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Front Cover Photo: View of Hondoq ir-Rummien Bay (Courtesy of ICS Malta).
Editorial:
Gozo and its Boundaries

‘It isn’t the oceans which cut us off from the world — it’s the... way of looking at things.’
(Henry Miller)

A few changes seem to be occurring in Gozo which appear to be harbingers of bad tidings.
And I am not referring to the several reports that relate to the changing morals of our younger
generation, in an effort to catch up with the rest of Europe. Rather I refer to some items in the
news of recent months and which threaten the integrity of Gozo as we know it.

The first item relates to our links with the mainland and the world, namely sea and air
crossing to Malta. The inordinate rise in fees, as well
to tinkering with the schedule and reduction of
number of crossings considered necessary by
Gozo Channel have resulted in a drop of 27,193
vehicles and 64,463 passengers in the first five
months of the year (representing a decrease
of 7.8 and 4.6 percent respectively). This is
catastrophic by any standard, particularly since
there is no guarantee that things won’t get even
worse. Perhaps with the retrospectoscope one
could have foreseen that lack of flexibility in
size of ships will mean unnecessary expenses,
particularly during off-peak hours. It is a pity
that such arguments strengthen the views of
those who would say that the only solution
to overcome Gozo’s isolation is to scrap the
grandly-designed vessels and build a bridge.

Related to this is the sorry state of air connection
with Malta. The inordinate cost of travel by
helicopter has now made it clear that no one
except business executives and those whose
fares are paid for by their companies or the
government can afford to make use of this mode
of travel. While there was obviously a need for
improvement of service, it is arguable whether
the costs should have risen by this amount. It is
indeed a case that links with the Malta airport,
so essential to our living, should have been
given special consideration and some price
arrangements made for prospective travellers.
Failing this, one should consider setting up a
mini-bus service direct from Malta airport to
Xewkija terminal to minimize inconvenience
of travellers, weighted as they usually are with
luggage.

A second issue relates to the so-called
‘revolutionary reforms’ envisaged in the voting
system, and more specifically with the worrying
proposal that Gozo be carved up so that
Għajnsielem would form part of the 12th district
(Mellieħa, Naxxxar and St Paul’s Bay). This, it is
argued, has become necessary since Gozo has 7.74
per cent more voters than the national average
for each district. Such a concept ignores the fact
that Gozo happens to be an entity in itself, an
island separated by water from the bigger island,
having needs which are unique to the island as
a whole. A splinter attached to another district
in Malta would be meaningless. The needs of
Għajnsielem are not in any way different from
those of any other village in Gozo, and have very
little to do with the needs of Naxxxar or Mellieħa
or St Paul’s Bay. It would be meaningless to draw
a line dividing Gozo into two parts just to make
the paperwork look more tidy. If one is worried
about lack of representation of the Gozitans in
Parliament there are other ways of overcoming
this problem, including increasing the number of
parliamentary representatives from the current
five to six candidates.

Both these issues need to be taken seriously,
since they have both economic and political
significance. The Gozo Chamber of Commerce
has rightly been very critical of the changes
mentioned earlier. Gozitans as a whole have
been rather quiet and unreactive – a state of
affairs that can have long-term untoward
effects. It is particularly incumbent on the young
intelligentsia, and particularly the hundreds of
students attending University in Malta, to wake
up to the challenge and make their voice heard
in defence of Gozo and its needs.
Why is the Maltese Archipelago so small in its physical size?

GEORGE SAID

Introduction

The Maltese Islands have undergone various physical processes over millions of years which have changed the size and the character of the islands. The most recorded factors are presented in various physical features on land and in forms of sub aerial and marine erosional structures. These features are present in numerous forms along the Mediterranean coastline and their presence help to explain the eustatic and climatic effects on the region. The Maltese archipelago is no exception to and various records are imprinted on our limestone coast which indicate the climatic variations which have acted in the past.

