and the training aspects concurrently.

It is therefore recommended that a commission be appointed to identify appropriate strategies to ensure continued training in these disappearing crafts in the South of Malta, and devise ways of transforming such crafts into economically viable enterprises.

The tasks of the commission should include :

The carrying out of an economic assessment to establish which specific heritage skills present the potential of becoming economically viable, and could therefore qualify for some form of official assistance or guidance.

Considering the possibility of reserving specific public spaces and buildings for the exercise of particular heritage skills, particularly in areas traditionally associated with such crafts. Possible candidates for such associations are :

Dock No.1, Birgu - joinery and ironworks traditionally associated with the construction industry, such as ferrobattuto, galleriji, persiani.

Bighi Waterfront, Kalkara - an area traditionally associated with boat building and maintenance activities.

Marsaxlokk Waterfront - fishing-related skills.

The subsidised provision of such spaces for the carrying out of traditional skills would help these economic concerns remain competitive. The same spaces can also act as a focus for visitor flows, locals and tourists, and for merchandising. Such establishments may very well be developed into a tourist attraction on account of their heritage settings, unlike the artificial surroundings provided by a newly constructed crafts' village.

Consider the possibility of providing the hand crafted product with a competitive edge over their industrially produced competitors - such as through the quality certification of hand made goods, the provision of tax rebates, or the negotiation of soft loan for business development ends.

Consider the possibility of developing trainee opportunities - experienced crafts persons should be able to benefit from any public scheme of incentives only on condition that adequate training opportunities are provided for people

interested in entering the sector. Additional training opportunities may also be provided by Government.

5.6.2.2 Heritage Management and the Local Councils

The problems and potentials presented by a possible heritage role for the Local Councils have already been discussed (sections 5.4.2.5 and 5.5.2.3 refer).

The need to resolve the current deadlock between the Museums Department and the Local Councils on a national level, has also been noted (section 5.6.1.2 refers).

It is therefore being recommended that a pilot project, be developed under the joint direction of the Museums Department, the Works Division and the Local Councils Department to initiate a constructive working relationship between the Local Councils of the South of Malta and the central Government in the sphere of heritage management.

Thus, it is recommended that a working committee should be created with the specific task of :

Identifying possible heritage projects that may be jointly undertaken by one or more Local Councils in collaboration with the Museums Department and/or with the Works Division; and

Prepare a technical action plan for the implementation of such joint projects.

Heritage projects or initiatives involving any of the tasks listed below will be considered eligible for consideration by the working committee :

the opening up, or facilitating public access to any known archaeological or architectural monument within the Southern region as defined in this study, particularly through the establishment of visitor and hiking routes;

emergency conservation works, maintenance or upgrading of any archaeological or architectural monument within the Southern region - excluding all "national monuments" specified in the *Local Councils Act*;

the setting up of appropriate labelling and signs at culturally valuable sites and monuments; and

the drawing up of formal agreements between Local Councils and central Government for the long-term maintenance and management of heritage sites and monuments.

Furthermore, the working committee will prioritise the list of possible projects and initiatives, identifying which come closest to fulfilling the following conditions :

1. the monument intervened upon is to be kept accessible and publicly enjoyed;

2. a portion of the funding required for completion of the project will originate either from Local Council/s funds or from private sponsors;

3. the project shall entail a quantifiable element of public benefit or

improvement to a local community's standard of living;

4. any conservation works to be undertaken on site must be of adequately high standards;

5. projects should have a demonstrable relevance to the educational sector, as per section 5.6.2.1 above; and

6. the long-term (approximately 30 years) conservation and management needs of any site intervened upon have to be accounted for.

5.6.3 Specific Problem-Oriented Recommendations

The following three initiatives are meant to cover the most pressing national heritage problems currently felt in the South, or which are expected to arise in the near future. The resolution or the pre-empting of these problems cannot rely on the resources of the Local Councils, but rather on the efficient and coordinated use of central Government powers and resources.

5.6.3.1 Securing the access and enjoyment of the Tas-Silg and Borg In-Nadur Archaeological Areas

These two sites are national archaeological monuments, the management of which is directly dependent on the Museums Department. The conservation and display of these sites is proving to be very complex, requiring the coordinated action of different public bodies towards the resolution of specific technical problems. This is currently not occurring - a fact which is popularly seen as a symbol of Government's lack of interest in the region.

Returning these two sites to the public is a very pressing national requirement, which will do a lot towards improving the heritage management of the south region. Given the right conditions, this objective can be largely achieved in the medium term with relatively modest public expenditure.

Resolution of the technical and logistic problems being encountered at these two sites requires the formation of a working group with a specifically inter-departmental make-up, which should include the Museums Department, Works Division, Roads Department, Lands Department, Agriculture Department, Enemalta Corporation, TeleMalta Corporation, Birzebbuga Local Council and Marsaxlokk Local Council.

The working committee's brief should be to :

1. identify technical solutions for an improved security, conservation, access and enjoyment of the above mentioned two sites;

2. design means for the implementation of these solutions; and

3. direct the implementation stage of these designs.

Specifically, the working committee should consider the following points at each of these site :

At Tas-Silg :

the removal of a stretch of the Hal Ginwi Road, and associated services, that is currently driving through the midst of the archaeological area and rendering the effective management of the site impossible;

the design and construction of an alternative route for the Hal Ginwi Road, and associated services, to the south of the archaeological area;

the design of new adequate parking provisions close to the Tas-Silg monument;

the clarification of land ownership issues at Tas-Silg, including the obsolete stretch of the Hal Ginwi road; and

the creation of new boundaries for the Tas-Silg archaeological area, including some contiguous agricultural terraces, and the replacement of the existing boundary wall with a new, more practical fencing system.

At the Borg In-Nadur / Ta' Kaccatura Ridge :

recover the various rights of way and public passageways that originally linked the Nadur hilltop with the principle roads located in the valleys;

clarify any pending land ownership issues relating to the various monuments located on the Nadur height and to the roads of access to them;

create a network of visitor routes and hiking trails linking up the various archaeological remains located on the top of the Nadur height - the neolithic megalithic temple and fortified village at Borg In-Nadur, the classical villa, tombs and cart ruts at Ta' Kaccatura, the rustic villa known as Dar Ta' Pultu, and the Ghar Dalam Museum on the eastern slopes of Wied Dalam; and

design and implement any interventions on site deemed necessary to ensure better protection, interpretation and presentation of the Borg In-Nadur archaeological area.

5.6.3.2 Rationalising the Use of the Architectural Heritage in Public Ownership

The blatant misuse of the publicly held architectural heritage is one of the main traits of the heritage mismanagement situation of the South. The problem ranges widely from historically valuable but sub-standard housing stocks, to the abusive use of publicly held structures and spaces, to the highly insensitive and destructive use of heritage buildings by otherwise legal economic activities.

The governmental agencies in charge of the social rehabilitation of this enormous stock of heritage property are actually in existence - Housing Authority, Cottonera Rehabilitation, Works Division *etc.* What is missing is a coordinated initiative by these various public bodies to specifically address and heal this growing social problem. Basic data on the extent and distribution of this problem is also missing.

It is therefore recommended that an inter-governmental committee be created, whose membership should include the Cottonera Rehabilitation Project, Works Department, Lands Department, Joint Office, Museums Department, Planning Authority and the Local Councils Department.

The Committee should be given the task of addressing the following issues :

make a complete stock-take of all the items of architectural heritage held in public property within the eleven localities included in the regional Plan for the South;

create prioritised lists of architectural monuments requiring conservation treatment; and

propose more rational patterns of use for publicly held architectural properties, considering adequate and compatible uses both from the private and public sector.

5.6.3.3 Assessment and Record Taking of the Cultural Heritage located in the Dockyard Creek District prior to its Re-development

The two most radical plans for urban re-development currently being considered in the south region of Malta are centered around the Dockyard Creek area, namely :

1. the construction of a yacht marina along the Birgu Waterfront; and
2. the re-conversion of Dock No.1 into a different type of economic establishment.

Both these two projects will be touching upon very important aspects of cultural heritage management :

The seabed of Dockyard Creek is known to contain very important, but little studied, underwater archaeological remains (see 5.4.1.3 above). Any negative impact on these remains by the projected Yacht Marina has to be accounted for and preempted to the best of our abilities;

Dock No.1 is an architectural monument in itself, having its origins in the 17th/18th Centuries. Besides its very considerable intrinsic architectural value, Dock No.1 is beyond doubt the most important industrial monument on the Maltese Islands, in view of its centuries-old history of technological development and the role it played in the social destiny of these islands. It is important that the traces of this monument's historical role be recorded scientifically prior to their inevitable effacement as a result of re-development. Recording should occur while the installation is still in use as a dock, and not as a sort of post-mortem exercise after the closing down of this industry.

Currently, the heritage situation in Dockyard Creek is not being covered in detail by any Government body. The human and financial resources normally allotted by Government for the emergency recording and conservation of archaeological and heritage monuments is entirely inadequate to face the heritage potential presented in this area (section 5.5.2.4 above refers).

It is therefore recommended that :

1. in the short term Museums Department should be provided with a special brief, and access to necessary funds to cover the following tasks -

   draw up a brief for the survey and assessment of the archaeological and heritage resources lying in Dockyard Creek;

   employ external human resources in the fields of marine archaeology and standing buildings' archaeology to carry out the surveying brief outlined above, as well as any associated fieldwork (this may involve enrolling of foreign consultants);

   direct the implementation of the brief; and

   ensure that opportunities for skill transfer occur from any foreign experts that might be employed to locally employed assistants or volunteers, both in the sphere of standing buildings' archaeology and in marine archaeology.

2. in the medium term Museums Department and Planning Authority, together with any other relevant public or private entity, should create a working group specifically aimed at sorting out the planning dimension of any projected development in the area.

   Its brief should include

   1. drawing up of an archaeological impact assessment for the Dockyard Creek district;

   2. designing of mitigation strategies, where necessary;

   3. designing of appropriate conservation strategies on the standing architectural heritage, where necessary; and

   4. the Museums Department should also prepare a brief, and provide the human resources, for the carrying out of any rescue archaeology, where necessary, and the eventual publication of the results so obtained.

III.6.0 Built-Up Environment

Executive Summary

Methodology

Objectives

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- General
- Transport
- Recreational Areas
- Residential Areas
- Industrial Areas
- Afforestation and Landscaping

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- General
- Transport
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Final Comments

Proposed Projects

- Heritage Trails around the Cottonera Lines
- Heritage Trails around Marsaxlokk

Main References Consulted

6.1.0 Executive Summary

During the course of the preparation of the Technical Reports, the Built-Up Environment Working Committee identified problems, issues and the potential of the built-up environment in the south region of Malta.

The main issues examined, and the resulting problems, centred around transport, recreational areas and facilities, industrial areas, afforestation and landscaping. These issues were capped by lack of information regarding particular properties, inappropriate uses of government-owned property, inefficient provision of infrastructure and urban services, storm water infrastructure, illegal dumping of waste and animal husbandry within towns and villages and in inappropriate places.

The main source/cause of these problems is lack of enforcement. This is accompanied by lack of appropriate regulations and/or plans which ought to be in place to coordinate the provision of existing and additional facilities and services in the region. Measures to curb most of the problems identified in the built-up environment in the south of Malta are directed towards the elimination of the source of the problems. The major features highlighted in the this section include education in its wider sense, setting up of plans for the provision of infrastructure and urban services and amenities, efficient land and property management, involvement of the private enterprise, government and local organisations to coordinate and implement plans in a cost-efficient manner.

6.2.0 Methodology

The method adopted for the identification of issues and problems was based on informal discussions with the concerned Local Councils. The initial discussions were held with members from three or four Local Councils at a time. In this way, preliminary parameters for a regional approach to the plan could be set, albeit informally. Later discussions with members from each Local Council on an individual basis were held to better understand the issues and potentials.

During these meetings, the Local Council members were encouraged to air their views and discuss the problems and potentials of their localities. In this manner, it was anticipated that the Local Councils would :

1. become actively aware that some of their local problems were common to more than one locality;

2. become aware of the difference between planning for a locality and planning for a region; and

3. subsequently be more conducive to put forward and accept recommendations on a regional scale.

The Local Councils were also individually consulted. During meetings, the following tasks were assigned to them :

1. to go over points and other issues which arose during the previous group meetings ;

2. to list issues which the Local Council would have liked to be discussed during the forthcoming meeting; and

3. to identify possible routes around the locality where certain problems could be illustrated and if necessary photographs could be taken.

During these meetings, the issues and potentials which arose in the previous set of meetings, were discussed in more detail. Where appropriate, the Local Council members also took the team member to the affected area so that a better understanding of the problem could be gained. Where necessary photos of the area were taken.

At the end of each meeting, each Local Council was again asked to write a short report on the issues forwarded in writing by the respective Local Council.

After concluding discussions with the Local Councils, it was apparent that :

1. a number of problems were common to more than one locality;

2. if proposals made by individual localities could be co-ordinated and combined together, the result could be better than the sum of the individual proposals; and

3. various localities were attempting solutions to their particular problem, which could be leading to duplication of facilities.

Further discussions were held with executives from relevant government departments, authorities, parastatal organisations and other interested parties. The proposed recommendations were then drafted and discussed with the Local Councils at a seminar to which all the Local Councils were invited.

The issues treated by the Built-Environment Working Committee were general issues, transport, recreational areas, residential areas, industrial areas and afforestation, some of which were also investigated by other groups working on the Regional Socio-Economic Development Plan. Later, possible approaches to resolve the issues were also discussed with different interested parties and also with other consultants engaged on the Plan; the results were then cross referenced. In this manner, the proposals have evolved and are being put forward in this report. Some of the issues were dealt with in greater detail by other groups which were working solely on that particular topic. One such issue is transport which was dealt with in more detail by the Infrastructure Working Committee.

6.3.0 Objectives

The aim of this report is to :

1. identify problems and issues affecting the urban environment in the south region of Malta;

2. put forward short and long term proposals to alleviate this problem by means of better land use management; and

3. improve the built-up environment, thus raising the quality of life of the region.

6.4.0 Background

The report is meant to focus on the development within the urban areas in the south region of Malta. It takes into consideration other factors such as socio-economic and infrastructure issues. Liaison with other Working Committees involved in drafting the technical reports was undertaken to ensure that the proposed recommendations of the different consultation groups were not in conflict.

The report has taken into consideration the policies and proposals of the *Structure Plan*, the *Consultation Draft of the Grand Harbour Local Plan*, *Marsaxlokk Local Plan* and the *First Draft of the Waterfront Development Brief*.

Issues of primary importance were identified in this report and the most common problems existing in more than one locality were treated. It was not the aim of the report to consider particular detailed problems of specific areas. However these could be treated later on in specific area action plans.

6.5.0 Issues

6.5.1 General

6.5.1.1 Lack of Information Regarding Particular Properties

All the Local Councils had problems in lacking enough information regarding specific properties, both land and buildings. The Local Councils usually require this information for notification and enforcement purposes, such as requesting land owners to construct a boundary wall so as to minimise illegal dumping and regularising livestock housing in properties. Such information will be easily and readily available when the compilation of the Land Registry is complete. Without the availability of a Land Registry, tracing property owners to take any necessary action remains difficult, even with the introduction of wardens.

6.5.1.2 Inappropriate Uses of Government Owned Property

Many Local Councils complained about the existence of inappropriate uses within government owned property; for example, residential and industrial uses in and on the bastions. They also expressed strong dissatisfaction at the procedural methods employed by the Planning Authority and the Lands Department with regards to the granting of the necessary permits in the first instance and later with the enforcement of directives where necessary.

6.5.1.3 Lack of Enforcement or the Inability to Enforce

All Local Councils complained that this is a major issue. A number of Local Councils went as far as to suggest that resolving this issue is more important than the provision of finance. It seems that these Local Councils believe that even with the necessary financial backing, very little can be achieved with the present enforcement system.

The enforcement problem described by the Local Councils is that :

1. misdemeanours and offences have to be reported to the police by the public before any legal action can be taken; and

2. in some cases, even after offences have been reported to the police, very little or no action seems to be taken against the offenders.

6.5.1.4 Inefficient Provision of Infrastructure Services

All Local Councils complained that the provision and maintenance of many services, such as water house connections, street lighting and sewerage works, are very inefficient. Various aspects of the problem can be listed as follows :

1. The absence of a plan for the provision of a service and is thus provided in an *ad hoc* manner; this is especially the case with street lighting;

2. At times, the provision of a service, such as streetlighting, apparently needs ministerial authorisation, thus making the procedure for such a normal necessity long and cumbersome;

3. Long delays exist for the provision of a service, such as changing of street bulbs and changing of water house connections;

4. The quality of the service is poor; street bulbs in a particular street are reported to have been changed by the service provider even though residents continue to report the same defective bulb and no checking of other faults was carried out; and

5. Once the service has been provided, the complimentary works, such as backfilling of the trench and roadwork, are badly carried out. This has been repeatedly emphasised, especially with regards Water Services Corporation.

6.5.1.5 Urban Services Provision

There is a lack of urban services such as banking facilities and post offices, in certain localities like Kalkara, Xghajra, Marsaxlokk and Birgu.

6.5.1.6 Acute Storm Water Drainage Problems in Various Localities

All the Local Councils reported the presence of this problem to a greater or lesser extent. In some localities, the problem is very serious and might even prove to be dangerous to the public.

6.5.1.7 Illegal Dumping of Waste

All the Local Councils reported illegal practices of flytipping. The provision of skips and the free 'bulky refuse' service has not eliminated the problem and very often vacant plots end up as rubbish dumps.

6.5.1.8 Animal Husbandry Within the Village or Town and in Other Inappropriate Places

At first, many Local Councils reported the presence of livestock rearing in residential areas. However, closer inquiry revealed that only a few Local Councils feel that this is a serious problem in their respective locality though the occurrence exists to some extent in many localities. Moreover, from a survey carried out by the agricultural consultant within the Economic Issues Working Committee, it seems that most animal husbandry activities are decreasing in intensity.

6.5.2 Transport

6.5.2.1 Efficiency of the Road Network

A number of Local Councils reported that if a short stretch of road would be constructed, the traffic situation within their respective locality and even within the region would be ameliorated. Other Local Councils pointed out that access to their

locality was restricted. These reported shortcomings indicate a certain degree of inefficiency in the road network and that significant improvement may be achieved with a modest investment in certain areas.

6.5.2.2 Public Transport System

Some Local Councils have commented on the inadequacy of the existing public transport system. Some of the deficiencies recorded are listed below :

1. Insufficient bus frequency, especially during work rush hours;
2. The existing bus routes are inadequate to cater for the needs of the public;
3. Some of the existing bus routes are of an excessively long duration due to extended stops in certain towns;
4. Unresolved conflicts over the location of bus termini;
5. Lack of dispatchers at termini;
6. Lack of adequate number of bus shelters; and
7. Routes which link historical sites are lacking.

6.5.2.3 Private Transport System for Tourists and Locals

The routes taken by tourist coaches as well as depots for them, have caused problems for a number of localities. Moreover tourist transport services and coaches and minibuses for locals are sometimes competitors for the same clients. The result of such competition is reflected in the problems which are being faced by certain localities.

6.5.2.4 Parking Facilities

All localities reported an acute parking problem at least in specific parts of their respective localities. This problem must be studied in depth before any comprehensive proposal can be put forward.

6.5.3 Recreational Areas

Presently, formal and informal recreational facilities in the region are very scarce. Moreover, some of the few available facilities are not optimally located (for example, they are too far from residential areas or suffer from inadequate parking space provision) or are not well maintained. Adequate recreational facilities would serve to fulfill the needs of the local community and to attract greater touristic activity in the south region of Malta.

6.5.3.1 Informal Recreational Areas

All the eleven Local Councils categorically stated that there was an acute lack of informal recreational areas where people can enjoy themselves through walks or picnics.

The south region of Malta has principally the following potential attractions for recreational purposes especially for informal recreation :

1. bastions and other places of historical interest,
2. waterfronts,
3. valleys and rural areas, and
4. urban open spaces.

6.5.3.1.1 Bastions and Other Places of Historical Interest

The bastions and other places of historical interest require maintenance and rehabilitation. At present, they are very often inappropriately used; instances exist where neighbouring residents have removed the paving from bastions and built small bridges to link their residences to the bastions, thus acquiring a small garden.

6.5.3.1.2 Waterfronts

Presently most of the waterfronts in the southern region appear neglected and scarcely anything has been done to upgrade the sites even though there are instances of historical, ecological and scientific importance. Apart from the Marsascala waterfront, all other waterfronts require considerable upgrading, given the recreational potential they have.

6.5.3.1.3 Valleys and Rural Areas

Sensitive areas like valleys require very careful human intervention. However, one should not overlook the recreational potential these scenic places possess. These areas are very often used for flytipping and other illegal activities, turning scenic settings into eyesores.

Another issue is the poor pedestrian and vehicular access between urban areas and poor links between urban and rural areas. Efficient infrastructure is another resource with the potential to be developed for tourist purposes.

6.5.3.1.4 Urban Open Spaces

Presently, the existing urban open spaces are usually poorly maintained and their full potential is not exploited. These spaces could act as natural foci within an urban environment.

6.5.3.2 Formal Recreation Areas

Most Local Councils have reported an inadequate supply of formal sports facilities within their respective localities. A very small number of localities make use of government school facilities for certain sports. However, even in these cases, there were administrative problems regarding access.

6.5.4 Residential Areas

6.5.4.1 Housing Provision

None of the Local Councils brought up the issue of the need for housing provision since they all have a considerable housing stock. When asked directly about both Government and private housing, many complained about other problems, these being :

the lack, inadequacy or the poor design and maintenance of parking facilities, especially within government housing estates; and

the lack of wells within residential areas.

6.5.4.2 The Presence of a 'Large' Number of Vacant Dwellings

In the south region of Malta, a substantial number of vacant dwellings exist; these are either privately owned or owned by the government. At present, no reliable data is available; so only an estimate can be given. In this report, the word 'large' is being used to reflect the Local Councils' impression. The reasons given for the 'large' number of vacant buildings are:

1. inheritance problems;
2. summer resorts;
3. very high rehabilitation costs which deter the owner from repairing to rent out the premises and the buyer from purchasing the property; and
4. the current rent laws.

Some of the Local Councils felt that the presence of a 'large' number of vacant dwellings is detrimental to the welfare of their respective localities for the following reasons:

1. No maintenance is usually carried out in such properties which then deteriorate and become an eyesore. Moreover, such properties will be more difficult to dispose since the costs of rehabilitating them becomes prohibitively high;
2. It is difficult to know who the owners are when any action is required; and
3. If a number of vacant dwellings are located in close proximity, then that area within the locality degenerates encouraging social and health problems associated with such environs.

6.5.4.3 Poor Building Conditions

A 'substantial' number of buildings is in a state of disrepair while the number of substandard dwellings is also considerable in certain localities. To establish the extent and nature of the problem, a building condition survey must be carried out. Only then can detailed strategies be formulated.

Rehabilitation and upgrading of part of the existing housing stock, presently lying vacant and neglected, is another problem the Local Councils are facing. One of the factors contributing to this problem is that residents of a low income group are unable to afford property maintenance and restoration.

6.5.4.4 Incompatible Uses Within the Residential Areas

A number of localities complained of a number of incongruent uses within the residential areas. Such uses ranged from animal husbandry to noise pollution from recreational areas; in some areas, squatters were reported.

6.5.5 Industrial Areas

6.5.5.1 Generated Traffic

Many Local Councils noted that industrial areas increased the traffic generation in that area thus generating air and noise pollution with their respective health problems.

6.5.5.2 Parking

Many Local Councils also noted the increased parking problems generated by the presence of industrial areas, especially those due to Dockyard activities.

6.5.5.3 Drainage, Sewerage and Industrial Waste

Localities which are in close proximity to an industrial area, complained about the drainage problems caused by industrial wastes. These include :

1. drainage overflows especially during autumn storms; and
2. the contamination of sewage by industrial waste.

Many problems could arise due to (1) and (2) above, namely :

1. drainage overflows pose a health hazard due to the potential spread of micro-organisms;
2. industrial waste can corrode or block the existing sewerage pipe system, thus incurring considerable repair costs;
3. industrial waste could somehow interfere with the smooth running of the sewage treatment plant which depends on microbiological processes; and
4. industrial waste could also contaminate the marine environment where part of the waste terminates.

6.5.6 Afforestation and Landscaping

Planting in the south region of Malta has been very haphazard and there has been little effort to carry out any organised afforestation or landscaping schemes. Both rural and urban areas lack the greenery from which many people could benefit. The *Malta Structure Plan Technical Report No. 5.4, Appendix 5.6* states that most of the area covered by the Regional Socio-Economic Development Plan is composed of built-up or cultivated land with very little afforested areas. Trees should not be planted solely for their aesthetic appeal but also for their important functional roles. Trees and other vegetation help cool urban areas, act as buffers to air pollution, act as visual and acoustic barriers and are highly efficient windbreakers. No development which endangers existing trees and shrubs should be permitted.

6.6.0 Recommendations

6.6.1 General

6.6.1.1 The Land Registration Process Should Be Speeded Up

The Land Registry is the best source of information regarding available property, both land and buildings. In order to speed up the process of land registration, it is necessary that :

1. adequate resources are allocated to the Land Registry;

2. co-ordination between the different government departments and other interested bodies must take place at all levels. To further enhance co-ordination between the Land Registry, the Planning Authority, the Lands Department and other concerned bodies, a computer network could be set up;

3. wherever there are difficulties to identify ownership, the Land Registry declares ownership through the Local Councils. Parameters for such cases should be identified; and

4. Local Councils can liaise with the Land Registry to develop a system which facilitates the registration of property within their locality.

6.6.1.2 Setting Up a Comprehensive Plan for Government Owned Property

In the long term, a comprehensive plan for Government owned property should be prepared where appropriate time frames and uses are drawn up, including a management plan. To carry out this proposal, considerable resources must be allotted for the project.

6.6.1.3 Lack of Enforcement or the Inability to Enforce

1. It is the duty of the police to take action on any matters involving public order without the need of the general public to report. The police force should continue to make this known to all involved in keeping public order.

2. It is suggested that a more pro-active approach is adopted towards keeping public order. It is proposed that there is more informal interaction between the police force and members of the public especially young people. This could take the form of regular lectures in schools and other activities in and out of schools.

3. The introduction of wardens within the Local Councils would improve the enforcement situation.

6.6.1.4 Efficient Infrastructure Service/s

1. A plan for providing street lighting in new and old areas should be prepared and primarily introduced where *ad hoc* street lighting has been installed.

2. The actual procedure of installing new streetlight fittings should be made more efficient.

3. Alternative means of supplying services to localities should be studied. Service provision should be planned and co-ordinated so as to provide the least inconvenience to the end user. Following are some alternatives :

   providing a one stop service office catering for all services;

   providing personnel attached to the Local Councils and the service provider so that the services within the locality could be better supervised; and

   contracting out the service provision with strict control and supervision of the contractor.

4. Alternative procedures of service provision should be studied for maximum cost effectiveness and maximum efficiency. For example, if certain works are usually better executed at night, then the work schedule of the service provider must reflect this.

5. Considering the large expense incurred by the nation on the provision of infrastructure services, the service provider should be held responsible for the proper execution of any complimentary work to the service provision and adequate punitive measures must be in place to address this issue.

6. A maintenance plan for services should be made.

6.6.1.5 The Provision of Urban Services

An area can only be called truly urban if it has the provision of urban services, such as the availability of a post office, police station and other civic amenities. Thus, it is recommended that such amenities are introduced in all the localities where they are lacking.

6.6.1.6 Education Campaign and Enforcement to Prevent Illegal Dumping of Waste

1. An education campaign should be embarked on;

2. Concurrently enforcement of present legislation should also be made;

3. School activities should include clean up exercises (say of valleys, seashores etc.) which could continue into the summer vacation; and

4. The provision of skips is a commendable initiative and Local Councils should be encouraged to continue their provision.

6.6.2 Transport

6.6.2.1 Efficiency of the Road Network

This issue has been treated in detail in the technical report of the Infrastructure Working Committee. A study on the efficiency of the existing road network within the region should be undertaken and any proposals put forward should be implemented, giving priority to those which give a maximum return on capital outlay.

6.6.2.2 Public Transport System

The Infrastructure Working Committee is tackling this issue in greater detail. Land-use plans indicating the ideal position of termini for public transport and for tourist transport respectively should be carried out after any relevant studies and consultations have been carried out.

6.6.2.3 Private Transport System for Tourists and Locals

Plans for tourist influx must be made where access by vehicular traffic and/or pedestrian traffic are clearly indicated. Tourist coach routes, depots and termini should be planned including the provision of facilities for the service providers, stopping areas and also tourist walks from such stopping areas. Such plans can only be prepared after the relevant studies and consultations have been carried out.

6.6.3 Recreational Areas

6.6.3.1 The Need for an Outline Strategy for the Provision of Recreational Areas

Many recreational facilities require a large area of land to function properly. Such land is usually necessary either due to land requirement of a formal sport centre or to create a feeling of well being. Land is a very scarce resource in Malta and within some built-up areas, very little vacant land exist. The provision of land for recreational activities in a cost-effective manner can only be achieved through efficient land management which requires a new attitude towards land management and also the introduction of new techniques.

The provision of recreational facilities also requires adequate investment which, if properly managed, can give financial returns. Thus, the provision of recreational facilities should not be solely the responsibility of the public sector. Rather, the private sector should be strongly encouraged to take an active part in the development of these facilities.

The two principle concepts upon which the strategy for the provision of recreational facilities is based are efficient land management and public-private partnership.

6.6.3.1.1 Maintaining and Upgrading Existing Recreational Areas

Existing and potential formal and informal recreation sites should be upgraded and maintained to fully exploit their potential. Any existing uses which detract from their historical, cultural and recreational value should be changed to more compatible

ones. The upgrading of these areas will serve to alleviate the local problem of providing recreational space. At times, the acute lack of recreational space forces the residents to move to the northern parts of the island to find adequate recreational facilities. The upgrading of existing recreational areas can also attract more tourists to the localities

6.6.3.1.2 Sharing of Sports Facilities

Serious consideration should be given to the sharing of existing sports facilities which are found in the premises of schools, parastatal bodies and other organisations. It is the aim of the Plan to ensure an adequate amount of sports facilities for the whole region rather than taking a piecemeal approach and concentrating on the specific needs of each locality. This will avoid having unnecessary duplication of the same facility in two neighbouring areas. It is important that a wide variety of sports facilities shall be provided if all the community is to be satisfied.

6.6.3.1.3 Incentive Based Planned Development

Where vacant land for the provision of recreational areas is required within an intensely built-up area where no vacant land exists, then the introduction of specific techniques, backed by the necessary legislation and administrative systems, is necessary. One possible technique is incentive-based planned development.

The most significant feature of this type of development is that, within the provision of a Plan and without reverting to public funds, a developer can provide for a facility which is lacking, in this case recreational space, achieving for example, a limited increase in floor area in certain areas.

Incentives can be given on a sliding scale, where smaller incentives could be given for providing less significant facilities. Incentives on a building-by-building basis cannot supply the planned set of relationships required in complex urban centres but can prove to be effective in less complicated and less intensely developed areas.

The areas with a lack of public open space must be demarcated in the Local Plan together with the details of the incentives being offered for the provision of the required public open space. Individuals, or groups of individuals, who own property in the area and would like to provide some area as public open space while availing themselves of the offered incentives would submit their proposals to the Planning Authority for their approval. Once an approval is issued, work on the open space can commence.

The introduction of such a plan requires concurrent changes in the existing legal framework and planning procedures.

6.6.3.2 A Plan for the Upgrading of Informal Recreational Areas

It is proposed to make a plan for the upgrading of these areas which should include the sequence for the area upgrading. The sequence should be planned after due consideration is given to a comprehensive approach and any financial investment from other sectors besides the public sector.

Upgrading of these areas will alleviate the problem of the locals and serve to attract more tourists to the localities.

6.6.3.2.1 Bastions and other Places of Historical Interest

1. Maintenance of the bastions and places of historical interest should be a priority in the Regional Socio-Economic Development Plan since these :

   are of historical importance,

   give the area its own special character, and

   form the basis of the tourism potential in the area.

2. There should be a maintenance plan where maintenance on the bastions is executed on a rotational basis.

3. A rehabilitation plan for the bastions should be formulated incorporating short and long term proposals. In the plan, the following should be considered :

   i) Illegal uses and other abuses are to be eliminated through better enforcement;

   ii) Any dumping areas on or in close proximity to the bastions (for example, the ditches surrounding the bastions) are to be cleared and kept clear. Such areas can then be used as recreational areas by the locals;

   iii) Any abandoned gardens outside the bastions and cavaliers in a neglected state should be upgraded for recreational purposes; for example, St. James Cavalier in Birgu;

   iv) Recreational facilities which do not detract from the character of the bastions should be incorporated within the bastions;

   v) Access for disabled persons should be given priority in any development proposal;

   vi) Due consideration should be given to the possibility of linking the bastions to the places of interest within the three cities through the provision of predetermined walks and historic trails;

   vii) Management of the areas must be fully planned specifying the levels of maintenance required, means of protection of the sites, financing and other issues. The entities which will be responsible for every specific task should be clearly set out; and

   viii) Rehabilitation of forts and places of historic interest is of primary importance for the proper exploitation of their potential as tourist attractions. Such places include forts, batteries, coastal towers and pillboxes, chapels, palaces and churches. These places, if government owned should be made readily available to the public and, where possible, be actively conserved, that is, rehabilitated to

produce a revenue with which the building may be maintained in the long run without detracting their historical value;

6.6.3.2.2 Waterfronts

Development of the waterfronts of Birgu, Bormla, Isla, Kalkara, Marsaxlokk, Xghajra, and Birzebbuga for recreational activity should be considered as an important objective of any development in the southern region.

The waterfront development should be in accordance with *Structure Plan* Policies and any other relevant Local Plan or development brief which is in force.

Consideration should be given to treat the waterfront as one continuous element, especially the Cottonera waterfront, in terms of hard and soft landscaping proposals.

The street furniture utilised on the waterfronts should be co-ordinated to serve as a unifying element. One of the greatest advantages of a co-ordinated street furniture system is that the various elements can also be grouped more easily. For example, a bus shelter or kiosk could become a support for other elements such as lighting, signs and advertisements.

Access to disabled persons should form part of comprehensive designs.

6.6.3.2.3 Valleys and Rural Areas

A network of footpaths and cycle ways which links the urban settlements to each other and to other possible interesting areas can be developed in the valleys and rural areas.

The footpaths/cycle ways should include rest areas with the necessary street furniture and structure planting and make the best use of views, existing footpaths and local access roads.

The areas and links should be properly managed and maintained.

6.6.3.2.4 Urban Open Spaces

Open spaces should be provided in all housing estates. The gardens should preferably have part of the site allotted for play furniture to attract the children of the area.

The open spaces must be well designed and finished so that people can enjoy spending their time in the open space.

Good maintenance of these open spaces should be a priority.

A study should be made regarding the possibility of linking the open spaces to each other, using a system of 'corridors', such as is being considered on a larger scale in overseas natural parks.

6.6.3.3 A Plan for Easier Access of Formal Recreation Areas

A primary consideration of the Regional Socio-Economic Development Plan is the efficient use of the scarce land resource. Sharing sports facilities which has already been proposed in the past, is a major step in the right direction. It is being proposed that a system is set up to actively encourage and manage existing and new recreational facilities in the southern region. This system, and its management, should have the necessary political and financial backing. It must also be supported with the necessary manpower and a reasonable time frame adopted. Any attempt at an *ad hoc* approach must be resisted since tackling such a vast problem involves a change in the existing cultural inertia to recreation and recreational spaces. A possible management system is as follows :

Setting up of a Regional Sports Federation to :

co-ordinate the sports facilities which are to be shared between schools and other organisations, and

keep track of all the sports facilities available in the schools, their condition, and whether these facilities are being adequately shared.

Setting up of a Sports Facility Management Board between the School Councils and the Local Councils with the aim of co-ordinating the sports facilities within the schools. The Board shall have as its members the School Council's Chairman/President (or his representative), the School Head (or his representative) and the Local Council Mayor (or his representative). The structure of this Management Board shall be as follows :

if a school exists in a locality and is self-contained, it shall be composed of as stated above; and

if a school exists but two or more schools are located in the same building and share the same facilities, it shall be composed of as same as above but with the addition of one member of each school represented.

Any existing system which has been implemented, and any work which has been done in the area, must be reviewed and utilised in a positive manner.

Consideration should also be given to the sharing of the sports facilities available in church and private schools. Discussions should commence so that possible *modus operandi* are investigated. This would ensure that all available resources are put to their most advantageous use. Any income to the school could be used for the maintenance of the same sports facilities and other needs which the school may have.

Existing facilities in state schools which are in a bad state of repair should be repaired and maintained. It should be assured that before new facilities are built, financial resources are directed towards the upgrading of existing pitches, courts and other sport facilities to make best use of available land . (*Consultation Report submitted by the Education Department, Appendix 6.3*).

A sports complex should be provided in the Plan Area with the aim of catering for as wide a variety of sports facilities as possible and to cater for the sports facilities which are lacking in the area such as basketball (which is not available in most of

the localities). Ideally, a sports complex should be centrally located, enabling ease of accessibility.

A sports complex should also be provided with public transport facilities. A route which incorporates the sports complex as one of its stops should be designed. Alternatively, routes to serve specific sports complexes should be formulated. Ideally, such routes would operate after school hours since it is meant to serve the general public including school children.

6.6.4 Residential Areas

6.6.4.1 Improving the Housing Provision

1. Since better use of the existing housing stock would improve the housing provision, policy and intervention should be concentrated on this aspect (sections 6.6.4.2 and 6.6.4.3 refer).

2. Maintenance and upgrading of government housing areas should be carried out and where possible the design of the external space improved.

3. Where possible, wells should be constructed or existing wells better utilised. Such considerations are especially important in government housing estates where the design usually affords large surface areas for storm water run off.

6.6.4.2 Rehabilitation of the 'Large' Number of Vacant Dwellings

1. The current rent laws should be reviewed, especially those which regard buildings constructed before 1939. A first step could be to treat new rents of buildings constructed before 1939. Presently these buildings are still covered by this regulation and they cannot be rented if not at a very cheap price. Besides, the owner receives very little compensation for any repair works he/she undertakes on the property.

2. A commission should be set up to study possible ways of expediting the court and other procedures regarding inheritance problems.

3. The Government should provide incentives to encourage the purchase of vacant properties for residential purposes. This would alleviate the problem of overpopulated areas and provide for a more even distribution of people within the residential areas. Methods should be introduced whereby subsidies offered for the rehabilitation or upgrading of vacant property are directly related to the fact that the properties are utilised on upgrading / rehabilitation. Priority should be given to the rehabilitation of Listed Buildings and houses in Urban Conservation Areas.

4. New schemes regarding loans to buy the type of property described in the preceding paragraph. should be formulated and existing ones reviewed. An important factor to be considered in the new schemes is the maximum value for which the Government will provide a loan to those buying such a property. Presently the maximum value mentioned in existing schemes appears to be low when compared to recent increases in property prices.

5. Subsidies should be given both for internal and external repairs such as timber balconies and facades in general.

6. Co-ordination should be sought between the Housing Ministry, the Housing Authority and the Cottonera Rehabilitation Project for the formulation of any new schemes.

7. The national policy on double residences (that is, ownership of more than one residence for vacation reasons) should be reviewed. At present, a number of buildings remain vacant for this reason..

8. It is recommended that the outcome of the ongoing housing pilot project for Floriana is studied. In this project, areas where a concentration of vacant buildings exist, have been identified. The property owners of such areas have to register their properties within a given time limit. Where property owners are unknown, the Government, through Section 16A of the *Land Registry Act*, Cap 296, will intervene and take over the property and administer it as necessary. If the owner claims his/her property within the legal period, then an agreement within the law must be reached between the owner and the government to the satisfaction of both parties. Meanwhile, the Government has, at its disposition, a number of otherwise vacant property. It is recommended that the method employed in this pilot project should be studied and any suggestions for improvement should be put forward. The same methodology may then be adopted for other areas in Malta, especially those localities covered by the Regional Socio-Economic Development Plan for the south of Malta.

6.6.4.3 Improvements in Existing Buildings Which are in a Poor State

1. Introduce or extend existing grants and subsidies schemes for the repair of the existing building stock.

2. Other schemes could make use of the skills which are found in the South Regional Plan Area. One such scheme could be introduced whereby the government supplies the technical expertise while the residents put in the labour to improve their building stock. Such a scheme could be initiated on a pilot scale. It could be run by government officials or Non Governmental Organisations.

6.6.4.4 Minimising Incompatible Uses Within the Residential Areas

In those localities which are in a state of rapid change, a zoning method could be considered so as to minimise uncertainty of future possible uses and aggravation to residents.

6.6.5 Industrial Areas

The preparation of plans indicating changes in use from residential to industrial/commercial should be encouraged. In some cases, the introduction of zoning should be made (section 6.6.4.4 refers).

6.6.5.1 Identifying the Generated Traffic for Good Road Design

Studies of the increase in traffic must be carried out so that the type of traffic (heavy, tourist, private car *etc.*) as well as its routes are identified. Only then can good road design be carried out.

6.6.5.2 Prevention of Parking Problems

As already stated in section 6.5.5.2 above, parking provision, or rather the lack of it, is a widespread problem and needs further in-depth study to provide a comprehensive solution. However, nodes where major parking problems exists may be identified immediately and preventive measures undertaken.

6.6.5.3 Drainage, Sewerage and Industrial Waste

1. Strict legislation and enforcement must be made with regards to this issue due to the sensitivity of the problem.

2. The Ricasoli Industrial Estate contains mixed chemical industries. Thus, it is recommended that :

   the heavy and light industries are separated depending on their nature;

   a landscaped buffer zone should be set up to surround the industrial estate;

   obtrusive buildings are screened; and

   the foreshore in the industrial estate zone should be upgraded in line with the *Grand Harbour Local Plan.*

6.6.6 Afforestation and Landscaping

6.6.6.1 Proposals

1. A programme for afforestation and landscaping of the area covered by the Regional Socio-Economic Development Plan, should be prepared with the aim of increasing vegetation within the urban and rural environment. It is important that indigenous or archaeophytic species are planted in rural areas keeping the exotic species to the urban areas. Afforestation and soft landscaping measures should be considered in the following cases:

   for screening of visually intrusive structures;

   along arterial and distributor roads;

   along waterfronts and coasts;

   outside settlements - existing and proposed;

   near industrial areas, large buildings, etc.;

   along footpaths and cycle ways;

in parks;

in areas of reclaimed wasteland or disturbed land;

in urban open spaces; and

as green ways of vegetation connecting open spaces and/or valleys.

2. A number of schemes should be introduced to encourage the public to participate in afforestation measures. These schemes could be financed both by the public and private sector.

3. Short and long term management plans for the proposed and existing afforestation schemes should be prepared. Maintenance plans are required for the drawing up of standards for planting, pruning, mulching and fertilising. A replacement policy and ways of protecting planted trees should be established.

6.7.0 Final Comments

The recommendations put forward in this report are summarised hereunder :

1. Education in its widest sense must be promoted as a priority;

2. Provision and maintenance of adequate infrastructure and urban services;

3. Efficient land and property management;

4. The promotion of private enterprise and, where feasible and necessary, joint ventures; and

5. Government's role should be that of a facilitator and, where necessary, it should modify its administrative structures such that effective delegation of any works is more feasible.

For the successful implementation of the Regional Socio-Economic Development Plan for the South of Malta, it should be stressed that :

Both financial and human resources should be available;

Political commitment is required to give all the possible backing to the Plan; and

Government Departments and other agencies which may be involved in the implementation of the Plan should co-ordinate the work together.

6.8.0 Proposed Projects

6.8.1 Heritage Trails around the Cottonera Lines

The area of the location of the trails is shown on the accompanying site plan. The bastions are very imposing and with facilitation they can make a very interesting trail. Visitors can go around the bastions on foot, by bicycle or on horse back. There could be strategic points of entry into the three cities, other stopping areas etc. Such a historic trail could attract both Maltese people and tourists and could generate substantial commerce.

6.8.2 Heritage Trails around Marsaxlokk

The area of Marsaxlokk is very rich in defence works. The proposed Delimara National Park will also be sited in the area. Trails and walks have already been proposed for the Delimara National Park, so proposals being put forward within the Regional Socio-Economic Development Plan can be incorporated there.

6.9.0 Main References Consulted

The Environmental Research and Consultancy Unit, *Baseline Survey Report : Maltese Local Environmental Embellishment Programme.* October 1995.

Planning Services Division, *The Structure Plan for the Maltese Islands.* Malta, 1990.

Planning Authority, *Grand Harbour Local Plan - Consultation Draft - General and Area Policies.* Malta, 1997.

Planning Authority, *Marsaxlokk Local Plan.* Malta, 1995.

Planning Authority, *The Development Brief for the Regeneration of the Cottonera Waterfront : First Draft.* Malta, 1997.