The late Miocene epoch was the period when the Mediterranean became a completely closed evaporation basin due to compressional tectonics between the African and Eurasian plates. This caused the build-up of salt deposits in the Mediterranean Sea, known as the Messinian salinity crisis. Such evaporites which occurred between 6.5 and 5.5 millions of years BP indicate that a warmer climatic phase was present in the Mediterranean. Warmer climates lasted up to about 3.3 million years BP, the dawning of the late Pliocene. This produced a considerable thickness of evaporitic deposits in several areas of the Mediterranean regional basin. After this, climatic cycles fluctuated through the late Pliocene and Pleistocene epochs, and long periods of cold spells were active. It is estimated that at least four main glaciations have occurred during these times. These took place in continental Europe and spread to low latitudes in the following time periods:

- 1.6 to 1.3 million years ago
- 0.9 to 0.7 million years ago
- 0.55 to 4 million years ago
- 0.08 to 0.01 million years ago

Following the last glaciation maximum at about 18,000 years ago, the continental ice sheets and ice masses in mountainous terrains began to withdraw. Such changes did not occur everywhere at the same time nor did they proceed at equal rates. Deglaciation was progressive and various Mediterranean shorelines display evidence of different sea level stages due to the differing rates of sea level rise. Unfortunately these long records of sea level variations are hard to come by because the present earth is in an interglacial state and past syn-glacial marine terraces now lie beneath the sea. On many coasts, tectonic activity or isostatic adjustments have elevated marine terraces and it is from these that most reliable history of sea levels has recently been obtained.

The last glacial maximum lasted from ca. 27,000 to 18,000 BP and the subsequent sea level rise had a direct effect on the coastlines. Most clear changes are imprinted on limestone coasts which favour the development of different forms of erosion, such as wave cut platforms, notches and sea caves, which remain for long periods of time. Even loose beach deposits can consolidate rapidly in the Mediterranean climate, and are preserved for longer. However, tectonic activity can cause the uplift or submergence of the marks of ancient shorelines protecting them from the destructive impact of waves thus preserving them.

The low sea level of the final glacial period of the Pleistocene ca. 19,000 years ago exposed wide coastal plains that were mostly level and could be easily traveled on. In some places, land bridges formed between continents or between mainland and islands, such as those connecting Asia and North America and the European continent and the British Isles. The distance across open sea, between South Europe and Malta was bridged or greatly narrowed. Paleoogeographic studies have shown that both animals and man made use of these land bridges when climate and sea levels were different.
Sea level rise in the central Mediterranean ca. 18,000 BP

During the last glacial maximum, the shape of the Central Mediterranean was much different than today. The east Tunisian and north Libyan coast possessed a coastal plain which was about 200 km wide and extended a long way towards Sicily and Europe. The distance between Africa and Europe was reduced to only about 60 km with several flat topped islands in between, including Malta. However, a narrow land bridge closed the Straits of Messina. This bridge, with a present depth of 90 meters and only 1 km wide must have vanished shortly after the sea began to rise probably as early as 15,000 to 14,000 years ago. (Figure 1)

In the meantime major changes occurred in the Adriatic. A vast coastal plain occupied the northern half. The Italian margin of the southern Adriatic was also fringed with a coastal plain facing east across a narrow gulf to the lowlands streams and isolated hills of coastal Croatia and Albania. The glacial maximum of 18,000 BP clearly led to the emergence of this plain. (Figure 2)

Just a few millennia of rise in sea level were enough to alter the central Mediterranean coastal geography most profoundly. By 9,000 BP the broad plains had largely vanished. The intervening straits between Corsica and Sardinia, which were at a depth of 65 metres, were separated by a sea way 10 km wide and their distance from Italy had increased to 60 km. A large part of the Tunisian coastal plain had shrunk to produce a distance of 200 km between Sicily and North Africa (Shackleton J. et al 1984). (Figure 3)

Traces of four earlier Pleistocene Mediterranean sea levels were present throughout the Mediterranean. These are now at 90 to 100m Sicilian period; 55 to 60m Milazzian period; 28 to 30m Thyrrenian period, and 18 to 20m Monastirian period. Each shoreline was believed to correspond to the maximum level of a marine transgression the higher the levels being the older ones (Pirazzoli 1987).