Planning Services Division, *Technical Report No. 5.4.*

Consultations

Dr. Godwin Grima - Land Registry

Joe Caruana - Lands Department

Education Department

Health Department

Housing Ministry

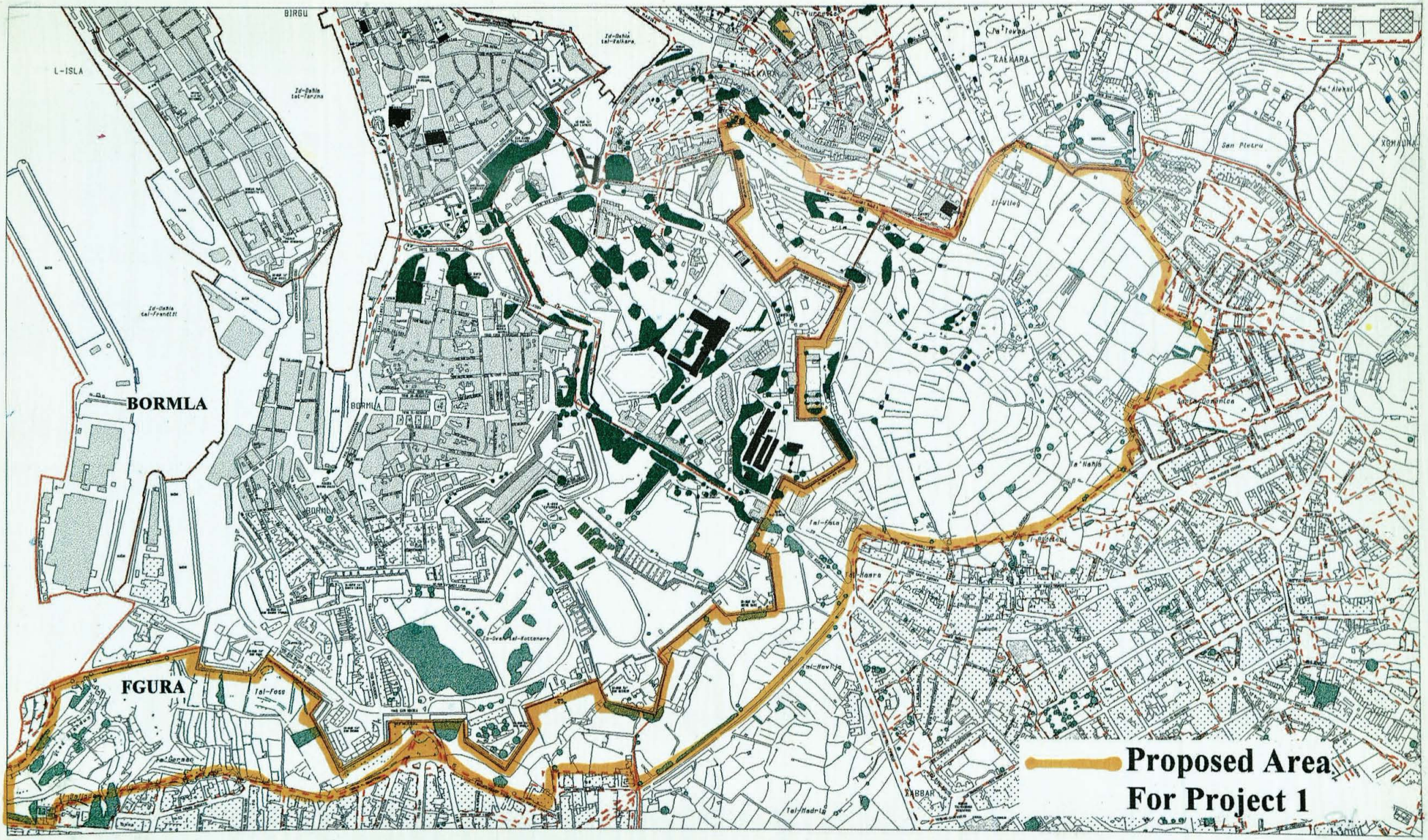
Housing Authority

Housing Maintenance Department

Piju Busuttil A.&C.E. and Herman Bonnici A.&C.E. - Cottonera Rehabilitation Project

Dr. Anna Mallia - Attorney General

Assistant Commissioners of Police - Josie Brincat and Maurice C. Borg


BIRGU
L-ISLA
BORMLA
FGURA
Proposed Area
For Project 1


ZEJTUN
MARSAXLOKK
Power Station
Proposed Area
For Project 2

III.7.0 Infrastructure

Executive Summary

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Transport

Main References Consulted

Appendix III.A7.1

Appendix III.A7.2

Appendix III.A7.3

7.1.0 Executive Summary

Most of the country's infrastructure is designed and implemented through Central Government's agencies. This is particularly the case for sewerage, stormwater, potable water and electricity supplies. Within the transportation sector Local Councils are responsible for the management of non arterial roads and for their reinstatement together with the management of traffic distribution within such roads.

Within the infrastructural sector the role of Local Government is today still limited and therefore the Regional Socio-Economic Development Plan for the south of Malta has to articulate itself between projects being implemented by Central Government in the region and those activities which may be devolved to the Local Councils.

The wastewater sector is currently governed by the Sewerage Master Plan for Malta and Gozo which was formulated in 1992 but which is kept as a dynamic document into which more efficient proposals are inserted. Within the region this Plan will undoubtedly leave its mark as it is envisaged that a new transmission main from Floriana to the site of the new sewage treatment plant will have to be constructed together with the necessary treatment facilities. These major projects are destined to eliminate land and marine pollution whilst in turn generating by products which could be transformed into a precious resource. Within the same region the existing sewage treatment plant is also being upgraded and from within the region an amount of 75,000 cubic metres per day of second class water are expected to be produced.

The existing sewerage system in Malta also suffers from the abusive discharge of stormwater and it is often subject to surcharge during wet weather. The construction of retention basins at Birzebbugia, Marsaxlokk and Zabbar should help the attenuation of peak flows and reduce the number of overflows drastically.

The absence of a developed stormwater network is the major cause of flooding during the rainy season. It is therefore important to treat this issue in order to dispose of excess waters that cause flooding and to utilise other portions for local and more macro issues.

The Water Services Corporation is responsible for water supply and distribution as provided for by the *Water Services Act* XXIII 1991. At the same time, this regional development plan for the south of Malta offers scope for co-operation between the Water Services Corporation and Local Councils in the region. The main proposals that have emerged from this plan are projects and policies directed towards greater participation of Local Councils. These include participation in projects/policies or delegation of activities related to road reinstatement and maintenance. These are considered as ideal for such co-operation particularly in view of Local Councils' responsibilities in this field.

The Water Services Corporation's proposal for the construction of a new Reverse Osmosis Plant is a major project which will have an impact on the region. It is expected that the benefits associated with this plant will outweigh its disadvantages and that this plant would improve water supply and water quality in the region. Moreover disadvantages, negative impacts and preoccupations expressed by Local Councils would be addressed at the design stage.

Other major projects planned for the region include water distribution system extensions and renewals. These works are necessary to ensure a stable and adequate supply of water to the localities. A number of these projects is already underway. Local Councils can provide a valuable contribution to these projects through assistance in the identification of priority works and in investigating ways of minimising inconvenience and any negative impacts normally associated with such works. Other proposals such as common trenches and dual water main systems have been discussed during the course of this plan but require further assessment and studies.

Enemalta Corporation is primarily responsible for the supply of electrical power and street lighting installation and maintenance. As for other infrastructures, electricity is one of the prime movers of the economic and social growth. A reliable and good quality of electricity is essential for today's life. While Enemalta Corporation predicts that the annual increase in electricity peak demand is increasing at about 6% *per annum* for Malta, there are localities, such as Marsascala, where this could be greater due to the large expansion in buildings and commercial outlets. Other localities, such as the Cottonera cities, have negligible increase. Enemalta, currently, dedicates most of its resources to meet this increase in demand.

Local Councils have greatly complained about the way that street lighting is being installed and maintained. They claimed that requests for new street lamps are not being met by the authorities and that Enemalta Corporation street lighting maintenance leaves much to be desired.

This report includes recommendations to ensure that in the future a more reliable supply of electricity is present and to ensure that deficiencies in the way street lighting is presently be handled are eliminated. Furthermore, this report proposes installation of lighting in arterial roads for the safety of drivers and illumination of historical site and buildings such as the Cottonera lines.

A further scope of this report is to identify, with the assistance of Local Councils and transport related organisations, the main transport issues in the southern region of Malta. It will then seek to identify a transport policy framework which could be adopted as the development guidelines for the south. It also attempts to set up the mechanism for which any proposed scheme in the region could be financially appraised; thus facilitating a fair and balanced approach to scheme prioritisation between areas and clearer objectives in programming for the implementation of such schemes.

7.2.0 Methodology

The Infrastructure Working Committee's methodology revolved around the appraisal of already published Plans, studies carried out by established institutions and current policies that the Utilities are implementing. This review was intended to set out the baseline data to place this study in perspective of ongoing developments.

Once the literature review was completed the Infrastructure Working Committee met all three groups, in different sessions, in order to appraise problems that Local Councils are facing within the region. These sessions had no fixed agenda in order to enable all issues to be brought up and subsequently filtered by the individual team members. Unfortunately the Local Councils did not fully grasp the independence of the respective consultants and meetings had to be steered clear of complaints directed at the Utilities. It must be pointed out that feedback as regards proposed projects within the Region were lacking from the Local Councils' side and were more of a micro rather that a macro nature.

These meetings were exhaustive in respect of the identification of problems within the various localities and within the Region as a whole. The team thus went into a period of reflection in order to formulate the necessary policies and propose remedial projects for the problems identified.

Once the reports were formulated these were discussed with the Planning Council and subsequently forwarded to the Local Councils such that a final meeting could be set up. The aim of the plenary session with all Councils involved was to gain feedback on the policies and proposals put forward which would be incorporated as part of the final report.

This final report brings together the aforementioned process.

7.3.0 Aims and Objectives

The aim of this report is to analyse Local Councils expectations and requirements on the subject, and includes outline proposals and recommendations for achieving such requests within the framework of a Regional Socio-Economic Development Plan.

This report refers to Infrastructural Issues and specifically to wastewater, stormwater, water supply and distribution, electricity and transportation. It has been formulated in parallel with other reports on other themes identified by the Planning Council for the development of a Regional Development Plan for the south of Malta.

7.4.0 ELECTRICITY

7.4.1 Background

7.4.1.1 Electricity Supply to the Region.

Electric power is transmitted to this Region from the two Power Stations at Marsa and Delimara by means of 33kV underground cables and overhead lines. The Distribution Centre at Tarxien (Bulebel) and to a lesser extent the Distribution Centre (D.C.) at the Freeport, transform power at 33kV to 11kV which is then distributed to the region under consideration. About 65 substations and 11 outdoor transformers convert the 11kV to the distribution voltage of 415Volts and 240Volts. Electrical power is supplied to most small consumers in this region by means of overhead lines installed on poles and on brackets attached to the facades of the buildings. Larger consumers and the distribution overhead lines are supplied from the substations by means of underground cables.

7.4.1.2 Electricity Users

In the region under consideration, most of the electricity users are domestic consumers. In this region there are also two of the largest consumers in Malta namely Malta Drydocks and the Malta Freeport. Most other industrial consumers are found at Ricasoli Industrial Estate. Commercial outlets at Fgura and at sea-side resorts, such as Marsascala and Birzebbugia, are by their nature medium sized consumers and share the same electrical supply resources as the domestic consumers. While in Malta it is known that the industrial, commercial and domestic consumers consume nearly equal amounts of electrical energy annually, data on electricity consumption per region are not readily available. Historical information on electricity consumption and increase of demand may be used as an indicator of the social and economic growth of various regions in Malta.

7.4.1.3 Growth of Electricity Consumption

Electricity demand is always rising and though the rate of increase has fallen during the last two years, it is still far from saturation. This, and the need to replace ageing plant means that new generating, transmission and distribution plant has to be increased, as a continuing process. Enemalta dedicates most of its resources to meet the annual increase in electricity demand.

Enemalta has made long term plans for the installation of generating and transmission equipment. These plans are constantly under review and are periodically updated to comply with actual electricity demand growth and patterns and to include new considerations.

Medium term plans are also made by Enemalta for the reinforcement of the primary distribution (33kV and 11kV networks) and for the construction of substations. Medium term plans are updated annually.

7.4.1.4 The Generation Plan

A draft Energy Plan was made in 1994 which proposes that all new generating plant will be installed at Delimara replacing the old plant at Marsa. This plan envisaged the commissioning of 4 combined cycle gas turbines units by the year 2005 by which time, the available space at Delimara would be used up, and further expansion would require new area. This plan was never adopted and a new plan is being prepared which involves the installation of generating plant at Marsa. This would effect the time scale rather than the final configuration of the Delimara plant.

7.4.1.5 Delimara - Marsa Tunnel

The extension of 132kV and 33kV circuits from Delimara Power Station is a must to enable power from additional generating facilities to be distributed. Since it is impossible to install further 132kV circuits in the roads leading to Marsaxlokk, a tunnel from Delimara to Marsa is being planned. This tunnel will pass at considerable depth beneath tas-Silg and Zejtun and will emerge near the Marsa Industrial Estate.

7.4.1.6 Distribution Centre at M'Scala

The long term plans for Enemalta include a new Distribution Centre at the south of Malta and a site at Marsascala is under consideration. This distribution centre will meet the rapidly increasing electrical power demand in this area and will also supply power to the proposed Reverse Osmosis at Marsascala Zonqor Point. This Distribution Centre will have to be supplied directly at 33kV from Delimara Power Station. To avoid trenching at the important archaeological site of tas-Silg another tunnel from Marsascala to Delimara is under study.

7.4.1.7 Upgrading of Tarxien Distribution Centre

Two of the three 33/11kV transformers at Tarxien Distribution Centre are reaching the end of their life expectancy. Since the supply to the south of Malta is to a large extent dependent on these transformers, Enemalta is taking steps to replace them with new and larger capacity transformers which will cater for projected load increase.

7.4.2 Issues

7.4.2.1 Distribution Substations

Enemalta regularly monitors load demands and voltage regulation at various localities during peak demand periods in summer and winter to ensure that distribution substations are constructed whenever necessary to guarantee a better quality of service to the consumer. Enemalta is constructing about 40 substations each year to meet the annual increase in load and the demands made by third parties. Enemalta is constructing nine substation in the region and will be making preparations for another seven substations.

7.4.2.2 11kV Network Reinforcement

The older part of the 11kV network at Birzebbugia is not sufficiently rated to take the full load of the locality in case of a failure on the supply cable to this area. Enemalta will be upgrading the supply cables by replacing this old cable.

Enemalta also intends to carry out reinforcement work on the 11kV system at Kalkara to increase the reliability of the electricity supply to Ricasoli Industrial Estate.

7.4.2.3 Low Voltage Reinforcement

Enemalta has an ongoing process to extend existing lines, install new overhead lines and replace under rated lines to eliminate localised interruptions and low voltage. This reinforcement will improve the quality of supply at problematic areas which are identified through reports from consumers or through load readings taken at peak demand periods.

7.4.2.4 Use of Land

Improvement in the quality of supply and services requires suitable plots of land for the construction of distribution centres, substations and district offices. Present land acquisition procedures are lengthy and with hardly any co-operation from the Land Department and the Joint Office. Furthermore, people residing near such proposed facilities object to such development and there were cases where even the Local Councils have stopped the construction of substations. There could not be improvement of the electrical supply unless the public is educated to accept this development. While distribution centres are constructed outside residential areas, substations by nature of their purpose, have to be constructed in the middle of residential areas. In developing areas, it is recommended that it is made mandatory that space is reserved for substations. Otherwise existing facilities would become overloaded which will lead in the deterioration of the quality of supply.

7.4.2.5 Embellishment of Facilities

While most of the medium and high voltage cables used by Enemalta are passed underground, the low tension distribution network is predominantly installed on poles

and on brackets attached to buildings. Deteriorated attachments and lines, and in some cases gross bad workmanship impart a shabby look to these installations. Furthermore, in the past little regard was given to historical and important buildings which are now littered with unsightly attachments, electric cables and lines and street lighting equipment.

It is highly recommended that Enemalta carries out an inventory of all its low voltage distribution to asses its condition and carries out systematic replacement or repair of this network were required. Furthermore, Enemalta, with the advice of the relevant authorities, should identify sites of historical and cultural importance where all services should be laid underground. Thus, important buildings will be relived of all attachments. In such cases, it might be advantageous for different utilities to share a common build up trench.

7.4.2.6 Street Lighting

The term street lighting refers to the illumination of major roads and roads in built-up areas. The illumination of public gardens, promenades, street furniture, sport facilities, monuments, historical buildings and other places of interest will also be discussed.

The illumination of roads, gardens, monuments and buildings is a must in modem society as it gives life and a sense of security to the built-up environment. Apart from being functional correctly chosen, illumination and luminaries have an aesthetic property which could be used to enhance the surroundings. Local Councils are justified to request additional lighting at their locality as this portrays and effects the social and economic aspects of the locality.

The street lighting is without doubt the greatest source of complaints which Enemalta Corporation receives. Enemalta has a bad image with most Local Councils due to failure from Enemalta to comply with their never ending requests for new street illumination and for repairs and replacement of existing street lighting equipment.

7.4.2.7 New Street Lighting

Some Local Councils are aware that Enemalta Corporation is not the authority who decides and approve new street lighting schemes. When Enemalta receives requests for new street lighting, an estimate of the cost of installation and electrical consumption is drawn up and then passed to the Ministry of Finance and Commerce for approval. Only those lamps approved by this Ministry are installed by Enemalta. The installation cost are then charged to Ministry of Finance and Commerce. Such approvals do not necessarily follow proper planning with the results that some localities have very poor lighting while others are visibly over illuminated. In some cases, lighting of new major roads is being provided by the Roads Department or the developers during the construction of these roads. This lighting is better planned and generally follows international standards.

Central Government, and in some cases the Local Councils, have provided illumination to public gardens, monuments and historical places. Since these do not qualify as street lights, Enemalta limits itself to provide an electrical power services according to the Electricity Supply Regulations (ESR).

Enemalta is also preparing plans for consideration for special lighting projects which include illumination of major roads, remodelling of lamps and illumination of bastions.

7.4.2.8 Street Lighting Repair

Enemalta is presently responsible for the upkeep of street lighting equipment. For this purpose, Enemalta has at each district office a hydraulic lift and two street lighting attendants to cope with the repairs. Enemalta is persistently being criticised that faulty illumination takes too long to be repaired. Other complaints regard the replacement of inefficient and deteriorated luminaries and fixtures. Although Local Councils have more than once complained that they are not satisfied with the service provided by Enemalta, records at Enemalta do not portray this situation. Enemalta hopes that its consumers services section will be able to better meet its consumers' expectations with the opening of a new district office at Zejtun.

7.4.3 Recommendations

There is no doubt that availability and the quality of electrical power have a great impact on the social and economic development of a nation. While Enemalta has made the necessary plans to be able to meet the electricity demands for the coming years, little is being made to improve the quality of the electrical supply and the services provided. The purpose of some of the project recommendations being put forward is to achieve an improvement in the quality of electrical services.

Presently there are various authorities which carry out illumination projects as described above. These authorities include Enemalta Corporation, the Roads Department, Local Councils, Works Department, and Ecclesiastical authorities While Enemalta Corporation is responsible for the lighting of roads and streets, its street lighting budget is very limited and inadequate to cope with all the requests made by the general public and the various other authorities. In most cases, Enemalta Corporation receives Ministerial approval for street lighting in build up areas only. Local Councils and others are partly meeting the demand for illumination of facilities and buildings by financing the installation of public lighting. A street lighting policy is being recommended to co-ordinate all efforts and funds for a coherent public lighting.

7.4.3.1 Street Lighting Policy Recommendations

In order to regulate the funding, design installation and maintenance of public lighting according to its purpose, it is proposed that a national policy is formulated. This policy should be made by the collaboration of Enemalta Corporation, the Local Councils, the Museums department and other authorities. Once this policy is established, then the Local Council should be actively involved, through a regional committee, to see that all lighting schemes follow this policy.

The Street Lighting Policy should give guidelines on the following topics :

a) The mechanism which will be used to establish the priority between various lighting projects. A cost/benefit analysis may be adopted for such mechanism.

b) Technical standards which lighting projects should be designed and implemented to achieve. These include both electrical and illumination engineering considerations.

c) Guidelines on the type of electrical installations, fixtures, lanterns and other equipment to be used for lighting projects. These guidelines should clearly differentiate between the lighting and illumination of arterial roads, urban roads, rural roads, village cores, facades of historical and other important buildings, places of public recreation, sport facilities, promenades and others.

d) The authorities responsible for the installation and maintenance of lighting projects according to the type of project.

e) Allocation of funds for proposed project. A regional committee should

scrutinise all requests for lighting projects and annually submit a prioritised list with the estimated cost of these projects to Central Government for approval and allocation of funds.

7.4.3.2 Projects

7.4.3.2.1 Long Term Plans

Long term recommendations are based on Enemalta Corporation plans for this region with regards to the reinforcement of the primary sources of electricity supply. These include :

a) 33/11kV distribution centre at Marsascala; and
b) Reinforcement of the primary sources to Marsascala, Zabbar, and Xghajra by 11kV cables from Marsascala Distribution Centre.

7.4.3.2.2 Medium/Short Term Plans

The following street lighting and other illumination projects should be implemented by the year 2003. This list should be prioritised according to the Street Lighting Policy which should be formulated. Enemalta Corporation has already made medium/short and long term plans regarding the reinforcement of the electricity supply to this region. Major projects are :

a) Installation of new street lamps at the various developing building sites;

b) Illumination of the Cottonera lines. This project is similar to that already carried out for the Valletta bastions;

c) Illumination of the major roads between Zabbar and Marsascala;

d) Illumination of new arterial roads. Works on street lighting should be designed and executed as part of the construction of such roads;

e) Identification of sites which require additional distribution substations. This exercise include the identification of public land which could be utilised for such substations; and

f) Building of distribution substation at various localities in this region.

7.4.4 Final Comments

It is recommended that further studies are carried out on the following topics.

7.4.4.1 Enemalta's Distribution Equipment

Various complaints were made by the Local Councils on the state of the overhead lines and poles used by Enemalta Corporation. A detailed study should be carried out to asses their state and submit recommendations and plans for their renewal or upgrading.

7.4.4.2 Street Lighting In New Building Zones

The installation of new street lamp is carried out in random manner without any master plan. It is important that sites without illumination and those with redundant illumination should be identified so that this deficiencies are rectified.

Furthermore, a technical committee, having representatives of the Local Councils and other interested bodies, should be set up to formulate a policy on street lighting on the guidelines detailed above.

7.5.0 SEWERAGE AND STORMWATER

7.5.1 Background

Sewerage works are currently governed by the *Sewerage Master Plan for Malta and Gozo* which provides for the necessary upgrading of the sewerage system up to the year 2010. This plan takes into account the necessary strengthening that is required in the infrastructure in order to eliminate marine and land based pollution while it also sets the pace for the necessary treatment facilities that are required in order to cease with the discharge of untreated sewage to the marine environment. This Plan is currently being implemented by the Drainage Department and some of the proposed projects have a direct bearing on the region under consideration.

Presently almost the entire population is served by the sewerage system which leads to sea outfalls at three locations in Malta and three locations in Gozo. None of the discharged sewage undergoes treatment but around 10% of the total sewage produced is treated at the Sant' Antnin sewage treatment plant and used for subsequent irrigation and second class industrial water supplies.

Water consumption in Malta is quoted by the Water Services Corporation as being around 150 litres/head/day of which 80% has been found to end up in the sewerage system. Tourism and industry constitute some 8% and 11% respectively of the total dry weather flow.

It is proposed that the number of outfalls be reduced to two in Malta and one in Gozo whilst all sewage is envisaged to be treated in 3 sewage treatment plants in Malta and one in Gozo.

During the irrigation season, essentially all the sewage is envisaged to be treated to unrestricted irrigation standard and used in agriculture. The demand for industrial second class water only constitutes a few percent of the total effluent production although an increased use where possible should be encouraged. The increase in the volume of treated effluent may offer scope for the reclamation of dry arable land but this would necessitate the development of suitable irrigation networks and reservoirs. Outside the irrigation season, that is in winter, the sewage will undergo secondary treatment before discharge to the sea in compliance with EC Directive 271/91 on urban wastewater treatment. Notwithstanding, it is suggested that the process by which effluent is treated be studied so as to ascertain the economical feasibility of improving effluent quality for groundwater recharge purposes. The other by product of sewage treatment is sludge which show a low content of heavy metals and which therefore encourages its use in farm land. The potentially needed area for sludge disposal is estimated at less than 5% of the total agricultural area however incineration is another option which has to be considered.

Although sewers theoretically are designed on the separate concept, stormwater should be prevented from entering the system creating overflows and flooding. Concurrent measurements of rainfall and flow in sewers indicate an average runoff coefficient of 5% and it is suggested that certain galleries be rehabilitated for the retention of stormwater, and where not available, to construct retention basins to serve the same purpose.

The *Sewer Discharge Control Regulation* has been enacted to attempt to ensure that the level of toxic components in sewage will remain at its present low level. Furthermore, it is recommended to reduce the heavy organic load from piggeries, abbatoirs, dairies etc. by decentralised treatment in cesspits combined with the reuse of slurry and manure.

In order to place oneself in the correct perspective it is important to spell out clearly that the executive roles for the implementation of policies regarding both sewerage and stormwater lie within departments or corporations within Central Government. Thus it is important to realise that the proposals put forward have to be integrated within any existing framework or policy or plan that Central Government may have already enacted. Notwithstanding, this document aims to highlight possible improvements in the policies and working practices currently in force, in order to improve the current scenario.

The role of Local Councils in implementing stormwater and sewerage projects or policies is currently limited but it must be acknowledged that it is these Councils which many a time bear the brunt of complaints from residents within the region. Thus, it is imperative to define avenues of co-operation between Central and Local Government in order to overcome these limitations and to create a national as well as a regional awareness of the developments which are to take place, or which are taking place, within the country's infrastructure.

With stormwater, the issue is still in an embryonic form. The Government has expressed its commitment to formulate a *Stormwater Master Plan* under the auspices of the Water Services Corporation. The Corporation has, to date, amassed a wealth of data in this respect and can look forward to consolidate upon what has been achieved so far.

This report stems from reactions put forward by Local Councils themselves who are retained to be the prime movers for the purposes of this exercise. Local Councils are themselves not equipped to design works or execute them both because of technical as well as financial limitations. It is thus imperative to involve the Councils in as much of the developments as possible while, at the same time, Local Councils should take on board the wealth of expertise that exists within Central Government in order to foster working relationships that would result in achieving a consensus between the parties involved and that would yield a better end product to the inhabitants of the region.

7.5.2 Issues

Decisions concerning the locations for new development are influenced by many factors, but the restraint on public spending places emphasis on the importance of existing spare infrastructure capacity and ease of providing new services. It is therefore paramount to establish the best possible way to define the location of new development in order to overcome physical restraints such as the provision of drainage, water, power *etc.* in the most economical way and with as long a design life as possible.

The region under consideration is densely populated and public utility development should be accommodated with minimal land use and environmental problems. With Malta's largest sewage treatment plant earmarked for construction within the region it is important for the region to secure that such development is made with minimal land use and environmental problems without compromising the requirements of such a development. The same applies for any other public utility development that may occur.

The region should secure that wastes generated from developments in the area are efficiently and economically disposed of whilst at the same time promoting the reuse aspect.

Some sewerage systems within the region are demonstrating signs of fatigue or of insufficient capacity. Local Councils should be the focal point for residents having problems with the system in a sense that complaints would be registered at the Local Council which would subsequently forward such to the Drainage Department. The same principle could be extended to residents who wish to request the extension of the sewerage system to their premises. This system would be more convenient to residents in the area rather than having to travel to the Drainage Department head office to lodge their requests.

Local Councils do not have sufficient technical backup, apart from that recruited from the private sector, to monitor works being carried out within their boundaries and within their region.

Any infrastructure design is projected to convey the necessary loads without external interference. Enforcement of allowable discharges to the sewerage systems is rather absent in the region and Local Councils act as intermediaries between the public and Government Department often without any powers to act upon the party caught in default.

The absence of proper and developed stormwater networks has resulted in roads acting as open culverts and with localities in low topographical areas acting as a basin to higher catchments. Local Councils have executed stormwater projects but these have to be planned on a macro rather than a micro scenario.

The high concentration of utilities within roads often leads to damages when repairs to other services are being undertaken. Moreover the haphazard location of these services does not permit wearing courses to last for long periods undisturbed. This results in the constant tearing up and patching, often with inferior quality material, of significant portions of road leading to deterioration of the road surface.

7.5.3 Recommendations

7.5.3.1 Policy Recommendations

7.5.3.1.1 Long Term

Some local networks are demonstrating signs of fatigue or insufficient capacity. An Implementation Board should be set up between the Utility and the Regional Council in order to target problem area and propose the best possible solution. Certain village cores might not warrant trenching of sensitive areas and therefore the question of rehabilitating damages or consumed apparatus should be considered. Rehabilitation by replacement has been the traditional method used to date but the non destructive techniques available on the market make this option viable when one takes into account the inconvenience, reinstatement and third party damage factors into the equation. The setting up of a Regional Council covering a wider catchment would ensure that prioritisation would be made according to the most urgent needs which would be put forward to the Regulator.

In any common trenching project within a developed areas it is very common to encounter other services and at time damage is inevitable. Moreover the location of certain services, which are prone to interventions, result in the zipping up of roads complemented by a deterioration of the wearing surface. In this respect it is imperative that a comprehensive study be undertaken by all utilities concerned in order to :

1. investigate the concept of using common excavations that would permit various services to be housed and accessed without damaging the road composition;

2. the partitioning of roads into discrete zones which would be rendered reserved for a particular utility; and

3. the adoption of dual systems housed underneath the pavements on either side of developed areas in order to ensure that interventions do not impose themselves upon the road structure but would be limited to shorter portions.

Inevitably such options would economically be more expensive but an economic impact assessment should be commissioned on a number of roads in order to evaluate in how long would the cost of successive interventions justify a more expensive but flexible system.

The Maltese islands are characterised by the absence of proper stormwater networks and the South is no exception. Low lying areas such as Cospicua are prone to extensive flooding from the higher areas and the development of suitable collection systems is a must. The Water Services Corporation is currently carrying out a study to formulate a Stormwater Master Plan. However the problem in coastal areas may be tackled in advance. The installation of stormwater infrastructure to divert local runoff to the sea is a possibility but waters from higher catchments should be collected at an earlier stage to avoid aggregation of significant amounts of water. The concept of water conservation needs to be borne in mind both at a

domestic as well as at a regional and national level. Thus, within the Region, sites for reservoirs could be identified in order to store an amount of water that may in turn be used for irrigation of landscaped area and possibly for street washing. On a larger scale this may be used by farmers and a revenue generated from this activity. If volumes are excessively high and after due consultations are held with the Water Services Corporation the use of recharge pits could be evaluated. Initially this could be restricted to zones outside the groundwater protection zone and, if successful, could later be extended accordingly.

The installation of stormwater infrastructure along roads is a great problem as the road profile does not often accommodate the proper shedding of stormwater. Prior to the installation of such conduits, consultations have to be undertaken with the Roads Department such that new or resurfaced roads could be structured accordingly.

7.5.3.1.2 Medium/Short Term

One of the greatest demands faced by the Drainage Department is that for the extension of the existing sewerage system to service new developments. The Department has a budget from which it has to target which areas to service. With around 7,000 planning applications submitted annually, the demand for the service may be easily appreciated. The Malta sewerage catchment is divided into four districts with the south district incorporating all eleven councils covered by this Regional Socio-Economic Development Plan for the south of Malta. As things stand, the Local Councils are not equipped to carry out sewerage infrastructural works on an individual basis. It is suggested that a liaison officer from within the Department should be nominated in order to facilitate the tackling of problems on a regional basis.

The extent of the sewerage network is such that often enough enforcement of legislation necessary to protect the system lacks the necessary human resources. Local Councils would be in a strong position to be vested with powers to report offences to the Regulator and enforce the necessary remedial actions or penalties. Abuses of the system may range from the construction stage, when stormwater overflows are connected to the sewerage system, to the operational phase where certain establishments may discharge prohibited material to the system.

Local Council involvement in the operation of treatment plants should be looked into in the sense that they could be part of the team responsible for ensuring that the plant is operating to established norms and that it constitutes no hazard to the surrounding environment or the end users.

The problem of farm wastes into the sewerage system is a problem affecting some Local Councils. In this plan the most affected is Xghajra. It is suggested that this matter be reviewed in order to establish the necessary pretreatment facilities that should be imposed upon such discharges in order not to disrupt the hydraulic performance of the sewers. The Regional Socio-Economic Development Plan for the south of Malta is an ideal case study and its outcome could be extended to other areas of the Maltese islands.

On a local level, developments should be made to comply with the correct cistern sizing. A small appraisal of the benefits of installing a dual water system should, in the medium to long term, offset the initial expenses. As water tariffs stand, they are still relatively cheap but above average consumers should note difference if they

were to supplement their potable supplies with stormwater collected albeit in different networks within the development.

7.5.3.2 Projects

7.5.3.2.1 Long Term

The hydraulic capacity of the treatment plant at the south of Malta is expected to correspond to 1.5 times the maximum peak dry weather flow. In order to avoid overloading of the treatment plant and frequent overflows of untreated wastewater to the sea or harbour, it is proposed to utilise the downstream part of the south sea sewer gallery for retention.

In order to avoid surcharge of sewers in wet weather conditions, retention basins are proposed to be constructed at Marsaxlokk and Birzebbugia. These retention basins will fulfill the function of attenuating peak flows thereby protecting the downstream end of the existing network.

The Stormwater Master Plan for the Maltese Islands is currently under way and should provide a framework for flood relief projects and exploitation of this resource. It is suggested that coastal areas should concentrate mainly on flood alleviation and in particular areas such as Marsascala, Cospicua, Marsaxlokk and Birzebbugia should be given priority.

7.5.3.2.2 Medium/short term

One of the major developments affecting the Regional Socio-Economic Development Plan for the south of Malta is the proposed upgrading of the sewerage network between Floriana and Wied GHammieq. During the coming year a study is to be undertaken, through the Drainage Department's Consultants, in order to establish the route and nature of a new transmission main, the site of the new sewage treatment plant and possibly a new outfall. These are three major projects which will provide a net benefit to the environment both through the elimination of land as well as marine based pollution. These projects will affect most of the Local Councils involved in this plan and the option that will be selected will follow the outcome of an environmental impact assessment.

The sewage treatment plant in the south of Malta will have a treatment capacity of 58,000 m^3 per day and will therefore provide a large quantity of water for which the best use must be found. The nature of the transmission main will therefore be very crucial because if it takes the form of a gallery, a return effluent main may be installed such that a very wide catchment can be served with second class water. This would give a significant opportunity to serve both agricultural as well as industrial areas.

The process by which the selection of sites for the Malta South transmission main, treatment plant and outfall will be evaluated is an open procedure which would culminate in a public consultation exercise. It is therefore suggested that the Regional Council be involved in as an early stage as possible in order to ensure that the process is clear to all concerned and that the experience gained by the Local Councils may be incorporated into the country's infrastructure.

7.6.0 WATER

7.6.1 Background

7.6.1.1 Water Supply

At present the main sources of production of water in Malta may be divided into two : groundwater and desalination. During the financial year 1995/96, groundwater sources contributed approximately 20.2 million m^3 or 41.3 % of the total water supplied. Reverse osmosis plants contributed 29.2 million m^3 or 58.7% of the total production during the same period (Water Services Corporation, 1996).

Table III.7.1 gives the production sources in the south of Malta. In this table, production sources are not limited to the localities described in the Regional Socio-Economic Development Plan but also supply water to other localities in the south of Malta.

During the period 1995/96, production figures for the Reverse Osmosis (R.O.) Plants in the south were as follows (Water Services Corporation, 1996) :

Lapsi R.O. Plant	7.25 million m^3	14.6 % of total water production
Marsa R.O. Plant	1.18 million m^3	2.4 % of total water production

7.6.1.2 Distribution System Developments

The present distribution system in the south is based on the Qrendi reservoir. In terms of water supply, the south is considered to contain the area south of an imaginary line between Marsa and Lapsi and includes the following villages: Birgu, Birzebbugia, Cospicua, Fgura, GHaxaq, Gudja, Hal Far, Kalkara, Kirkop, Luqa, Marsascala, Marsaxlokk, Mqabba, Paola, Qrendi, Safi, Senglea, Tarxien, Zabbar, Zejtun, Zurrieq and parts of Marsa.

Luqa reservoir group and Ghaxaq/Nigret reservoirs are generally fed from Qrendi. All the reservoirs have their own distribution area, besides some direct pumping from boreholes to consumers. Table III.7.2 is a list of the reservoirs in the south of Malta and includes their capacity. These reservoirs do not feed water solely to localities described in this Regional Socio-Economic Development Plan but are connected to other localities in the south of Malta.

Up to the recent past, the water distribution system in the south consisted of village based systems that over time sprawled as villages grew and merged together. Small diameter pipes were extended with little support being given to supply these mains. It lacked flexibility and instead of radiating from central reservoirs, water supply was directly pumped from boreholes (Spiteri Staines, 1987).

Moreover, up to 1993, the distribution system in the south was very much a linear system with a principal main supplying a number of villages. This led to problems for villages at the end of the line such as Marsascala and Zabbar.

A major project, implemented between 1993 and 1995, was the Qrendi pipeline. This project connected the Southern localities with the Qrendi reservoir through a ring main round villages. It has improved and ensured a more stable, gravity-fed supply to this region. Furthermore the previous distribution main is now being used as a collection main for the various boreholes in the area, thus allowing for blending to be carried out at Qrendi Reservoir.

Complimenting this investment, large scale replacement of water mains were carried in areas were the distribution system was undersized, blocked or corroded. Major renewal works were carried out in Zejtun, Marsascala, Gudja and Kirkop (Water Services Corporation, 1994).

7.6.2 Issues

Following a series of meetings held with Local Councils, the following common concerns and issues were raised namely :

1. Quality of the road reinstatement carried out by Water Services Corporation and its contractors following trenching works for installation of water mains and services;

2. Representations made by Local Councils on behalf of residents in their locality for the installation of permanent water mains;

3. Water quality complaints arising in some localised areas and related to blocked and corroded water mains;

4. Installation of dual water main systems in replacement of single water main systems to minimise water service crossings; and

5. The Local Councils of Marsascala and Xghajra have expressed their concern about the construction of the projected new Reverse Osmosis plant. A major concern appears to be the noise emanating from such plants and the negative impact this could have on the residents of the locality.

Other issues also known to exist including problems of undersized, old, choked and corroded distribution networks in a number of localities. This leads to associated problems of leakages, system maintenance, road disruption and in some critical cases, the lack of provision of an adequate water supply. In Cottonera (Planning Authority, 1997), for example, the water distribution network is old and rudimentary and is in need of upgrading to meet increasing demand. Similar problems exist elsewhere.

An analysis was also made of the complaints and correspondence from the Local Councils handled by the Customer Care Section of the Water Services Corporation between January and June 1997. These complaints have been grouped and categorised in Table III.7.3. It may be noted that the main categories described in this table correspond to the main issues addressed during meetings with the same Local Councils.

7.6.3 Recommendations

7.6.3.1 Policy Recommendations

7.6.3.1.1 Long term

The Mission Statement of the Water Services Corporation is to achieve a more rational and economic use of water in the Maltese Islands through the maintenance of an equilibrium between supply and demand, and to support the general social and economic development effort while protecting and preserving the environment.

The Water Services Corporation is responsible for the development, maintenance and promotion of a safe and efficient production and distribution system in order to satisfy, as economically as possible, all reasonable demands for water. It is also responsible to determine short-term and long-term objectives in relation to water supply and to develop the necessary strategy and policies to reach these objectives (Government of Malta, 1992). These responsibilities are addressed in the development of the Corporation's plans and projects.

The Corporation is currently preparing a water supply master plan for the Maltese Islands. The aim of this plan is to provide a national strategy for the development and management of water supply in Malta. It would allow the Water Services Corporation to plan more effectively and revisions of this Master Plan could be carried out as required. Various aspects are being considered including (Water Services Corporation, 1996) :

1. definitions of levels of service;
2. water resource development including non-traditional sources and their integration within the distribution system;
3. distribution system development including support studies such as demand patterns;
4. demand management including conservation and leakage control;
5. water quality both at the production source and along the distribution system; and
6. financial resources required.

7.6.3.1.1.1 Co-ordination between Public Utilities

Greater co-ordination between utility providers (Water Services Corporation, Enemalta, Maltacom p.l.c., Drainage Department) and the entities responsible for roads and road maintenance, that is, Roads Department and Local Councils, should be sought in project planning of infrastructural works. This proposal has in the past been carried out in a number of isolated projects. It is proposed that work programmes are co-ordinated on a long term basis allowing adequate time frames for procurement of necessary equipment, project planning, *etc.*

Structure Plan Policy PUT1 proposes the formation of an inter-departmental working group. It is recommended that this proposal is pursued more actively and a revision of the tasks assigned to it may be carried out to take into account new developments. The final objective of this group would be to ensure more co-ordination between public utilities in the provision of services to give consumers a more efficient and effective product.

There is also scope for further co-ordination between the Water Services Corporation, Roads Department and Local Councils particularly in those projects where road resurfacing works are being planned. Account could be taken of overall cost benefits derived from measurable parameters such as water quality considerations, water leakage levels and gains in water distribution system renewal, water supply and pressure to consumers and levels of service, road type and condition and the number of local population effected in the implementation of road resurfacing works. These cost benefits would then determine and set respective priorities and project planning and should allow for a more efficient use of resources and a decrease in costs.

7.6.3.1.2 Medium/Short Term

7.6.3.1.2.1 Road reinstatement and maintenance

One of the first responsibilities assigned by Central Government to Local Councils was road maintenance of local and access roads. Road reinstatement has become a major concern to Local Councils and consists of a significant portion of their expenditure.

A common concern expressed by a number of Local Councils has been the quality of road reinstatement following trenching works by Water Services Corporation contractors. Given that all services provided by the Water Services Corporation are necessarily passed underground, and considering their condition and need for instant repair, the Water Services Corporation is probably the utility with the major impact on road trenching and reinstatement. Moreover house services, although being the responsibility of the consumers, are maintained by the Water Services Corporation for control purposes.

It has been claimed by Local Councils that reinstatement works are not always up to standard. The Water Services Corporation is aware that contractors performance needs to be upgraded significantly and requires more intense supervision for acceptable quality and customer service standards to be maintained. While Local Councils do not have the resources to inspect and certify every portion of work carried out in their locality, greater collaboration should be sought to ensure a more satisfactory end result. A classification of contractors is an issue which has been mentioned in the past and could possibly contribute to improved standards and promote better control mechanisms. Local Councils could also be actively involved in the formulation of this classification.

Other aspects that offer possibility for co-operation between Water Services Corporation and Local Councils are projects related to pavement reinstatement. A number of Local Councils have invested heavily in upgrading pavements in their locality. However, the impact of this investment has not always been sufficiently appreciated. In particular, house water services are located within the pavement and replacement of these services entails the possibility of breaking up newly laid pavements. The problem may be exacerbated if attention is not given to detail. In

particular the Water Services Corporation favours the use of pavements which may be removed and re-laid with the minimum disruption. Furthermore the selection of the pavement type also has a cost-related factor and this is transferred to consumers when service replacement is warranted.

7.6.3.2 Projects

7.6.3.2.1 Long Term

7.6.3.2.1.1 New Reverse Osmosis Plant in the South Region of Malta

A major project planned by the Water Services Corporation for the region is the construction of a new reverse osmosis plant in the south of Malta. The Water Services Corporation has submitted an outline development application to the Planning Authority for the construction of this new plant. The plant would initially involve the relocation of present equipment out of Tigne' Point and would then be able to accommodate further expansion as and when this would become necessary. The programme for the construction and installation of this plant could be reviewed according to latest developments in leakage control.

This project would contribute to significant public health benefits, improvements in water quantity and quality as well as the associated indirect economic benefits accrued as a result of health and improved well-being of the resident population. Furthermore the reduction of groundwater extraction to avoid further depletion of the aquifers and its substitution with desalinated water, is another state of development which the Corporation is considering in its efforts to improve water quality.

An in-depth site selection study (Water Services Corporation, 1995) carried out by Water Services Corporation proposed Zonqor Point, limits of Marsascala, as the preferred option. This study analysed various aspects including feed water quality and cost, effect of the plant on the environment, economics and infrastructural constraints, land use, landscape, tourist/recreational, ecological and other considerations. Furthermore reference in this report was also made to *Structure Plan* policies. Noise considerations would feature significantly during the design stage of the plant to control noise levels at residential areas (Water Services Corporation, 1995).

7.6.3.2.1.2 Water Distribution Network Extensions and Renewals

The Water Services Corporation is investing heavily in extending and upgrading its infrastructure. During the financial year 1994/95 Lm3,024,000 were invested in the upgrading of infrastructural assets whilst in the previous twelve month period Lm 3,332,000 was spent. Between September 1995 and July 1996, approximately 42km of distribution mains in Malta and Gozo were laid and 5,035 services were also replaced. A further 1,283 services were replaced concurrently with mains replacement or Local Councils' projects (Water Services Corporation, 1996).

Distribution renewals works are also being planned by the Water Services Corporation in other towns and villages in the region e.g. Zabbar, Cottonera, Fgura, Xghajra, Birzebbugia, *etc.* These work programmes are set and selected by the Water Services Corporation according to established criteria namely :

1. leakage detection studies and zone investigations which indicate unacceptable leakage levels and potential economic savings,

2. requirements for the extension of the water distribution network due to new development,

3. water supply and pressure problems arising from undersized, blocked or choked water mains, and

4. water quality considerations.

A relatively large number of extension works are also planned by the Water Services Corporation. This is an extensive programme of installation of permanent water mains and may be subdivided into two phases :

1. installation of water mains where no supply is available, and

2. replacement of temporary galvanised iron mains by permanent systems.

The Water Services Corporation has already expressed its intention to invite local councils to participate in this programme and priority will in fact be given to it (Water Services Corporation, 1996). However, in view of the extent of this programme, it is expected that this would be carried out over a number of years. At the same time Local Councils could provide invaluable assistance to ensure that selection and execution of projects are carried out according to established and accepted priorities.