Interglacial situations must have occurred on an average of 100,000 years over at least the last 700,000 years (Pirazzoli 1987). There is a high possibility that these submerged terraces are tectonically elevated and each time the sea level returned, over a period of several millennia, it reached to about the same level as the present one. This caused the shore to be rejuvenated and most of the deposits existing on the coast were reworked or swept away unless the coast had been uplifted. It is only where tectonics have provoked important vertical movements that a series of shorelines has been recorded on the coast. Even, in the best conditions such series are rarely complete as the mark of a shoreline and its conservation depends on several simultaneous conditions such as, among others, exposure, erosion and settlement which hardly remains unchanged for long periods.
Thus the number of recognized Quaternary marine terraces is limited and smaller than those of the Pleistocene. Such sequences are fragmentary and the true levels that can be investigated correspond only to short periods of the Quaternary known for high stands of sea level. It has been estimated from isotopic curves that during the Quaternary sea level might have remained for 75 per cent of the time lower than -20m and for 50 per cent of the time lower than -40 to -50m. (Pirazzoli 1987) This means that even apart from the subsiding shorelines most traces of ancient sea levels are now submerged and most are buried under sediments. However, it has been estimated that in general, during the Holocene, the Mediterranean Sea stood no higher than the present level which has been maintained between 6000 BP and the present.

Since the end of the last glaciation, sea level rose very rapidly. This occurred in the period of 15,000 years. Glacial ice covered the European continent from ca. 39,000 to about 20,000 years BP. Since this date, global climates started to warm up, with the result that the glacial ice sheets started to melt, thus draining water into the world oceans and the Mediterranean basin. It has been recorded that 20,000 years ago, global sea levels were at -120 to -100 metres, 15,000 years BP it reached the -70 metre benchmark, 10,000 years BP it was at -40 metres and around 5,000 years ago it reached the present level. Graphs of this eustatic phenomena show a steep and constant acceleration of the process. This is a rapid transgression which affected the Mediterranean coastal zones quite extensively. The marine processes in this transgression had a drastic eroding effect on limestone coasts especially where soft deposits were encountered and exposed.

Variations in the sea level in the Mediterranean depend not only on eustatic, glacio-hydro isostatic, climatic, and rheologic factors existing in the global ocean, but also on well-defined regional characteristics: fragility of the narrow strait connection with the Atlantic Ocean accompanied by an unbalanced water budget, and various tectonic and rheologic processes related to the collision between Africa and Eurasia.

**Sea level change in Malta**

Rising sea level have also left their imprints on the Maltese limestone coast. Evaluating the Vossabaumer bathymetrical map and the British Navy bathymetrical charts, six bathymetrical sounding points levels are revealed in this exercise. These are the 18m, 36m, 91m, 127m, 145m, 163m, and 182m respectively.

The first question which crops up is the geological composition. The hardest formation is the Lower Coralline Limestone, which takes a long time to erode. Thus, it can be possible that, if there was enough time to cut shore platforms, these would have limited width, though the sea level might have remained stable for quite a long time. However, wider spaced bathymetrical contours indicate that the geological material is much softer. In this case this could be the Globigerina Limestone. Sea levels erode softer limestone much faster than the harder bands. This justifies the reason why these two different bathymetric profiles have difference in the wave-cut benches widths. But this cannot prove all, as there is also tectonism involved.

Gozo has a 4º regional tilt going from NW to SE direction. This changes the morphology of the coastline. Thus, it can be very much possible that the straight narrow intervals between one bathymetrical contour and another can also be due to tectonics and sea level acting together. Most probably such actions occurred in the west of the islands owing to the presence of a high cliff coast, exposed faulted structures and karst features.

Along the northern coast, the stratification beds are inclined, thus enabling the sea level to erode the limestone at an angular phase. Tilting can be the cause of faulting taking place, but not so aggressive, as the limestone only experiences a shearing process. Thus, no large variations in the geology can occur. This indicates that most probably the geology of the submerged central northern coast of Gozo is composed of Globigerina Limestone, one of the softest formations in the islands’ rock sequence. An indication of this is the presence of submerged marine terraces, which are exposing a considerable platform width as a result of vigorous marine erosion processes. This can also be seen geographically where the bathymetrical contours are much more widely spaced than those of the west and the southern ones. Following the land geology and the faulting structures, it strongly indicates that the south of the island of Gozo had been subject to intensive tectonic movements. Thus, it is likely that the submerged topography in this section bears imprints of such activity which results in a much steeper profile of the land. Thus, rising sea level produced different landforms along its variations of transgression.
Evidence of sea level rise in Gozo