7.6.3.2.2 Medium/Short Term

7.6.3.2.2.1 Common Trenches for Various Services

Following preliminary discussions held between consultants within the working group, it emerges that further studies and investigations are necessary to evaluate proposals for the introduction of common trenches to house the different services. This proposal has already been utilised in the past by a number of utilities on isolated projects, for example, the Mtarfa Housing Project between Enemalta and Water Services Corporation and was also discussed with Local Councils. However, this proposal is still in its initial phases and would have to be designed, costed and approved. This proposal would probably be more easily applicable in new development and where no services have yet been installed. On the other hand, system implementation particularly in old towns, village cores and where road widths are limited may prove difficult and would require in depth study and high levels of co-ordination.

7.6.3.2.2.2 Delegation of Water Services Corporation Project Activities to Local Councils

The Water Services Corporation has embarked on ambitious long-term programmes to improve and upgrade the water distribution network and to control leakages. It is implementing massive programmes of leak detection and repairs, replacement of household services with polyethylene, as well as extensions and renewals to the distribution system. All these programmes naturally have an effect on the infrastructure especially roads in the locality.

There appears to be a duplication of work between the Water Services Corporation and Local Councils. The latter are today responsible for the maintenance of roads. Consequently, most have contracted out the services to their own contract managers and contractors to carry out any road repair work in the locality, or have taken alternative steps for the same ends.

Conceptually, control and management of contractors employed on Water Services Corporation jobs is more likely to be effective if undertaken by decentralised, locally based entities. Local Councils, whose primary objective is service to local residents and the improvement of conditions in their localities are ideally suited for this task. The Water Services Corporation has made proposals to the Department of Local Councils describing some of the activities and responsibilities that may be carried out by Local Councils on behalf of the Corporation (Water Services Corporation, 1996).

The aims of this delegation and co-operation with the Local Councils would be to :

a) provide a better all-round service to the local community;

b) avoid duplication of resources by co-ordinating activities between the Water Services Corporation and Local Councils and hence manage resources more efficiently and effectively;

c) extend decentralisation into areas which can today be covered by Local Councils and thereby covering these areas more effectively;

d) enable the Water Services Corporation and Local Council to obtain better understanding of each other's strengths and constraints, thereby facilitating greater co-operation in the future as ongoing policy; and

e) ensure better roadworks and their maintenance to the benefits of local residents.

This proposal would initially cover trenching and road reinstatement works in connection with leakage repairs and installation of water services. A pilot project embarked with Local Councils included in this Regional Socio-Economic Development Plan could be carried out to assess its feasibility and implementation.

7.6.3.2.2.3 Dual Water Mains Systems

The installation of dual water main systems have been proposed by the Local Councils. The main advantage of these systems is the decrease in trench excavation and road disruption for the installation of water services.

With the introduction of polyethylene piping and as a replacement for galvanised iron pipes, it is expected that the life-span of these services is increased significantly. Polyethene pipes offer a number of distinct advantages including better service performance. Moreover, dual main systems have been found to be more expensive to install than single main systems. The advantages of dual main systems may not always be easily quantifiable in economic terms. The Water Services Corporation is currently limiting their use to high traffic areas, major roads or very wide roads and where economics dictate otherwise. Consequently it is recommended that such systems are investigated thoroughly prior to any implementation.

7.6.4 Final Comments

As discussed previously, further studies need to be undertaken prior to implementation of recommendations. These include :

1. Studies on formulation of a classification of contractors,

2. Contract documentation, detailed estimates and cost sharing arrangements for proposed delegation of Water Services Corporation project activities to Local Councils,

3. Feasibility studies for common trenches, and

4. Cost-benefit analysis of dual water main systems.

Other projects, such as the siting of a new Reverse Osmosis Plant has been the subject of a detailed site selection study and require a full environmental impact assessment prior to Planning Authority's approval.

7.7.0 TRANSPORT

7.7.1 Background

The successful development of any region depends heavily on the careful planning of its infrastructural services. Transport in general, and particularly road based transport, plays an essential role in the life of any community today.

Transport problems such as congestion, pollution and accidents, are a cause of nation-wide public concern. Good transport facilities are the result of sound planning - and more and more it is now being recognised that transport planning cannot be, and must not be, isolated from the social and economic aspects of landuse planning.

Since the early 1990s a hierarchy of roads has been devised for Malta. The road classification is

i) Access-Only Roads,
ii) Local Access Roads,
iii) Distributor Roads and
iv) Arterial Roads.

The responsibility for the maintenance and upkeep of categories i) and ii) has now been devolved to the Local Councils whilst responsibilities for categories iii) and iv) have been retained by the Central Government.

The planning, construction, maintenance and enforcement of road based transport is undertaken by several bodies. For instance the planning of new roads and upgrading of existing ones is undertaken by the Works Division (Building & Engineering Department, Roads Department), Planning Authority, Traffic Control Board, Local Councils and the Public Transport Authority (public transport). The construction and maintenance of the road network involves the Works Division (Manufacturing & Servicing Department, Roads Department and Regions Section) and Enemalta (street-lighting). The enforcement element of road based transport is the responsibility of the Police and Public Transport Authority (public transport operation only).

7.7.1.1 Regional

The south region of Malta has a fairly dense and extensive network of roads. There are over 20 kilometres of arterial and distributor roads which link towns together within the region and provide connections to the main road hub of the south at Marsa.

Traffic flows on the main arterial and distributor road network in the southern region have been steadily increasing by about 4-5% per annum. This increase is in line with the national traffic flow growth and is generally associated with a yearly net increase of new vehicles on the road and increased travel in the region as a result of new industrial developments such as the Freeport, Delimara Power Station, Bulebel Industrial Estate and several new housing estates.

The region itself is characterised by a lower than national average level of car ownership and higher than average public transport usage (Table III.7.4). On average 28.3% of households in the region have no car available (notable examples of low car ownership are Cospicua and Vittoriosa where over 42.0% of households have no access to a car). Similarly, from the latest census data available, on a typical day, an average of 14.0% of the region's population travel for the main part of their journey by public transport, compared with the national average figure of only 10.9%. The individual localities in the region exhibiting the highest levels of public transport usage are Senglea (17.1%), Vittoriosa (16.2%) and Zejtun (15.7%). As a consequence of lower than average car ownership and higher patronage of public transport, the levels of traffic congestion have been kept at a more sustainable growth level than other parts of Malta.

Within the region there are, however, stretches of road which at times of day / days of week are approaching saturation point; that is where the volume of traffic exceeds the capacity of the road (RFC is greater than 1.00). In order to identify the locations and to ascertain the type of delays to journey times which occur on the major roads in the region, moving observation surveys were undertaken during the peak hours. As illustrated in Table III.7.5, the occurrence of travel delays is mainly found at the intersections of high capacity roads; for example, Malta Shipbuilding junction, where during the morning peak 4,600 vehicles meet at this conflict point; or on busy shopping high streets such as Zabbar Road, Fgura, where the frequency of pedestrians crossing, side streets and parking problems prove to be a hindrance to traffic free-flow in the area.

Road accidents are normally a major feature of any transport review. Road accident statistics for the year 1991 (latest breakdown available) indicate that the southern region generally experiences an accident rate below the national average. Statistics for the region indicated an average of 93.4 road accidents per locality compared with a national average per locality of 150.8 road accidents in 1991. Over a time series between 1986 and 1997, it can be seen that the southern region accounts for only 9% (12.4% if Paola and Tarxien are included) of all the road fatalities in the Maltese Islands and yet 19% of the country's population live in the 11 localities (Tables III.7.6 and III.7.7 refer).

Public transport provision in the region is fairly comprehensive with most individual localities having connections with Valletta. There is also a reasonable provision of services between the localities of the region and directly to other localities in the north and west of the country. The localities of Zabbar and Fgura are situated on major bus corridors where more than one route passes. (See Table III.7.8)

Parking in the region normally occurs on any road space which is available. In several localities, the road space available is insufficient to cater for the number of cars searching for spaces. In central area at certain times of day / days of week carelessly and illegally parked vehicles are often the cause of traffic congestion and road accidents.

7.7.2 Issues

During the discussions and working groups held with the Local Councils, many transport related issues became evident. The dynamic nature of transport and its inter-relationship with social and economic changes has, in itself, been a causal effect in the making of the south. The underlying themes which arose may be

broadly categorised as follows: accessibility, safety, environmental protection, sustainability, economic efficiency, project prioritisation and funding. Several of these issues are in fact in conflict with each other. An approach must be adopted whereby development must take the form of a trade-off between economic efficiency and accessibility on the one hand and safety, environmental protection, sustainability and finite project funding on the other.

7.7.2.1 Accessibility

The south region has become increasingly dependent on different modes of transport (particularly mechanised means). Society, with its high values on time, demands ease of ability which people from different locations can reach different types of facility such as employment, shopping and leisure usually from their residences. The working groups were encouraged to identify network deficiencies where accessibility between facilities or places could be improved.

The Local Councils came up with the following suggestions to improve accessibility:

a) Inter-communication within their localities / regions:
   - i) Xghajra by-pass,
   - ii) GHajn Dwieli to Zabbar,
   - iii) Zejtun to Zabbar upgrade of St. Joseph Street,
   - iv) Birzebbuga by-pass (Freeport to Bir-id-Deheb),
   - v) Marsaxlokk to Birzebbuga access road upgrade and
   - vi) Marsascala relief road.

b) Parking availability at journey ends

   All motor vehicles trips terminate eventually at some form of parking facility so that the drivers can go about their business. Over recent years parking problems have arisen in several localities within the region. Several Local Councils, aware of parking problems within their locality, and indeed the region, requested guidance on how to go about determining the exact nature of parking problems and in putting forward possible solutions:

   - i) Better organisation of on-street parking,
   - ii) Provision of off-street parking spaces and
   - iii) Better enforcement.

7.7.2.2 Economic Efficiency

Economic efficiency in its general sense can be achieved when one person or group in society is made better off without making another group worse off. In the field of transport, economic efficiency is achieved, for example when benefits to travellers, such as faster travel time, are compared with disbenefits such as increased noise and pollution. Economic efficiency often goes hand in hand with improved access, and all Local Councils stressed the need to reduce traffic delays and speed up journey times at the following junction: Aldo Moro Road junction with Sir Paul Boffa Avenue.

7.7.2.3 Safety

Although the region experiences a lower than average road accident rate, there is nevertheless concern within the working group regarding road safety. The safety objective is more conventionally concerned with the reduction of deaths on the road, injuries and damage to property.

Road accidents in the region are mainly caused by :

i) Road user - misjudgement, lack of skill and driving education and impairment (fatigue, drugs, alcohol);
ii) Road environment - poor road design , adverse weather, inadequate road furniture or markings and unexpected obstructions (roadworks, parking, poor street lighting) and
iii) Vehicle - poor brakes, poor lights, poor engine mechanics.

The direct cost of accidents such as hospital, police, insurance, damage to property and loss of output of the persons involved in the accident and also indirect costs such as pain, grief and suffering incurred, are borne both by society and the individuals concerned.

The following improvements were proposed by the Local Councils with a view to improving general road safety:

i) Junction improvement - Tal-Barrani at Zejtun,
ii) Junction improvement -Triq Sant Antnin junction with Hompesch Road and
iii) Improved Lighting / cats eyes on rural arterial and distributor roads.

7.7.2.4 Environmental Protection

The environment in Malta is a scarce resource. With new transport projects, serious consideration must be given to the environmental consequences. Practical application of environmental protection would involve reducing the impact of transport facilities and their use on the environment. Factors would normally include noise, atmospheric pollution, vibration, visual intrusion and severance and loss of environmentally and culturally valuable objects such as flora and historic buildings. Points worth noting are:

i) Strategic network for Heavy Goods Vehicles (prohibition from village cores);
ii) Traffic calming in village core areas; and
iii) Improve road trenching procedures to minimise environmental disruption.

7.7.2.5 Sustainability

There is a growing concern regarding the policy of increasing road capacity to accommodate the continual growth of traffic. The character of the southern region is predominantly arable compared with the north and central regions of Malta; the widening of the roads and provision of new roads across arable land must be viewed with due caution. It is imperative that "the pursuit of development should meet the needs of the present without compromising the ability of future generations to meet their own needs". Therefore encouragement should be given to those means of transport which are more sustainable in the long term; namely mass transit means.

In view of this, Local Councils proposed a set of measures, which they believe would encourage a modal shift towards public transport.

i) Public Transport Priority on the road;
ii) Sea link from Valletta to Cottonera;
iii) Better intra-regional public transport connections;
iv) Better access to housing areas (such as Qajjenza in Birzebbuga);
v) Bus Terminus upgrade at Zejtun and Marsascala;
vi) Increase service capacity through Fgura; and
vii) Circular mini-bus service in Senglea.

7.7.3 Recommendations

7.7.3.1 Policy Recommendations

The *Structure Plan for the Maltese Islands* contains several transport based policies. These policies are broad based and quite general to the Maltese Islands. Two Local Plans have been drafted for public consultation by the Planning Authority. The Local Plans of the Grand Harbour area and the Marsaxlokk Bay area have direct implication on the south region.

The Local Plans are detailed applications of the Structure Plan framework which identify specific new landuses and upgrade of existing landuses for certain locations in the areas concerned; however, in Local Plans it is not usual to give details on the implementation aspects especially the required time-frame.

Normally, Structure Plans and Local Plans are complemented in the field of transport by more detailed research documents which contain specific regional proposals for purposes of assessment of projects and programming for funding and implementation of works. Such a document is referred to as the Transport Policies and Programme (T.P.P.) for a region. A more detailed policy framework with particular reference to the region and a detailed method of scheme assessment is normally required of a T.P.P.

For the purpose of the Regional Socio-Economic Development Plan, a specific transport policy framework has been devised as a guideline for transport projects.

7.7.3.1.1 Strategic Road Network - Central Government

POLICY RPS1: *"to improve roads, to gain economic benefits through the reduction of journey times and new or improved access, and to reduce accidents in the most environmentally acceptable way"*

This policy would largely be restricted to the Strategic Routes, that is, the arterial and distributor road network. The following factors shall be used to justify any necessary improvements to the strategic road network:

a) Relieving congested parts of the strategic road network,

b) Improving links between the major population and employment centres,

c) Attracting traffic from roads not forming part of the strategic road network,

d) Minimising the incidence of accidents,

e) Assist Public Transport,

f) Assist overall environmental conditions,

g) Reduce journey times, and

h) Assist the economy and increase employment opportunities

POLICY RPS2: *"to improve safety and the environment by attracting through traffic away from unsuitable roads to new or improved alternative routes"*

This policy shall include measures being carried out in order to attract traffic movements, in particular the movement of freight by commercial vehicles and inter-regional through traffic onto the strategic routes.

In the implementation of this policy the following measures will be utilised:

a) Traffic management measures,
b) Road improvement schemes as listed in RPS1,
c) Signing the appropriate routes, and
d) General publicity promoting the strategic routes.

7.7.3.1.2 Non-Strategic Road Network - Local Councils

POLICY RPS3: *"to improve the management of traffic and to relieve traffic congestion, particularly in built up areas, in order to bring about economic revival in the town and village centres through better accessibility"*

This policy will largely be restricted to the lower order roads, that is, access and access only roads. which are now the responsibility of the individual Local Councils. The following measures shall be proposed by individual Local Councils with respect to neighboring councils and the region as a whole :

a) one-way systems on street of substandard two lane widths,

b) road humps,

c) carriageway narrowing,

d) parking bays,

e) mini-roundabouts,

f) pedestrian crossing facilities,

g) planting,

h) the use of textured road surfacing,

i) widening footpaths, and

j) traffic lights.

POLICY RPS4: *"to carry out local safety schemes (low cost highway engineering measures) designed to reduce the number of personal injury accidents"*

This policy shall include the identification of accident blackspots on access roads and local access roads, and measures shall be proposed to reduce the incidence of road accidents. The relevant measures shall be as indicated in Policy RPS3.

POLICY RPS5: *"to make better provision for the needs of pedestrians, pedal cyclists, and other vulnerable road users with special regard to their safety"*

This policy shall identify the needs of groups of minor road users and the following schemes shall be examined: cycle routes and pedestrian priority areas.

POLICY RPS6: *"to make better provision for the needs of the public transport through capital investment on infrastructure and the road network"*

This policy shall encourage the development of a more attractive and accessible public transport system in the region. The studying of new regional based routes decentralised away from Valletta and an upgrade of infrastructural facilities and an introduction of bus priority measures shall be encouraged.

POLICY RPS7: "*to provide new or improved parking facilities where the economic or environmental return is high"*

Areas where there is an excess of supply over demand of parked motor vehicles shall be identified in the region and methods of parking control and provision shall be examined.

POLICY RPS8: *"On all major projects an economic and environmental assessment must be undertaken. Priority should be given to those projects which yield the highest benefits."*

It is very rare for the transport funding body, be it directly through Central Government or indirectly through Local Councils, to have the financial resources to undertake all projects and proposals. In the case of the set of project proposals being put forward by the Local Councils in the Regional Socio-Economic Development Plan, it is estimated that costs would easily run into millions of Maltese Liri.

It would be relatively easy at this point to conclude this section by recommending that all the project proposals which shall be put forward, be implemented as a matter

of national priority and allocated special funding. However, such an approach would be most unwise as it could result in a highly biased and inefficient allocation of scarce resources and a questionable set of transport improvement priorities.

It is, therefore, imperative that each proposal is assessed in a fair and balanced way by using an Economic and Environmental Appraisal system. Such a system would entail a full examination of the financial implications on all proposed projects in order to justify project implementation. This means not only capital costs of projects but also operating, maintenance and environmental costs which will occur over time and then equating these with the projected benefits associated with the schemes.

Given the finite budgeting resources which are available for transport related schemes, the aim of the Regional Socio-Economic Development Plan, in the longer term, is to identify a set of proposals which would yield the greatest net benefits per Maltese Lira of government finance. These proposals would then be ranked in order of priority for implementation.

7.7.3.2 Projects

7.7.3.2.1 Long Term

At this stage of the Plan, it is fairly difficult to identify with any confidence a set of long-term transport projects. Unlike the other infrastructural utilities, detailed feasibility studies, in most cases, have not been undertaken on the major projects which have been proposed by the Local Councils.

7.7.3.2.2 Medium / Short Term

In the medium to short term, there is a considerable amount of work which needs to be carried out in order to effect or assess the various project proposals. The following section outlines the main medium-short term projects being put forward in the Regional Socio-Economic Development Plan and briefly discusses appropriate methodologies which should be adopted.

PROPOSAL 1 - Accident Prevention Project

At present there is growing public concern over the ever increasing number of road accidents occurring on local roads each year. Few people take the time to consider it, but road accidents directly and indirectly cost society millions of Maltese Liri each year.

The actual costs of injury accidents in Malta have been estimated as part of the Regional Development Plan, as indicated in Table III.7.9 below.

In most countries, the costs of accidents are readily converted into monetary terms as above. In doing this we are not only informed about how much money society is paying out each year on such tragedies, but also, and more importantly, why and how much tax payers money should be spent on accident prevention projects.

To date, no real co-ordinated attempt has been made by the many bodies concerned with road transport to effectively tackle the manifesting problem. Basic

information exists within all the relevant departments, however, this is rarely utilised to its full potential; instead only annual statistics on how many fatalities there have been on the roads are stated.

The Regional Socio-Economic Development Plan for the South presents an ideal opportunity to pilot and fine-tune in a region, what could become a national system of accident investigation and prevention.

Such a project would take commitment from the bodies concerned and the necessary resourcing, however, it would result in a clear set of government transport priorities being put forward each year, based on statistical and financial information rather personal judgement.

This project would involve four major (on going) project planning steps:

a) *Accident Data Recording Project*

Radical changes are required to the current system of accident recording by the Police Force. If the correct data is collected at the scene of the accidents it can become an essential accident reduction tool for planners, policy makers and enforcement bodies. Appendix III.7.1 and Appendix III.7.2 show a proposed form to be filled out by the Police only at the scene of an injury accident (of which there are about 700 nationally each year).

Administratively, this form would take only 10 minutes to fill out but it would provided vital information to road designers and enforcement bodies on locational trends and common occurrences of accidents.

b) *Regional / National 'Road Injury Accident Database' Project*

The data collected from the scenes of the accidents should be forwarded on a regular basis to a central database. All government bodies would have access to this database to use for different purposes.

c) *Accident Analysis Project*

Identification of accident trends and common occurrence, for example:

i) Locating accident blackspots by cause of accident, seasonal trends, times of day - days of week, etc.;

ii) Identifying vulnerable road user groups which have high susceptibility to road accidents, that is, ages, sex, time of day, location; and

iii) Identification of enforcement policy improvement, that is, drink driving, unroadworthy vehicles, speed restrictions, traffic light abuse, and parking control.

d) Accident Prevention Schemes Project

The collected and analysed information would provide a sound basis for accident identification and give rise to the design and implementation of appropriate, specifically designed, prevention schemes based on traffic engineering measures, public education and information campaigns aimed at certain road users, and enforcement targets.

Financial Justification of Government Expenditure

Using the information from collected and collated from projects 1-4, the implementation of accident prevention projects can be prioritised in a fair and balanced way by ranking the projects in terms of economic return to society.

PROJECT 2 - Proposed Link Roads / By-passes (Economic and Environmental Assessment)

In the short to medium term, detailed study and assessment into all the major link road and by-pass projects suggested by the Local Councils would be preferable to a procedure of merely designing and implementing.

It is essential that a proper assessment is undertaken beforehand in order to determine whether a proposal is worthwhile. This would clearly involve forecasting the effect it would have on the indicators mentioned in section 7.7.2 and weighing them up to decide whether, overall, the proposal is beneficial. This process shall be referred to as project appraisal.

The techniques of major project appraisal are being proposed as part of the Regional Development Plan for the South, again to be piloted in this region.

For each project, a thorough assessment of the economic and environmental viability shall be undertaken and priority shall be given to those projects for which the positive difference between benefits and costs are greatest.

Appendix III.7.3 highlights the proposed technique which should be used for a project assessment.

It is recommended that short to medium term assessment should, as a matter of urgency be undertaken on a first group of proposals, as these have been identified as the most problematic areas, worthy of further investigation, namely:

a) Marsascala by-pass (constructive discussions on the subject are currently being held between Local Council, Public Transport Authority and Public Transport Association),

b) Birzebbuga by-pass, and

c) Malta Shipbuilding junction fly-over.

The remaining proposals for link roads and by-passes should be assessed, at a later stage, in a second group.

PROJECT 3 - Low-Cost Junction Improvements

The following junctions have undergone a basic economic, environmental and accident assessment and these low cost solutions have proved viable in the short to medium term. Therefore, the following project proposals should be implemented:

a) Traffic Lights at Birzebbuga Road junction with Marsaxlokk Road,
b) Traffic Lights at Tal-Barrani junction with Zejtun Road,
c) Traffic Lights at Malta Shipbuilding junction, and
d) Roundabout at St. Anthony Street junction with Hompesch Road.

PROJECT 4 - Parking Control Assessment Project

In countries where the demand for central area parking spaces generally exceeds the supply of space available, parking control methods are often deployed.

Parking control methods normally involve the pricing, by time, of parking spaces in centrally located areas where there is high demand. If the principle of pricing for parking is carefully researched it, can often lead to an increase in business development in the locality, that is, people will travel to that locality with a willingness to pay for a parking space knowing that finding such a space will be less time consuming.

Parking control can also bring about local regeneration through the ploughing back of parking revenue into community based projects.

Prior to the introduction of parking control measures, three main steps must be taken, namely:

i) careful planning must take place to ascertain parking demand and supply levels in problematic areas,

ii) design of the regime of on-street and off-street parking control, and

iii) assignment of parking fees to different parking areas.

A typical parking regime would be as follows:

On-Street (Central Area)	Relatively more expensive / short stay only (example 10 cents / 30mins)
On-street (peripheral area)	Relatively cheaper / longer stay (example 10 cents / hour)
Off-Street	Relatively cheaper / longer stay (example 10 cents / hour)

Two main localities are being proposed in the Regional Socio-Economic Development Plan for immediate Parking Control Assessment: Marsascala and Senglea town centre.

PROJECT 5 - Strategic Network for Heavy Goods Vehicles

Clear definition of the sections of road network in the south which are suitable for the through- routes of heavy goods vehicles.

Road signage should be introduced to direct heavy vehicles onto such roads accompanied with the necessary prohibition signage on entrance points to sensitive areas.

PROJECT 6 - Integrated Public Transport System

Most of the Local Council proposals regarding improvements to public transport are fairly minor in nature and could be introduced over the coming months as a matter of procedure. There are three longer-term projects, which various government bodies and organisations have proposed, which warrant detailed study:

1. Southern bus network hub,
2. Re-introduction of the scheduled ferry service between Valletta and Cottonera, and
3. Light rapid transit or underground rail link within the Grand Harbour.

a) Southern Bus Network Hub

Feasibility studies are currently being undertaken by the Public Transport Authority for the improvement of the route bus network in the southern region by introducing a bus terminus hub. This terminus hub would be the centre for both inter-locality and inter-regional routes.

In providing a secondary bus service hub away from Valletta, bus journey times would be improved, connections to all parts of Malta and all localities in the Region would be improved and fewer buses would be required to enter Valletta terminus therefore reducing congestion levels.

b) Re-introduction of the scheduled Ferry Service between Valletta and Cottonera

The re-introduction of ferry service would be a sustainable transport decision. It could effectively reduce the number of cars on congested roads bound for Valletta. A thorough feasibility study including infrastructure provision at both ends, economic viability, integration with other transport modes should be undertaken.

c) Light Rapid Transit or Underground Rail Link within the Grand Harbour

This proposal has been suggested for further study as part of the Planning Authority's *Grand Harbour Local Plan*. It is an ambitious concept which would require detailed economic, structural, social and operational assessment. These studies should be undertaken in the medium to short term in order for transport policy makers to decide on future direction in this sector.

7.7.4 Final Comments

It would be pertinent at this stage to depart slightly from the conventional report format and add a final comment regarding organisational roles and functions in the field of transport.

At present there are several bodies responsible for the planning, construction and enforcement of the road transport sector today. Unfortunately, there are instances where communication and co-operation between the various bodies and organisations breaks down. The result being either an unnecessary duplication of work by bodies and organisations unknowingly working on the same projects, only in isolation of each other; or a situation where necessary or vital work is not undertaken as all concerned believe it is the responsibility of other organisations.

Responsibilities for each individual body should be more clearly outlined, in order to avoid unnecessary confusion and wastage of resources.

It is also recommended that the role of the Traffic Control Board, which has representation from most of the relevant transport related bodies and organisations, becomes more pro-active and develops into that of a 'Steering Group' for all transport related policy making and programming. For this role to be fulfilled and meet expectations, this organisation would need to be appropriately resourced.



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Appendix III.A7.1

MALTA ACCIDENT REPORTING SYSTEM - SOUTHERN REGION

Injury Type	No.	Accident Location		Time of Accident	
Slight		Road Name		Time	AM/PM
Serious		Direction		Day	
Fatal		Nodes	to	Date	199...
		Town			

Junction Details (If Applicable)

Intersection Roads	Junction Type		Speed Limit	
Road 1	Priority		30kph	
Road 2	Roundabout		50kph	
Road 3	Traffic Lights		80kph	
Road 4				
Road 5				

ENVIRONMENTAL CONDITIONS

Weather		Visibility		Lighting	
Dry / Sunny		Good		Good	
Dry / Cloudy		Average		Average	
Dry / Dark		Poor		Poor	
Rain (light)					
Rain (Heavy)					
Windy (light)					
Windy (strong)					

ROAD CONDITIONS AT LOCATION OF ACCIDENT

Road Surface		Road Markings / Signage		Carriageway Hazards (if any)	
Good		Good		Parking	
Uneven		Average		Roadworks	
Slippery		Poor		Potholes	
Loose material				Vegetation	
				Water puddles	
				Other (specify)	

VEHICLE DETAILS

Vehicle 1	Year	Vehicle 2	Year	Vehicle 3	Year
Car		Car		Car	
LGV		LGV		LGV	
HGV		HGV		HGV	
Bus		Bus		Bus	
Coach		Coach		Coach	
Minibus		Minibus		Minibus	
Taxi		Taxi		Taxi	
Other (specify)		Other (specify)		Other (specify)	

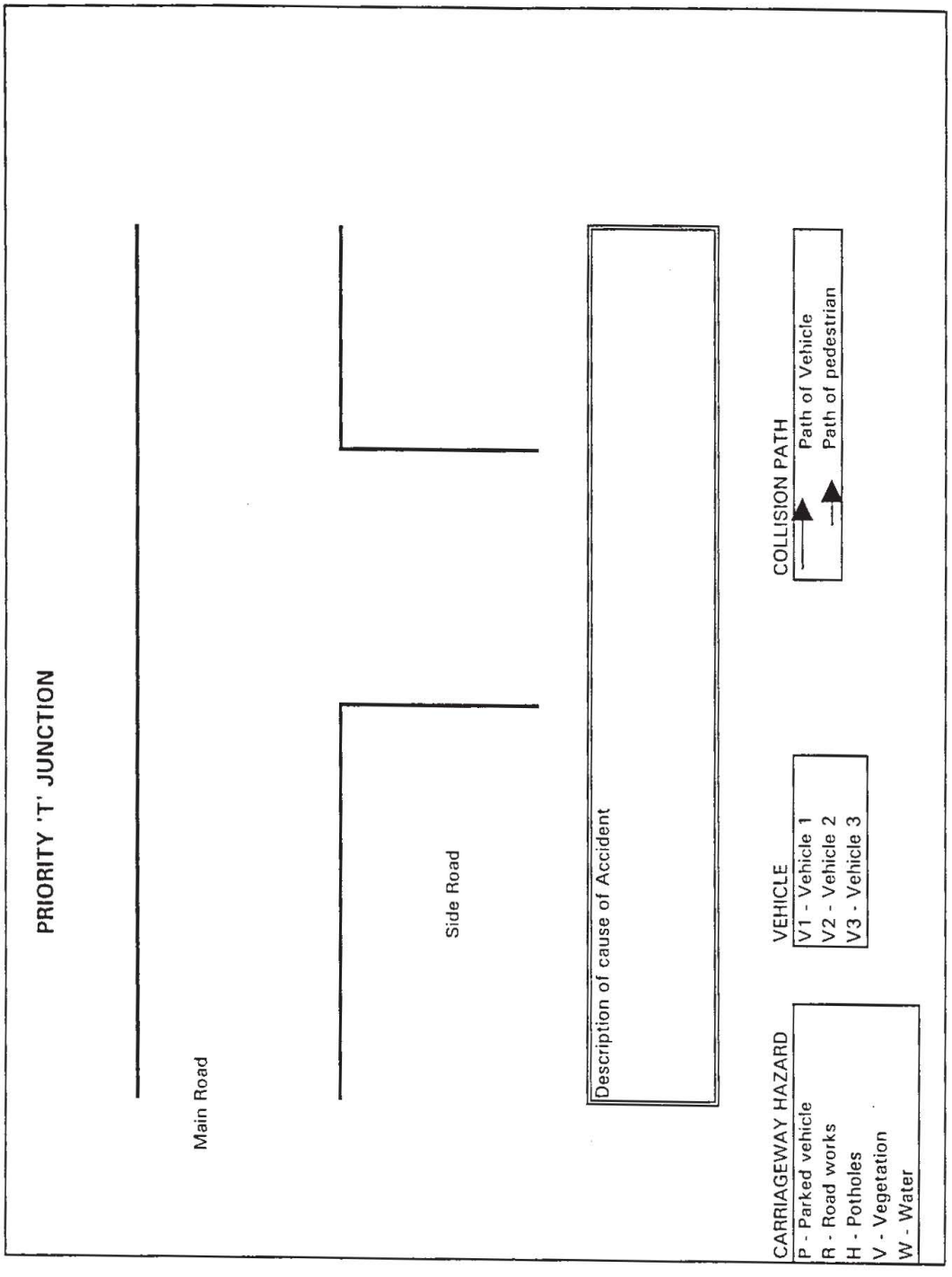
DRIVER DETAILS

Driver 1		Driver 2		Driver 3	
Age	yrs	Age	yrs	Age	yrs
Sex	M/F	Sex	M/F	Sex	M/F
Breath test	P/F	Breath test	P/F	Breath test	P/F

CASUALTY DETAILS

Casualty 1		Casualty 2		Casualty 3	
Age	yrs	Age	yrs	Age	yrs
Sex	M/F	Sex	M/F	Sex	M/F
Pedestrian	Y/N	Breath test	P/F	Breath test	P/F
Slight Injury		Slight Injury		Slight Injury	
Serious Injury		Serious Injury		Serious Injury	
Fatal Injury		Fatal Injury		Fatal Injury	

Appendix III.A7.2



Appendix III.A7.3 Proposed Techniques for Economic and Environmental Appraisal of Proposed Link Roads and By-passes

In order to undertake an economic and environmental appraisal of different proposed projects, the schemes need to be produced at a concept drawing level, travel data needs to be collected and as with the afore-mentioned Accident Prevention Project, a monetary assessment framework needs to be established for evaluation purposes.

Basically, the cost components of a major link road or by-pass project must be identified and balanced against the benefits, over a pre-determined life span of a project.

III.A7.3.1Monetary Value of Costs

The principal components of cost shall include :

1. Construction costs,
2. Maintenance costs over the pre-determined life span,
3. Cost of delays during construction, and
4. Environmental Costs.

The environmental costs of a project are more difficult to quantify in monetary terms than other costs mentioned. The normal procedure in other countries is to use a ranking system rather than money value. Revealed preference techniques such a Hedonic Pricing can be used to estimate the relationship between house prices and the change in environmental factors which would result from a new project such as air pollution and level of noise.

III.A7.3.2 Monetary Value of Benefits

The principal benefit components to which monetary values can be assigned are:

a) Time Saving Benefits,
b) Savings to Vehicle Operating Costs, and
c) Savings from Accident Reduction.

For all of these elements, it is necessary to derive monetary values which are nationally acceptable and practical. Estimates have been derived as outlined below.

III.A7.3.2.1 Time Saving Benefits

For the time saving element of cost-benefit analysis, a distinction needs to be made between time spent travelling during working hours, which includes bus and lorry drivers as well as business travellers, and time spent during one's own free time. In the former case, it is usual to value time at the average wage rate of employees plus a mark-up for overhead costs of employing labour.

In the case of travel during non-working time, the problem of valuation is greater. Revealed or stated preference techniques are normally deployed to determine what people are willing to pay to save time. The following table represents estimates for resource values of time (Lm) in Malta.

Road User Type		*Average Salary (Lm)*	*Average Daily Wage (Lm)*	*Average Hourly Value (Lm)*
Working Time	Car Driver	5,000.00	19.00	2.23
	Car Passenger	4,700.00	18.00	2.12
	Bus Driver	4,300.00	16.90	1.98
	Bus Passenger	4,400.00	16.50	1.95
	HGV Occupant	4,300.00	16.50	1.95
Non-Working Time	Occupant	-	-	0.50

III.A7.3.2.2 Savings to Vehicle Operating Costs

The following table represents an estimate of the costs of operating different categories of vehicles.

Vehicle Type	*Average Cost Per Mile (Lm)*	*Average Miles per hour (Lm)*	*Average Cost per hour (Lm)*
Car	0.20	5	1.00
Heavy Goods Vehicle	0.40	5	2.00
Bus	0.40	5	2.00

III.A7.3.2.3 Savings from Accident Reduction

The monetary framework is worked out along the lines described in Project 1 above. A practical application of the environmental and economic assessments may be seen in Appendix III.7.2 above.

III.A7.3.3 Practical Application of Cost-Benefit Analysis (COBA)

The economic and environmental appraisal framework illustrated in previous sections has been developed into a spreadsheet model (Appendix III.7.2 refers). The following scheme, one which has been put forward by the Local Councils shall now be tested for economic effectiveness.

III.A7.3.3.1 Aldo Moro Road junction with Sir Paul Boffa Avenue and Sta. Lucia Avenue

For this junction the Roads Department have undertaken much of the data collection required for COBA Appraisal and a preferred design has been prepared and

modelled using OSCADY for forecasted travel delays. The design for traffic light control at this junction has been put forward by the Roads Department as a short term solution (3 years) for the traffic problem in this area.

For purposes of demonstration all the link roads entering this junction shall be COBA modelled for the most critical period of the day, that is, the morning peak. The costs and benefits have been calculated over the three year lifespan of the proposal.

The COBA results are as follows :

Road Name	*Net Economic benefit (Lm)*	*Environmental Effect*
Sir Paul Boffa Avenue	+185,066	-0.20
Santa Lucia Avenue	+ 75,186	-0.40
Aldo Moro Road	- 23,169	+0.60
Total Scheme	*+237,083*	*0.00*

As can be seen from the above table, the proposed improvement scheme has a good forecast rate of socio-economic return and as such would be worth pursuing as a short to medium term solution.

Table III.7.1 : Production sources of potable waters

(Source : Water Services Corporation)

Boreholes	*Nominal Capacity (m^3/ day)*	*Boreholes*	*Nominal Capacity (m^3/ day)*
Brija I	400	Tal-Barrada	60
Brija II	120	Tal-Fieres	130
Fawwara	110	Tal-Froxx	300
GHar Hanzir	170	Tal-Gawhar	300
Girgenti	190	Tal-Giebja	180
Harruba	130	Tal-Gnien	270
Qattara	200	Tal-Hofor	400
San Blas	320	Tal-Kappella	90
San Gakbu	400	Tal-Lewza	90
Ta' Srina	410	Tal-Mentna	590
Ta' Zahra	150	Tal-Paci	240
Tad-Dolf	300	Tal-Qattus	420
Wied Qirda	100	Tas-Salib (Sajjied)	90
Wied Zikku	120	Wied Betti	180
Wied Xkora	410	Wied Qoton	370
Bir ix-Xaghra	360	Xleji	380
Bir Miftuh	120	Zurried Road	170
Bomb Dump I	370		
Bomb Dump II	400	*Pumping Stations*	
Farzina New	140		
Farzina Old	300		
Fulija	280		
Garibaldi	100	Ta' Bakkja P/S	5,200
Gebel Xejn	220	Wied il-Kbir P/S	3,200
GHaxaq	420	Ta' Kandja P/S	7,500
Hal-Far Rd	290		
Hal Tmiem	280	*Spring Water*	
Handaq I	120		
Handaq II	100		
Has-Saptan	210	Fawwara Group	
Hlantun	150	Ta' l-Isqof Group	
Kirkop I	180	Buskett Group	
Kirkop III	180		
Loretu	160		
Luqa Dump	220	*Reverse Osmosis Plants*	
Luqa II	250		
Mgieret	330		
Salvun	220	Marsa	
San Klement	220	Lapsi	
San Niklaw	480		
Sant' Agatha	200		
Schinas	240		
Ta' Bettina	500		
Ta' Bursett	170		
Ta' Farrugia	290		
Ta' Germun	200		
Ta' GHazuza	290		
Ta' Karwija III	200		
Tad-Dawl	240		

Table III.7.2 : Reservoirs feeding water distribution system in the south region

Reservoir Name	*Capacity (m^3)*
Naval	43,564
Luqa	26,712
Schinas	4,870
Bouverie	7,500
St. Clement	27,222
Kordin A	15,920
Kordin B	16,100
Qrendi	50,815
Nigret	4,893
Kirkop	21,898
GHaxaq	4,341

Table III.7.3 : Analysis of correspondence to Water Service Corporation Customer Care from Local Councils in the south region

Category	*No. of Complaints /Correspondence*
Lack/quality of road reinstatement following Trenching works by WSC or its contractors	36
Reports of water leakages	28
Low water pressure	20
Requests for installation of new mains / renewal of old mains	19
Others	8
Installation following plugging of water service	7
Temporary suspension of water supply	6
Water seepage into buildings	4
Complaints on Water quality	3
Requests for reconnection of water supply to consumers following water main installation	2
Queries on bills issued	1
Installation of new service	1

Table III.7.4 : Regional car ownership and public transport usage

(Source : [1] *Population Census*, 1995; [2] *Structure Plan Report of Survey*, 1990 [Household Travel Survey], and [3] *Population Census*, 1995)

Locality	*Population 1996*[1]	*Household Car Ownership*[2] *No Car (%)*	*1 Car (%)*	*2 Cars (%)*	*3 Cars (%)*	*Public Transport Usage*[3]
Cospicua	6,085	42.6	40.4	13.5	0.0	14.5
Senglea	3,528	28.6	60.7	10.7	0.0	17.1
Kalkara	2,833	33.3	48.1	18.5	0.0	13.4
Vittoriosa	3,069	42.4	30.3	18.2	9.1	16.2
Fgura	11,042	13.4	64.6	18.3	3.7	13.5
Zabbar (Xghajra)	14,138	24.3	59.1	13.9	2.6	14.8
Zejtun	11,379	30.1	50.7	17.8	1.4	15.7
Marsaxlokk	2,857	17.2	65.5	13.8	3.4	10.7
Marsascala	4,770	17.5	62.5	17.5	2.5	9.5
Birzebbuga	7,307	34.3	46.3	16.4	3.0	14.4
Regional	70,677 *(total)*	28.3 *(mean)*	52.8 *(mean)*	15.8 *(mean)*	2.5 *(mean)*	14.0 *(mean)*
Malta	378,132 *(total)*	23.8 *(mean)*	53.3 *(mean)*	18.2 *(mean)*	4.7 *(mean)*	10.9 *(mean)*

Table III.7.5 : Main locations of traffic delay in the region

(Source : Moving Observation Survey, 1997)

Location	*Direction*	*Time Periods*	*Mean Delay Per Vehicle (seconds)*
Malta Shipbuilding Junction			
a. Sir Paul Boffa Avenue	To Valletta	0700hrs - 1000hrs	350
		1230hrs - 1330hrs	75
		1600hrs - 1800hrs	120
b. Santa Lucia Avenue	To Valletta	0700hrs - 1000hrs	180
Tal Barrani Junction			
a. Bulebel Road	To Valletta	0700hrs - 1000hrs	100
		1600hrs - 1800hrs	40
Santa Lucia Roundabout			
a. Paola Square	To Valletta		40
Zabbar Road, Fgura	To Valletta	0700hrs - 1200hrs	varies
Hompesch Road, Zabbar	To Valletta	0700hrs - 0900hrs	varies
	To Zabbar	1600hrs - 1830hrs	varies
St. Anthony Street/ Triq il-Qaliet Junction, Marsascala		1930hrs - 2330hrs (weekends)	varies

Table III.7.6 : Road accidents rates by severity, 1991

(Source: *Abstract of Statistics*, 1992)

Locality	*Accidents*	*Fatal Injuries*	*Serious Injuries*	*Slight Injuries*	*Total Injuries*
Cospicua	101	-	1	5	6
Senglea	17	-	-	-	0
Kalkara	10	-	2	-	2
Vittoriosa	12	-	1	3	4
Fgura	161	-	5	1	6
Zabbar (Xghajra)	162	-	3	5	8
Zejtun	228	1	4	11	16
Marsaxlokk	29	-	-	-	0
Marsascala	78	-	2	3	5
Birzebbuga	136	-	5	9	14
Regional Average 10 localities	*93.4*	*0.1*	*2.3*	*3.7*	*6.1*
Malta Average 62 localities	*150.8*	*0.2*	*2.7*	*6.5*	*9.4*

Table III.7.7 : Road accident fatalities by locality for 1986-1997

(Source: *Police Headquarters Statistics*, 1997)

Locality	*Fatalities*
Cospicua	1
Senglea	0
Kalkara	2
Vittoriosa	3
Fgura	1
Zabbar (Xghajra)	4
Zejtun	6
Marsaxlokk	0
Marsascala	1
Birzebbuga	1
Paola /Tarxien	7
Total Fatalities south region	*26*
Total Fatalities All Malta	*209*

Table III.7.8 : Scheduled public transport service in the region

(Source: *Public Transport Authority*, 1997)

Route	*Journey Description*	*Peak Frequency*	*Off-Peak Frequency*
1	Vittoriosa*-Valletta	1 per hour	1 per hour
2	Vittoriosa* - Valletta	4 per hour	2 per hour
3	Senglea* - Valletta	4 per hour	2 per hour
4	Kalkara* - Valletta	2 per hour	2 per hour
6	Vittoriosa - Valletta	1 per hour	1 per hour
11	Birzebbuga* - Valletta	8 per hour	5 per hour
12	Tal-Papa - Valletta	1 per 2 hours	1 per 2 hours
13	Hal-Far - Valletta	1 per hour	1 per hour
18	Zabbar* - Valletta (Winter only)	12 per hour	4 per hour
19	Marsascala* - Valletta	4 per hour	2 per hour
21	Marsascala* - Cospicua (direct)	1 per hour	1 per hour
27	Marsaxlokk* - Valletta	2 per hour	2 per hour
28	Zejtun - Cospicua (direct)	Limited	Service
29	Zejtun* - Valletta	6 per hour	3 per hour
30	Ramla* - Valletta	1 per hour	1 per hour
427	Marsaxlokk* - Bugibba (direct)	1 per hour	1 per hour
627	Marsaxlokk* - Sliema (direct)	1 per hour	1 per hour

* Denotes towns with a bus terminus.

Table III.7.9: Estimated costs of accidents

Cost	*Injury Severity*		
	Fatal (Lm)	*Serious (Lm)*	*Slight (Lm)*
Damage (Property / Vehicle)	4,000.00	2,000.00	400.00
Health Service	10,000.00	7,000.00	200.00
Police & Ambulance	5,000.00	2,000.00	300.00
Loss of Production	125,000.00	1,250.00	100.00
Total cost	*144,000.00*	*12,250.00*	*1,000.00*

III.8.0 Issues and Recommendations

The following tables highlight some of the key issues and recommendations developed by the various working committees. Recommendations put forward were classified into two: policies and projects. In both instances, reference was made to whether they can be, or are, of a long term (abbreviated as 'L') or of a medium/short term (abbreviated as 'M/S').