Rocky coasts are the legacy of marine and subaerial processes that have been operating for thousands of years. The type, intensity, and focus of these processes have varied with shifts in relative sea level and with temporal and spatial changes in climate, exposure, and rock type. Wave erosion have produced different land forms along shore platforms. Evidence of this lies on a submerged wave cut bench along Xwejni coast in the northern part of the island. Large marine caves, sea arches, and sea stacks are present along this shore platform. Today, these erosional features are preserved as they are submerged, thus not being subject to marine and subaerial processes.

Figure 4: An underwater photograph showing a section of the submerged double arch structure at 30 metres below sea level off Xwejni coast. (Courtesy of Moby Dives)

This submerged coastal section at Qbajjar Bay presents a wide wave-cut shore platform at -15m which extends to about 350m. Small sea arches ranging 8m in width are also present on this ancient shore platform. Such excessive width is due to the long presence of sea level at this bench mark. The Dwejra coastline from the Azure Window up to the Inland Sea cave also presents another wave cut bench at -15m. However, big marine caves extending more than 150m in diameter are also found along the submerged Xwejni coastline at Reqqa Point at -28m. Complementing to this marine erosional structure along this platform lies a spectacular double arch structure. The base of such a sea arch is at -39m while its topmost arch stands at -17m (Figure 4). Such sizeable structure of 19m in height took quite a considerable amount of time to be formed as the composition of this erosional feature is of Lower Coralline Limestone, the hardest limestone band present on the islands, thus offering resistance to marine erosion. The same applies for the marine cave situated at Reqqa Point. Not only the duration of the sea level is important for the sculpture of such physical feature but also the degree of wave erosion.

It has been estimated that the sea level had last been at -36m about 9,000 years ago, when climates were getting warmer, indicating that evidence of violent storms seems lacking in the Mediterranean region. Formations of such large structures are the result of past marine erosional imprints which occurred well before this time.

It took around 500,000 years of wave attack to create such sizeable structures along the coast. The Quaternary was also the time when a drastic change in climates was occurring and a series of cold and warm periods were registered. This had a direct effect on the type of wave attack on the limestone coast which was much vigorous than today and 9,000 years ago. However, the -15m benchmark of past sea levels only display wide wave-cut terraces at Qbajjar, Dwejra, and Ix-Xatt L-Ahmarr locations, and smaller sea arches and sea caves. This means that climates were not vigorous, mostly indicating a warmer phase, thus limiting the degree of erosion along the limestone coast. A wide shore platform indicates that sea levels had stood at that specific level for quite a long time. Thus, this also matches Pirazzoli’s statement that 75 per cent of the sea level during the Quaternary Period stood lower than -20m.

Such data hypothesize that high sea level stands have less mechanical erosional power than those of lower sea levels. This is due to the climatic variations. High sea levels indicate that climates are warmer, thus it is more likely that solution erosion was acting on the limestone. On the other hand, cold climates indicate the presence of glacial periods. Cold and rough weather frequent wave oscillating power in various degrees to expend their energy on the coast, thus eroding the limestone faster. Such hypothesis can be formulated as the submerged coastline in the west and north-west sections of the island are composed of the Lower Coralline Limestone. Lithological uniformity displaying different scale of marine erosional structures at different sea level benchmark can roughly estimate the type of climate which was acting in the past.
The rise in sea level also submerged valley floors to change their nature to geos. Valleys diminished in size and became natural inlets, some of them protected by headlands, others controlled by their lithology. A particular example is MGarr ix-Xini valley where the submerged valley floor was filled with sand sediment to become part of the sea bed (Figure 5). This photo illustrates a section of the submerged valley covered with sediment at 10m below sea level. The valley side is a vertical one with an absence of notches indicating a rapid sea level rise which had little effect on the lithology.