Table III.8.1 - Social Issues

(A) Employment and economic activity
(B) Demography
(C) Housing
(D) The Community
(E) Entertainment and Leisure
(F) Health
(G) Family affairs
(H) Education
(I) Crime
(J) General Recommendations

Table III.8.2 - Economic Issues

(A) Agriculture
(B) Fisheries
(C) Industry
(D) Tourism

Table III.8.3 - Environmental Health

Table III.8.4 - Heritage

Table III.8.5 - Built-up Environment

Table III.8.6 - Infrastructure

(A) Electricity
(B) Sewerage and Stormwater
(C) Water
(D) Transport

Table III.8.1(A) : Social Issues - Employment and Economic Activity

Issue	*Problem Identification*	*Recommendations*			
		Policies		*Projects*	
		L	*M/S*	*L*	*M/S*
Entrepreneurship promotion in the region	Uncertain future for Marsaxlokk fishermen	Support fishing industry viability	Closer cooperation between the two fishing cooperatives	Study fishing tourism potential	Setting up of cold stores for sea produce. Carry out a feasibility study on the fishing industry and aquacultural prospects
Entrepreneurship promotion	Hawkers from outside Marsaxlokk have stifled the traditional fish market		Bolster/re-establish Marsaxlokk fish market		Allocate market stalls at Marsaxlokk for Marsaxlokk fishmongers only
Entrepreneurship promotion	Lack of irrigation water	Extension of secondary water distribution			More open culverts are needed. Those at tas-Silg should be linked to the treatment plant
Entrepreneurship promotion	Quality of agricultural produce irrigated by secondary water is questionable				Research on agricultural produce irrigated by secondary water
Entrepreneurship promotion	Megamarkets are threatening small grocery shops	Restrictions on proliferation of megamarkets in the region			Carry out a socio-economic study on enterprise culture in the South
Entrepreneurship promotion	Lack of effective teaching of entrepreneurship skills in schools	Encourage participation in Scoops and Young Enterprise projects			
Entrepreneurship promotion	Salt-pans industry risks being totally destroyed				Support the viability of the salt-pans industry

Table III.8.1(A cont.) : Social Issues - Employment and Economic Activity

Issue	Problem Identification	Recommendations			
		Policies		Projects	
		L	M/S	L	M/S
Entrepreneurship promotion	Lack of adequate infrastructure for small enterprises characteristic of the region			Establishment of an Industrial Estate for small enterprises	
Entrepreneurship promotion	Lack of involvement in Tourism (apart from Birgu, Marsaxlokk, Marsascala)	Inclusion of localities of the region in Tourist iteneraries			
Put an end to housing policies leading to Social Housing socially, physically and economically segregated	Lack of integration between the local people and those coming from outside the locality. Could result in problem families	Stop zoning of housing stock	Use flexible means-testing and grant subsidies on market prices as a social housing policy		Carry out a social impact assessment of "foreigners" on established communities in Maltese towns and villages
Make Cottonera appeal and attractive to residents	Upgrading and rehabilitation of Bormla coast with the Dockyard at the forefront for the revival of Cottonera	New investment and interest needed in Cottonera. Diverse types of residents are needed to "reform" the existing community		Dock No. 1 site to be changed into a recreational area	
Promulgation of self-help schemes	Encouragement of initiatives at the grass-root level shall replace pity from the centre; this would enhance autonomy, a sense of responsibility and self-confidence as against apathy and sense of dependence	Avoid treating the region as deprived and sick		The community will start helping itself; co-ordination of NGOs and voluntary activities shall give better results	

Table III.8.1(B) : Social Issues - Demography

Issue	*Problem identification*	*Policies*	*Projects*
Involve long-term unemployed in productive employment			ETC to set up a Job Motivation Scheme and create job coaches; occupational psychologists are essential
More effective use of infrastructure facilities in the region	Lack of access to existing recreational and sport facilities. There should not be a duplication of what already exists	Better management of sport and recreational facilities especially in state schools. More effective integration of the schools in community life	
Number of elderly increasing	Lack of community services; segregation of the elderly in their own houses especially those who are house bound	Need to integrate and involve the elderly in the community	Building of Day Centres where elderly people could be involved in activities
Abrupt increase in the number of children in newly developed areas	Lack of open spaces and recreational facilities.Prohibitive distances for children to benefit from existing community services and facilities	Development zones, particularly peripheral, shall be better planned	Rehabilitate and provide sport and leisure facilities; vigilance in open spaces
Influx of couples from outside Cottonera area	Increase in number of elderly. Less active community life. Abandoned houses; lack of investment in the locality. Peripheral urban development not integrated with the centre	Effort to regenerate the physical environment as well as to redress the demographic balance	More housing-schemes incentives for youth to rehabilitate the locality; enforce GO's and NGO's interest in tourism to regenerate the residential areas

Table III.8.1(C) : Social Issues - Housing

Issues	*Problem Identification*	*Policies*	*Projects*
Internal migration in the Southern Region particularly an exodus from Cottonera: shift from rented tenaments to home ownership	Urbanisation spreading at the periphery. Increase in the number of vacant dwellings in the locality's core	Urban planning should be anticipated by a research on what caused this outflow of residents	Demographic changes need to be quantified and reasons identified
Lack of recreational and community services in Housing Estates	Lack of integration of Housing Estates' residents with the rest of the locality - sense of emargination	Urban extensions need to be adequately serviced. Housing projects implementation should follow a social-economic impact on the rest of the locality	A community impact asesssment is required prior to housing project implementation
There is a social stigma towards residents in Housing Estates	"Social Accommodation" concept begets low social classes	Curb the vision of social accommodation	Revise the point system for allocation of houses for better integration
Lack of facilities and services for Housing Estates' residents	Sense of emargination. Lack of interest to ameliorate their environment.	Discontinue the building of Housing Estates on the peripheries or away from communitary facilities	Government accommodation should be allocated closer to the locality core; social embellishment projects are needed
The existence of sub-standard or vacant buildings	General degradation which ejects investment from the region; residents and young couples seek accommodation elsewhere	Incentives, including subsidies, are needed for housing regeneration. Subsidies on purchasing of land should be substituted by subsidies on the purchase of vacant dwellings. Establish Cottonera as a high-priority area for urban rehabilitation	Draw up an inventory of surplus and rented buildings. Slum clearance congrueent with preservation of the character of the village core

Table III.8.1(D) : Social Issues - The Community

Issues	*Problem Identification*	*Policies*	
		M/S	*L*
Ageing population and lack of adequate infrastructure	Old housing stock not accessible for all impels the elderly to seek alternative housing elsewhere	Rehabilitate old housing stock to make it accessible. Accessibility policies should be enforced in all respects	Disability-rated allowance to enable rehabilitation of houses; introduce vetting of housing projects for accessibility at the planning stages
Emargination of social minorities	Lack of knowledge about these groups; segregation of these communities in identifiable neighbourhoods	Multi-cultural education in schools is needed; discard the present social accommodation system	
The local identity is being lost	A great lack of sense of belonging and participation in the local community. Lack of local formation in schools	Civic Centres to cater for NGOs. Activities are needed; historical, cultural and traditional trades need to be nurtured and appreciated	Appreciation of local identity as part of the social studies curriculum

Table III.8.1(E) : Social Issues - Entertainment and Leisure

Issues	*Problem Identification*	*Policies*		*Projects*
		M/S	*L*	
Inefficient Public Transport	Bad state of roads; lack of discipline common amongst bus drivers; inconvenient hours of operation	Planning of infrastructure works without detriment to the streets; preparatory courses for bus-drivers; increase number of bus routes	Change the image and status of bus-drivers and of their work. Circular bus-route-service for persons residing far from the terminus	New bus route linking Fgura and Cottonera with Marsaxlokk and Birzebbuga. Introduction of mini-bus service in Cottonera. Better public transport service for Qajjenza
Proliferation of private motor vehicles: traffic congestions	No efficient alternative. Not enough disincentives for using private cars	Hours of operation of public transport should be extended; reduce or freeze the number of free-parking facilities; consider other forms of efficient public transport	Re-routing of traffic	Construction of a by-pass in Fgura; another by-pass in Birzebbuga; create a ring road in Zejtun by joining Triq il-Qadi and Triq San Klement
Lack of open spaces	Inadequate planning	Better use of existing facilities. Maintenance of sport facilities; reserve open spaces as such; introduce embellishment tax principle	Policies for the better management of public facilities. Extend and innovate Corradino Sports Complex to cater for the region	Birgu Ditch and Area at Santa Margerita bastions to be utilised for recreation; consensus on the creation of a national park at Delimara; establishment of a regional recreation centre in Hal Far; Dockyard could be instrumental for Cottonera rehabilitation; no development should take place at "Il-Munxar" and St. Thomas Bay

Table III.8.1(F) : Social Issues - Health

Issues	*Problem Identification*	*Policies*		*Projects*
		M/S	*L*	
Sewage outflows	Sea pollution; are farms and factories abusing?	Research into an alternative system of liquid waste disposal		Research and monitoring of marine and air pollution levels
Scrapyards	Air pollution and eye-sore	Relocation of noxious industries		
Grit blasting at the Dockyard	Air pollution and socio-psychological impact on Cottonera. Pollution of water in underground cisterns, intrinsic pollution; erosion or impairment of worker's health	Imposition of a deadline to find a viable alternative for grit blasting. Study ways to recycle or dispose of grit; another study should be carried out with respect to the effects of grit on the health of workers		Relocate Isla school; study the level of water contamination. Strenghten trade unions' policies in favour of the workers' health
Dockyard Activities: smoke emissions, chemicals and noise	Sound and odour pollution	Enforcement of laws protecting workers and residents; prohibit noises in excess of certain levels during specific hours		
Rubber tyres burning	Respiratory pollution	Strickter controls; find ways to recycle tyres	Relocation of scrapyards	
Rubbish dumps	General pollution	Introduce incentives for waste disposal; harsh fines for defiance	Make embellishment tax principle functional; research into new sources of energy	

Table III.8.1(F cont.) : Social Issues - Health

Issues	*Problem Identification*	*Policies*		*Projects*
		M/S	*L*	
Discharge of Liquid Petroleum Gas at Birzebbuga	Odour contamination and risk	Relocation of plant		
Landing Aircraft	Air and noise pollution	Introduce "silent hours" system	Encourage use of more silent aircraft engines	
Traffic flow through the village core	Reduce traffic flow from the village core	Introduce "MOT" tests. Find viable alternatives for private transport; need for more efficient public transport. Construction of by-passes where necessary; enforce catalytic converters		
Emptying of skips/slops inside the harbour	Marine pollution	Vessels should declare contents of slops before entering the harbour; no emptying should be allowed inside the harbour		
Certain types of shops attract people to Marsascala: negative effect in the locality	Create alternatives for youths away from certain types of leisure shops; involve youths in community work	Set up recreational civic centres. More active involvement of NGOs at local level	Develop the Swimming Pool at Zonqor point into a Regional Aquatic Sports Centre	
Drugs and alcohol abuse	Lack of police presence	Set up Civic Centres	Awareness on effects of alcohol	
Unemployed	Economic and psychological harm	Enforce police presence and role; let unemployed persons work on a part-time basis while still registering for work	Set up occupational classes for those registering for work	

Table III.8.1(G) : Social Issues - Family Affairs

Issues	*Problem Identification*	*Policies*		*Projects*
		M/S	*L*	
Separations		Courses on communication are needed in preparation for marriage		Family therapy service
Emargination		Annihilate the term "Social Housing"		
Inadequate family life	Lack of communication and adequate preparation; problems related to loans; emarginated families; effective parenting skills are required	Life and parenting skills courses in the community for couples	Standard families to be given the role of buddy families	Parenting skills training to start in secondary schools; boost counselling service in schools; parent support groups in the locality
Latchkey children	Unsupervised children at home	Parental leave for all full-time employees	Encourage parents' cooperatives; set up a network of child day care centres	
Individualism (in Fgura)	Lack of community spirit	Bolster community spirit		
Lack of integration of social policies	Lack of coordination of local activities	Create a network to coordinate social activities in the locality		Bolster NGOs activities in the locality
Mixed marriages	Emargination and prejudices	Detailed statistics are needed	Adequate preparation needed	Cross-cultural studies in schools
Material poverty	More and better opportunities for productive work. Personalised social services	Render the region fertile for investment; regularly revise the social wage rate		

Table III.8.1(H) : Social Issues - Education

Issues	*Problem Identification*	*Policies*		*Projects*
		M/S	*L*	
Less qualified teachers in the region	Social stigma; the school environment is unattractive	Incentives to attract the best educators to the region; rehabilitation of state schools; reallocation of schools in Bormla A, Isla, Zabbar; removal/alternative for wire mesh protecting windows on the lower floor; curb vandalism		
Anti-schooling parents' attitude	Conflicts between parents and teachers and amongst parents themselves	Services of psychologists, counsellors etc. required to cooperate with parents	Adult/parent education services	
Stress on teachers	Difficulties with parents, social problems, difficult school atmosphere	Stress and conflict management courses; improve the image and the status of the school by staffing them with high quality teachers		
Lack of recreational spaces for children	Old buildings; over populated; lack of ventilation; school premises misused and situated in densely polluted neighbourhood		Reallocation of schools or reallocation or closure of polluting agents	Enforcement of laws
Absenteeism	Children alone at home because parents are at work. Irrelevant school curriculum	Cycle lane near Bighi; welfare monitoring and emphasis on basic skills, life-skills, remedial teaching	Adequate services of psychologists; counsellor services for parents, children and teachers; adult-parent education	Remedial classes lacking, youth leadership training
Illiteralism	Absenteeism; irrelevant teaching	Teachers and curriculum which are congruent to the local culture	More basic skills, life skills teaching	Community Development Scheme

Table III.8.1(H cont.) : Social Issues - Education

Issues	*Problem Identification*	*Policies*		*Projects*
		M/S	*L*	
Latchkey children	Unsupervised children at home	Implementation of 'after school' project by the Ministry of Education; services of child daycare centres; better equipped libraries		
Lack of interest to read	Children and parents do not like to read	More emphasis on reading; more emphasis on reading material appealing to children		
New schools required	Existing schools are unacceptable; conflicting plans for relocation of schools; student population increased	Wider consultation; research on demographic trends an asset	Sites for new schools identified in Bormla and Isla; schools in Xghajra and Birzebbuga are too small	
Pilfering and vandalism in schools	Lack of effective security services	Regular police surveillance		
Children with special needs	Lack of information	Effective methods to obtain information on various ailments such as dyslexia; confidentiality rights safeguarded	Statistical analysis of (Junior Lyceum) examination results	
Students' performance	Percentages of success vary from locality to another; decreasing in Cottonera	Records are to be kept and analysed		
Students attending schools in different localities from those where they reside	Xghajra and Zabbar official boundaries are different from the people's notion		Review boundaries	

Table III.8.1(I) : Social Issues - Crime and Delinquency

Issues	*Problem Identification*	*Policies*		*Projects*
		M/S	*L*	
Illegal immigrants (landing and boarding)	Lack of patrols on land and sea	More effective operations by Armed Forces and Police		
Who are the vandals and criminals?	It is common perception that vandals and criminals come from other localities; theft to finance drugs abuse; crimes committed by those who are under the effect of alcohol; mistrust in the police force; police stations often closed	Clash of values between the community and those using its facilities	Anti-drug centres needed in Kalkara, Marsascala and Fgura; restrict sale of alcohol according to law; recruitment of foreign policemen for definite periods; open up police stations	
Alcoholism	Sale of alcohol to minors; drinking culture (for example Isla)	Education on effects of alcohol	Law enforcement	

Table III.8.1(J) : Social Issues - - General Recommendations

Issues	*Problem Identification*	*Policies*		*Projects*
		M/S	*L*	
Fgura lacks a sense of identity	Fgura emerged along a road and not the other way round	Policies in favour of a village core	Reduce traffic from part of Hompesch Street	Move certain administrative services to this part of the street Traffic calming measures to dissuade drivers using this street
Lay the foundations so that the region could plan its own development	Lack of development improvement in the region	Setting up of a Regional Development Board; Public and Parastatal bodies will come in line with the reality of the South of Malta; regular monitoring on progress	Setting up of a social audit function	
Sensitivity in implementing regional plan policies/ proposals	Lack of control over implementation of plan proposals.	Introduce more inter-disciplinary action amongst development planners and project evaluators; social indicators should be given due importance in evaluating infrastructure development		
Strong pressure on unsustainable sources of energy	Lack of alternative sources of energy	Development, research and incentives for alternative sources of energy	Enemalta shall be responsible for a research programme for alternative sources of energy within a fixed deadline	

Table III.8.2(A) : Economic Issues - Agriculture

Issue	*Recommendations*		
	Policies	*Projects*	
		L	*M/S*
Low yield per hectare			Develop 'on the job' training/advisory programmes
Limited second class water distribution			Extend second class water distribution via distribution pipes and modern drip irrigation equipment/ build new water treatment plant (cfr. Mitchoff report)
Wastage of second class water			Install metres for second class water on holdings; repair government tanks
Underutilisation of wind energy			Create soft loans and part grants for equipment
Lack of investment in protected cropping			Set up a commercial horticultural centre; create banking and insurance facilities
Soil depletion			Increase law enforcement on soil movement; enhance shallow soil through organic matter; utilise material at Luqa dump
Disappearing rubble walls			Develop a rubble wall repair programme; provision of caissons for damaged retaining walls
Mismanagement of citrus orchards			
Depletion of agricultural land in valleys			Use Chadwick Lakes rehabilitation project as guideline for rehabilitation of valleys in the south
Decrease in bee population			Encourage bee keeping as a hobby; farmers to invite bee keepers to keep hives within bee flight span of their holdings
Decrease in variety of dry land crops			Encourage the planting of vines and hardy fruits

Table III.8.2(A cont.) : Economic Issues - Agriculture

Issue	*Recommendations*		
	Policies	*Projects*	
		L	*M/S*
Untenable land tenure conditions	Amend land tenure conditions for government tenements to encourage investment		
Lack of investment mentality	Create investment facilities for farmers; develop insurance cover for equipment; encourage the set up of cooperatives; encourage feed mills to invest in the farming sector	Develop the concept of agro tourism in the south including the development of cottage type industry, viticulture, fruit production and staples	
Lack of knowledge/ certification		Develop education programmes for farmers/breeders and members of the public with a particular interest in this sector	Develop a landscaping course to certify would-be contractors
Siting of livestock farms	Install pig farm waste management plants		Relocate livestock units presently housed in fortresses at Delimara, Benghajsa and St Leonard and those surrounded by residential buildings - encourage owners to find alternative sites; close down unlicensed farms
	Decrease use of chemicals and artificial fertilisers		
			Encourage volunteer help on maintenance of afforestation sites

Table III.8.2(B) : Economic Issues - Fisheries

Issue	*Problem Identification*	*Recommendations*			
		Policies		*Projects*	
		L	*M/S*	*L*	*M/S*
Small fishing fleet composed mainly of smaller boats; lack of investment	Traditional fishing; high cost of improving / enlarging boat	Review policy of financial assistance		Setting up of agricultural bank with government funds and encourage private investment; reduce depreciation rate on vessels; assistance in marine insurance schemes to improve chances of fishermen to secure loans	
Lack of marine insurance cover and third party liability	Costly and not enough awareness of its importance			Assist in setting up marine insurance schemes; increase awareness among fishermen	
Lack of accurate statistics - difficult to assess development of industry and develop adequate policies	Lack of Gozo Market; better price obtained if fishermen sell direct	Review system of recording catches		Improve system for determining actual catches	Determine main issues leading to inaccuracies
Fuel subsidy	Major cost in fishing operations				Assess impact if fuel was to be subsidised
Lack of facilities at Marsaxlokk	Increase in number and size of fishing boats & importance of Marsaxlokk Bay without concomitant increase in facilities			Assess the possibility of a marina and determine its impact both on the environment and Marsaxlokk characteristics as a fishing village	Construction of a larger slip way; site fo maintenance work; better allocation of moorings unencumber key areas on waterfront from oper market; construct cold stores and ice making machines
Lack of facilities in other localities - slip ways & mooring area in Birzebbuga	Development of Freeport has reduced mooring facilities				Upgrading of existing facilities; determine actua needs
Local Market constraints - limited variety; periods of glut and scarcity; high price fluctuations; high imports;	Seasonal and traditional nature of local fisheries				Assess domestic market needs and possibilities encourage processing of fish during periods of high supply; improve fish distribution system - more modern fish shops; campaign for increased loca fish consumption

Table III.8.2(B cont.) : Economic issues - Fisheries

Issue	*Problem Identification*	*Recommendations*			
		Policies		*Projects*	
		L	*M/S*	*L*	*M/S*
Limited Export markets		Review policy on imports & exports of fish; provide necessary contacts/ agreements with foreign countries		Upgrade existing legislation and facilities to bring it in line with that required by foreign countries; determine possibility of export markets for other fish species;	Improve quality control - resident vet at the *pixkerija*; awareness among fishermen on quality issues - educate; assess socio-economic effect of such policy
Limited knowledge of fish stock levels, life cycle	Danger of over exploitation; resource not being exploited	Review current legislation to safeguard the resource	Review current legislation to safeguard swordfish stocks	Determine potential development of trawling of deeper waters and small pelagic fish; safeguard stocks of migratory fish such as tuna and *lampuki* - collaboration with other Mediterranean countries	Post of fisheries biologist; collection of available data and assessment of stock levels; enforcement of controls and legislation
Over exploitation of inshore and coastal waters	High concentration of fishing activity; illegal & destructive fishing practices; pollution	Review current legislation			Stricter enforcement of legislation; stricter penalties for whoever breaks the law; set up marine reserves
Pollution	Depletion of fish stocks			Treatment of sewage; collaboration with other Mediterranean countries on pollution issues	Effort towards reducing pollution
Lack of education & training					Increased awareness of fishing tradition; encourage youngsters to take up fishing as a career; provide courses for fishermen on use of equipment, fishing methods and gear
Two fishing cooperatives for a very small community of fishermen					Encourage the joining up of forces to create one/all-embracing fisheries cooperative
Loss of boat building tradition	Decrease in demand for traditional fishing vessels				Create a museum on boat building and document the craftsmanship involved in the making of traditional boats
Fish farming: Rapid Decrease in prices whilst costs of production still high	Increased competition from other Mediterranean countries				Reduce costs; more research and development required; local fry supply; diversify into new products and species
15% Tariff imposed on all exports to European Union				Increased effort by Government to remove the 15% tariff	

Table III.8.2(C) : Economic Issues - Industry

Issue	*Problem Identification*	*Recommendations*		
		Policies	*Projects*	
			L	*M/S*
Irregular industrial development	Light local industries; scattered industry; contractors' yards not conforming to or not covered by a building permit	Improving law enforcement with the help of local councils		
	Unbuilt sites within habitable areas	Closing-off		
Changing environment of small industrial enterprises	Garage industries in habitable areas			Identification of six sites for garage industries
	Dying traditional crafts	Government subsidy may be considered		
	Marsaxlokk Fishing Industry	Government subsidy may be considered	Development of shore-line	
Necessary localisation of large scale industry	Malta Freeport at Birzebbuga/Marsaxlokk	Stake-holder management, benefits to NIMBY'S		
	Delimara Power Station	Stake-holder management, benefits to NIMBY'S		
	Industrial Estates at Hal Far, Bulebel and Ricasoli		Create greenbelts around Industrial Estates	

Table III.8.2(D) : Economic Issues - Tourism

Issue	*Problem Identification*	*Policies*	*Recommendations*	
			Projects	
			L	*M/S*
Linking of Cottonera waterfront	Dock No 1 issue	Negotiations with Malta Drydocks		Ensure unobstructed access to entire Cottonera waterfront
Heritage trails along Cottonera Lines	Squatters	Law Enforcement		Sustainable rehabilitation of Cottonera Lines
Extention of existing Calendar of Events in Cottonera area		NTOM Events Directorate		Build up existing events into a year round calendar of activities
Reintroduction of ferry service between Cottonera and Valletta	Re-introduction of lift at Upper Barrakka	Planning Authority and Public Transport Authority		Approve plans to re-instate the service
Consolidation of Marsascala's position as South's main resort				Treat upgrading projects as continuous rather than '*ad hoc*'
Establish positive relationship between Marscascala and Sant Antnin Plant	Polluter pays principle			
Establish positive relationship between Marsaxlokk and Power Station	Polluter pays principle			
Enhance Marsaxlokk's fishing village appeal		Local Council		Control open-air market and enhance fishing village attributes
Develop Birzebbuga's Wied Dalam into a heritage zone		Museums Department		Declare area heritage zone and commence introduction of interpretation facilities
Establish positive relationship between Birzebbuga and EneMalta and Malta Freeport	Polluter pays principle			
Develop Pretty Bay into a location which maximises its status as the country's largest sandy beach	Move away from current plans to change area into recreation facility			
Help villages like Zejtun and Zabbar to attract visitors to their cores		Local Council and Culture Secretariat		
Enhance Xghajra's military heritage	Squatters	Museums Department	Restoration of sites and setting up of interpretation facilities aimed at presenting a coherent network	

Table III.8.3 : Environmental Health

Issue	Recommendations			
	Policies		Projects	
	L	M/S	L	M/S
Terrestrial Pollution	Develop and implement a National Waste Management Strategy giving priority to the South where the problem is more acute	Prevent illegal dumping of waste along the countryside and in towns/village perimeters through enforcement of existing legislation	Carry out a phased project to rehabilitate valleys and other natural sites giving priority to sites indicated in the Marsaxlokk Local Plan	
		Litter bins and waste containers should be purpose-designed for maximum performance	A study should be undertaken by Local Councils to determine the best possible siting of refuse skips in each locality	Local Councils should increase the number of skips in each locality according to needs
		Enforce the controls of handling, storing, transport and disposal of commercial wastes		
		When Government is expanding its Waste Separation Programme, priority should be given to the South of Malta		
		Department of Public Health should upgrade and expand its Pest Control Branch		
		Carry out intensive control of existing scrapyards to minimise their harmful effects		
		Sandy beaches should be thoroughly cleaned regularly and dogs and cats precluded from these areas		
		Street hawkers should be enforced to clean up, especially after market hours		

Table III.8.3(cont.) : Environmental Health

Issue	*Recommendations*			
	Policies		*Projects*	
	L	*M/S*	*L*	*M/S*
Government lacks a National Environment Policy	Develop National Environment Policy to:			
	Ensure that all relevant laws and regulations are properly integrated and are consistent with Malta's national and international commitments	Establish procedures aimed at ensuring that decisions taken by Government always respect the requirements of sustainable development		
	Improve the availability, relevance and quality of data relating to the environment			
	Ensure that effective mechanisms exist for handling environmentally-determined hazards			
	Improve the functioning of market and planning mechanisms within private and public sectors so that environmental costs are properly accountable			
	Provide appropriate environmental education, training and re-training at all levels; create Environmental Health Working Committees			
	Ensure public participation in environmental planning, priority setting and environmental benefits			
	Encourage the use of appropriate technology which maximises environmental benefits			
	Give priority to the redrafting of the Environmental Protection Act of 1991			

Table III.8.3(cont.) : Environmental Health

Issue	Recommendations			
	Policies		Projects	
	L	M/S	L	M/S
Air Pollution	Develop and adopt National Air Quality Standards based on international standards	Malta Development Corporation should assist industries to install pollution control equipment		Environmental Protection Department to collect comprehensive data on the type and level of emissions from individual industries and determine adaptations required
	Reduce emissions from Delimara and Marsa Power Stations through the installation of appropriate equipment	Reduce or minimize odour problems originating from Sant' Antnin Plant		Collect data on the distribution of diseases and disorders related and attributable to air pollution correlating such data with the levels of the various common pollutants on a geographical basis
	Reduce the discharge into the atmosphere of particulate matter from small to medium sized industries	Where practical, heavily polluted areas should be converted to pedestrian zones		
	Government should develop and implement a natural energy strategy. Promote alternative sources of energy	Take immediate steps to reduce accident risk from fuel and gas installations situated near residential areas. Ban vehicles carrying fuel or gas for distribution from long term parking within residential areas		Malta Drydocks should carry out a study on what alternatives are available to grit-blasting
	Re-locate emission-producing industries prioritised according to levels of emission and short-term remedial measures	Check stove efficiency and ventilations in homes which use kerosene		
		Investigate alleged toxic waste accumulation at Freeport		Projects for the construction of roads which allow heavy traffic on its way to the Freeport to bypass Birzebbuga Centre should be undertaken

Table III.8.3(cont.) : Environmental Health

Issue	Recommendations			
	Policies		Projects	
	L	M/S	L	M/S
Noise Pollution	Reduce noise from industrial and other installations to the extent possible. Relocate those installations where reduction of noise to acceptable levels is not possible	Where possible eliminate or reduce noise from industries Develop and enforce noise abatement regulations Consideration should be given to enforce the use of ear protectors where necessary and appropriate		Environment Protection Department to carry out a study on the noise level from the various industries and indicate measures to correct the situation in each case
Agriculture Production	Amend law to ensure that animal farms are required to have basic facilities for efficient storage and disposal of manure	Pending introduction and enforcement of appropriate legislation, steps should be taken to ensure that animal farms are kept in such a condition, particularly regarding storage and disposal of manure as to minimise environmental repercussions As a matter of urgency, analysis of food crops and drinking water for the possible presence of pesticide residies should be undertaken on a continuous basis Start considering agricultural wastes as an important organic resource	A piped distribution system of treated affluent from the Sant' Antnin Plant to agricultural areas should replace the present open system and resevoirs should be required to have adequate covers	Department of Agriculture to conduct trials on the effect of crops irrigated with purified waste water from Sant' Antnin Plant as compared to normal borehole irrigation water A baseline study on the levels of pesticides in drinking water and food crops should be undertaken by Government; priority should be given to the South

Table III.8.3(cont.) : Environmental Health

Issue	*Recommendations*			
	Policies		*Projects*	
	L	*M/S*	*L*	*M/S*
Environmental Nuisances	Approval for implementation of relevant recommendations made in the *Grand Harbour Local Plan* and the *Marsaxlokk Local Plan*	The recommendations made in the Local Plans regarding garage industries, blocking of valleys should be implemented as early as possible		Undertake a project to landscape the area around the Delimara Power Station
		Government should ensure that specific environmental measures, such as the problems at the Fgura Primary School are identified, investigated and remedied as soon as possible		
		Buses and other heavy duty vehicles should be prevented from parking on streets and other public areas		Local Councils to carry out a survey to identify all environmental nuisances, such as unlicensed garages, illegal scrapyards and others
		Action should be taken to remove the problem of stray cats and dogs		
Availability and Use of Public Space	The relevant policies in the *Grand Harbour Local Plan*, the *Marsaxlokk Local Plan* and the respective Local Councils' Business Plans should be evaluated for eventual approval and implementation	Open spaces should provide excellent landscaping and design to act as focal points to the local environment. Local initiatives in the area should be emphasised	A phased project should be developed for the conversion of areas indicated in the *Grand Harbour Local Plan* and the *Marsaxlokk Local Plan* into leisure and related areas	Local Councils should carry out a study with the aim of producing a plan for the best possible use of public spaces in the area under their jurisdiction
		Local Councils should be provided with the means to ensure the necessary upgrading of facilities under their jurisdiction		
		Designate Delimara Peninsula as a National Park where priority will be given to conservation, protection and improvement of the national heritage		

Table III.8.3(cont.) : Environmental Health

Issue	*Recommendations*			
	Policies		*Projects*	
	L	*M/S*	*L*	*M/S*
Marine Pollution	Adopt policy to construct projected Sewage Treatment Plant starting with that projected for Wied Ghammieq; in addition implement on-going proposals for upgrading and maintenance of sewage network	Accelerate the programme of upgrading and maintenance of the drainage system in the South	Hold discussions with Malta Drydocks with a view to reduce the current gross pollution of Grand Harbour	Environment Protection Department to carry out a study on the state of pollution of the Grand Harbour
		Take immediate action to prevent the dumping of animal manure directly into the sea, especially in the South		Environment Protection Department to carry out a study on the ways and means to minimise the pollution of Marsaxlokk Bay
		Department of Health and Environment Protection Department should immediately revise current bathing water quality standards	Control the discharge of effluents from the various industrial establishments into Marsaxlokk Bay	Department of Public Health to conduct a baseline study on the degree of pollution of bathing water in the South
		Immediate steps should be taken to eliminate sludge from the Ricasoli Tank Cleaning Installation		Department of Public Health to investigate whether leakage from Sant' Antnin Plant is polluting Marsaxlokk Bay
The Building Fabric	The rent regulations should be modified to encourage the upgrading of rented houses	Housing standards based on size, stability, humidity, natural lighting and ventilation, water and drainage facilities and other sanitary aspects should be adopted (Building Regulations)	An inventory of empty houses should be compiled	
		The Ministry responsible for Health to discuss and reach a compromise with Local Councils on the role Health Clinics should have in a locality		
		The Department of Education should take appropriate action to remedy identified deficiencies in schools and buildings in the region		

Table III.8.4 : Heritage

Issue	*Problem Identification*	*Projects/Policies*
Lack of proper Heritage Management Organisation at the crux of the Government Heritage Setup	The Museums Department lacks the legal empowerment as well as adequate human and financial resources	Develop a body of national cultural policy aimed at building up a national system of heritage management
	There is a persistent lack of co-ordination between the various heritage related public bodies	Re-convene Antiquities Committee; set-up national heritage database
		Develop action plan for the improved conservation of the national cultural heritage
		Create a close working relationship between Education Department and Museums Department
		Re-establish close operational links between Museums Department and the Restoration Unit of the Works Department
		Resolve the current policy overlaps and operational breakdowns between Museums Department and Planning Authority
		Identify appropriate work procedures that will permit Museums Department and Local Councils to co-ordinate their activities in the Heritage Sector
Heritage Management at Regional level is currently non-existent	The lack of education in cultural heritage is one of the main causes of the present heritage problems in the South	Set-up a pilot project for the inclusion of heritage studies in one or more primary schools in the South
	In general, Museums Department and Local Councils do not work well together	Train personnel in heritage related crafts, such as boat-building, fishing, and building related crafts
	Government funding and resourcing are inadequate without the harnessing of private resources and enthusiasm	Set-up a commission to identify strategies to ensure continuing training in these disappearing crafts and transforming such crafts into economically viable enterprises
		Set-up a working group to identify and prioritise possible heritage projects to be undertaken jointly between Government and Local Councils

Table III.8.4(cont.) : Heritage

Issue	*Problem Identification*	*Projects/Policies*
Public access and enjoyment of *Tas-Silg* and *Borg in-Nadur* are presently not possible	Complex technical and logistic problems presently being encountered requiring close co-ordination between various Government Departments and Organisations	Set-up an inter-departimental Working Group to: a) remove the stretch of, Hal Ginwi Road going through the site at Tas-Silg and design and construct an alternative route; b) provide adequate parking facilities for the site; c) resolve land ownership issues at the site; d) provide new site boundaries. Set-up an inter-departimental Borg in-Nadur Working Group to: a) resolve the various rights of way and public passageways leading to the site; b) resolve pending land ownership issues at the site; c) create a network of visitor routes and history trails linking the various sites in the vicinity; d) improve preservation and presentation of the site
The misuse of the publicly-held architectural heritage is one of the main manifestations of the heritage mismanagement situations of the south	A co-ordinated initiative by various public bodies to address and heal this growing social problem is missing	Set-up an inter-governmental committee to: a) take stock of all items of architectural heritage held in public property; b) create prioritised lists of architectural monuments requiring conservation; c) propose more rational patterns of use for publicly held properties
The heritage site in Dockyard Creek is not being studied in detail	Human and financial, public sector resources are not adequate	Museums Department to be contracted to carry out a proper reassessment of the architectural and heritage resources in the Creek Set-up a working group to include Museums Department and Planning Authority, to sort out the planning dimension of the proposed development

Table III.8.5 : Built-up Environment

Issue	*Problem Identification*	*Recommendations*		
		Policies	*Projects*	
			L	*M/S*
Lack of information with respect to ownership of properties	Lack of enforcement	Complete land registration	Identify parameters for ownership. Registration of property in Local Councils	Allocate adequate resources to Land Registry; coordinate activities between various Government Departments and Organisations, such as Land Registry, Planning Authority and Lands Department
Inappropriate uses of Government property	Residential and industrial uses in and on the bastions; dissatisfaction with Planning Authority and Lands Department; procedures regarding the granting of permits and enforcement	Setting up a Plan for Government-owned property	Time frames and uses for Government owned property including a Management Plan	
Lack of enforcement or inability to enforce	Offences are to be reported to the police before any legal action is taken	Police need to take action without obliging public to report		Interaction between Police and Public, such as regular lectures in schools and elsewhere. Engage Local Councils wardens
Inefficient provision of infrastructure services	The absence of a plan for the installation of services; Ministerial approval cumbersome; long delays; low quality of service and of complementary works	Provision of street lighting and light fittings should be planned; study alternative procedures for service provision		Set up 'one-stop' service offices in localities possibly with the involvement of Local Councils; strict controls on contractors; introduce a maintenance plan for services
Urban services provision	Lack of banking and postal services in some localities	Introduce civic/urban amenities in all localities		
Storm water infrastructure	Risk to the residents of certain localities due to flooding			

Table III.8.5(cont.) : Built-up Environment

Issue	*Problem Identification*	*Recommendations*		
		Policies	*Projects*	
			L	*M/S*
Illegal dumping of waste	Flytipping; vacant plots end up as rubbish dumps	Education campaign; enforcement	Clean-up exercises; provision and maintenance of bins on wheels	
Animal husbandry in unauthorised or unappropriate places	Presence of livestock rearing in residential areas			
Efficiency of road network	Restricted access to some localities	Study efficacy of existing road networks		
Public Transport	Insufficient bus frequency; inadequate bus routes; location of bus termini; lack of despatchers at termini	Land use plans needed to indicate ideal position of termini for public transport and tourist coaches		
Private Transport System for tourists	Tourist coach routes unsuited to localities' character	Study plans for vehicular traffic and pedestrian flow facilities		
Parking facilities	Lack of parking spaces			

Table III.8.5(cont.) : Built-up Environment

Issue	*Problem Identification*	*Recommendations*		
		Policies	*Projects*	
			L	*M/S*
Informal Recreational Areas	Acute lack of informal recreational areas; bastions and other historical places inappropriately used; neglected waterfronts; flytipping in valleys and rural areas; prior links between urban and rural areas; urban open spaces poorly maintained	Need for an outline strategy for the provision of recreational areas; efficient land management; private sector involvement; incentive-based planned development involving private developers; the regional notion is to be emphasised	Upgrade and maintain existing recreational areas to exploit fully their potential; sharing of existing facilities; maintenance of bastions and historical places and their rehabilitation through law enforcement; development of waterfront in accordance with the *Structure Plan*, giving particular attention to access for persons with special needs; open spaces should be provided and maintained in all housing estates	
Formal Recreational Areas	Inadequate supply of formal sports facilities; administrative problems with respect to using school sports facilities	Sharing sports facilities to make efficient use of scarce land resources		Set up a Regional Sports Federation and Sports Facility Management Board; a sports complex for the region is proposed
Housing Provisions		Improving Housing Provisions		

Table III.8.6(B) : Infrastructure - Sewerage and Stormwater

Issue	*Problem Identification*	*Recommendations*		
		Policies	*Projects*	
			L	*M/S*
Setting up of a Regional Council	Identification of rehabilitation criteria	Set up Implementation Board between Utility and Regional Council	Rehabilitation of sewers particularly in sensitive areas such as village cores	
Limit zipping up of roads	Limit damage to other services and harmonise their accommodation	Investigate alternative methodologies	Investigate concept of using common excavations, partitioning of roads into discrete zones, adoption of dual systems	
Flood alleviation in coastal area	Flooding of low lying areas such as Cospicua, Marsascala, Marsaxlokk, Birzebbuga	Await outcome of Stormwater Master Plan	Installation of stormwater infrastructure to divert runoff to the sea	
Water conservation	Utilisation of storage facilities	Await outcome of Stormwater Master Plan	Identification of sites for reservoirs and construction of such	
Installation of stormwater infrastructure along roads	Stormwater flooding	Await outcome of Stormwater Master Plan		
Liaison between Local Councils and Utilities	Local Councils not equipped to carry out infrastructural works			Appoint liaison officer from within Utility to facilitate issues on a regional basis
Vest Local Councils with power to report offences	Abuse of system			Delegate certain powers to Local Councils
Involve Local Councils in operational procedures of sewage treatment plants	Ensure that plant does not constitute hazard to the surrounding environment			Appoint Local Council representative to monitor plant operations

Table III.8.6(B cont.) : Infrastructure - Sewerage and Stormwater

Issue	*Problem Identification*	*Recommendations*		
		Policies	*Projects*	
			L	*M/S*
Dumping of farm wastes into sewers	Frequent blockages to system plus increased pollutant loading			Evaluate current impact and study the possibility of imposing pretreatment prior to discharge
Avoid discharge of stormwater into sewerage system and encourage re-use	Surcharging of sewers in wet weather flow	It is obligatory to have correctly sized cistern		Enforcement of existing legislation
Utilise downstream part of South sea sewer gallery for retention	Avoid overloading of treatment plant	Sewerage Master Plan for Malta and Gozo	Rehabilitate gallery	
Avoid surcharge of sewers	Overflows in certain localities	Sewerage Master Plan for Malta and Gozo	Construction of retention basins at Marsaxlokk and Birzebbuga	
Flood alleviation	Flooding in coastal areas	Await Stormwater Master Plan	Investigate flooding schemes for Marsascala, Cospicua, Marsaxlokk, Birzebbuga	
Treatment of sewage prior to discharge	Construction of sewage treatment plant for the South of Malta	Sewerage Master Plan for Malta and Gozo		Construction of sewage treatment plant, transmission main and possibly outfall
Re-use of treated effluent	Identification of potential clients	Sewerage Master Plan for Malta and Gozo		Construction of conduits for treated effluent distribution

Table III.8.6(C) : Infrastructure - Water

Issue	*Problem Identification*	*Recommendations*		
		Policies	*Projects*	
			L	*M/S*
Frequent disruption to road fabric due to service installations	Works carried out by utilities are determined according to each entity's priority and lack an integrated approach	Greater co-ordination between public utilities; selection of projects based upon measurable parameters, such as water quality, water leakage levels, water supply and pressure at consumers' end, road type and condition, number of population effected and other vehicles		
Frequent disruption to road fabric due to water service installations and renewals	Decrease service trench excavation lengths and road crossings for water service installations			Cost benefit analysis of dual water main systems studied in view of the introduction of polyethylene pipes with improved service performance and life-span over galvanised pipes
Co-ordination between public utilities	Provide better service to community			Feasibility studies for common trenches for various services
Quality of road reinstatement	Type of road reinstatement carried out following trenching works is not always up to the required standard	Scheme to provide for classification of contractors		

Table III.8.6(C cont.) : Infrastructure - Water

Issue	*Problem Identification*	*Recommendations*		
		Policies	*Projects*	
			L	*M/S*
Quality of road reinstatement	To avoid duplication of resources, provide better all-round service to local community, decentralisation for greater effectiveness and to ensure greater co-operation between Water Service Corporation and Local Councils			Delegation of Water Services Corporation project activities to Local Councils initially to cover trenching and road reinstatement works in connection with leakage repairs and installation of water services
Water supply	Improvement of water supply and quality to the region		New Reverse Osmosis plant in the South planned by Water Services Corporation subject to Environment Impact Assessment and reassessment in view of latest developments in water demand management and leakage control	
Water supply	Improvement of water supply and quality to the region		Extension and renewal of water distribution network; Involvement of Local Councils in the selection process of projects and based upon established criteria	Installation of water mains where no supply is available
Water supply	Improvement of water supply and quality to the region			Replacement of 'temporary' galvanised water mains by permanent systems

Table III.8.6(D) : Infrastructure - Transport

Issue	*Problem Identification*	*Recommendations*			
		Policies		*Projects*	
		L	*M/S*	*L*	*M/S*
Road safety		Nation-wide system of accident analysis and prevention	Change method of accident recording		a) Data recording b) Accident database c) Accident analysis d) Accident prevention schemes
Accessibility, congestion, journey delays	Inadequate sections of road network, heavy traffic in sensitive and built up areas	Dependent on out-come of medium-short term feasibility studies	Undertake detailed environmental and economic feasibility studies for proposals	a) Xghajra by-pass b) Ghajn Dwieli to Zabbar link road c) Zabbar to Zejtun road upgrade d) Marsaxlokk to Birzebbuga link road	a) Marsascala by-pass b) Birzebbuga by-pass c)Malta Shipbuilding junction flyover
Local congestion and safety problems at junctions	Poor design, capacity problems, pedestrian crossing		Designs already prepared - projects need to be prioritised for implementation		a) Traffic lights at Birzebbuga Road Marsaxlokk Road b) Traffic Lights at Tal-Barrani/ Zejtun Road c) Traffic Lights at Malta Shipbuilding junction d) Roundabout at St. Anthony Street / Hompesch Road
Demand for parking spaces exceeding supply	Lack of space, lack of control and enforcement		Parking control study and design		a) Marsascala town centre b) Senglea town centre
Strategic network for heavy vehicles	Currently using inadequate roads as short cuts; pollution in sensitive areas, road safety, increased road maintenance		Design and appropriately sign routes for heavy vehicles, publicise and inform public		Regionwide application
Declining use of public transport	Car is more convenient, free parking, quality of public transport service	Encourage modal shift from private to public transport by introducing alternative forms of mass transit	Improve existing route bus service		a) Southern hub for bus network b) Valletta to Cottonera sea-link c) New light rapid transit or underground rail link