Figure 5: A section of the submerged MGarr ix-Xini valley at 10m below sea level exhibiting vertical wall surfaces of Lower Coralline Limestone and a fine sediment covered sea floor. (Courtesy of Pete & Suzie Millar)

The impacts of sea level rise also left other imprints on the limestone coast. This coastal erosional feature is known as notches. These are marks in the limestone face which indicate the presence of sea level. A notch is a laterally extending hollow at the base of the cliff, its width being greater than its depth. The notch roof which is nearly horizontal is termed a visor. Notches are found in resistant limestone bands mostly along the cliffed section of the Gozitan coast. Visible notches at the present sea level only attain 1.5m in size, thus indicating that, during the past 6,000 years, marine erosion was quite limited. Such observations also strengthen the hypothesis that the size and types of shore platforms, and sea caves depend on climatic effects and oscillation of sea level rise. Such erosional features are also present on submerged cliff faces and caves. An example of this are the submerged caves at -25 to -30 metres at San Dimitri Point (Figure 6). This photo illustrates two wave-cut notches which are barely 1 metre apart meaning that most probably the sea level was rapidly fluctuating in the Quaternary Period.

Figure 6: Wave-cut notches situated on the wall surface of a sea cave at San Dimitri Point at 25m below the present sea level. (Courtesy of Pete & Suzie Millar)

All the features discussed account only for the Quaternary Period where no major tectonic movements had occurred, thus making it easier to evaluate rise and fall in sea levels.

From this data, it is confirmed that our shorelines are submerging as climates are getting warmer and sea level is rising. Scientific data shows that:

- by the year 2030 the temperature will increase by 1.4 to 1.6°C and sea level will rise by 12 to 18cm
- by the year 2050 the temperature will increase by 1.8 to 2°C and sea level will rise by 14 to 38cm and
- by the year 2100 the temperature will increase by 1.8 to 2°C and sea level will rise by 35 to 65cm (Sestini et al 1992)

The future scenario of the impact of sea and temperature rise on the islands is not promising and it also confirms that our islands are getting smaller as time goes by. This means that our islands are subject to different geomorphological processes which produce different landforms with ever climatic change.

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A.A. Caruana’s 1891 Exploration Campaign in Victoria – Gozo

GODWIN VELLA

Introduction

The major works on the Maltese Phoenician-Punic and Roman hypogea published during the past two decades feature an unrealistically low number of entries for Gozo. Buhagiar states that with the exception of Ghar Gerduf no catacomb on the Maltese model can be definitely identified in Gozo,¹ while Said-Zammit finds it difficult to ascertain why only eighteen Punic tombs have so far been discovered on Gozo compared to the 650 known in Malta.² Likewise, Sagona stresses that the dearth of archaeological records with respect to the Phoenician-Punic burials in Gozo is all but unexplainable.³ The same concern is manifested by Bonanno, who interprets this scarcity of classical burials as an indication of a slower demographic growth than in mainland Malta.⁴

This scenario assumes a completely different twist, however, when reading through earlier publications, particularly the ones authored by Dr. A.A. Caruana. He quotes Count Borch who in the late eighteenth century recorded the existence in Gozo of catacombs on the Maltese model.⁵ Eventually, in his Ancient Pagan Tombs and Christian Cemeteries in the Islands of Malta explored and surveyed from the year 1881 to the year 1897, Caruana reaffirms that the area encompassing Tal-Braġ, Vairinga, Piazza St. Agostino, and Għajn il-Gbir[a] is scattered with rock tombs and burial caves.⁶ Nonetheless, in this publication Caruana produces three plans only of such burial caves. Moreover, no distribution map like the one of the boundaries and extent of the ancient Graeco-Roman capital ‘Melita’ and of its suburb is included, and notwithstanding Caruana’s quoted claim, little could be said about the necropolis of the Classical town of Gaulos.

Caruana’s explorations in Gozo

Incidentally, however, an enlightening collection of manuscripts, loose field notes, and sketches generated by Caruana are treasured at the National Library of Malta together with his numerous publications. These valuable documentary sources seem to have been greatly overlooked by researchers in this field and a number of such manuscripts were not even catalogued until recently.⁷ Included in this lot was an A3 sheet of paper with pencil sketches and corresponding notes describing various underground burial compounds explored in Piazza S. Francesco and Strada Conservatorio in Rabat-Gozo during April 1891. A total of seven independent units are featured, two in Piazza S. Francesco, two in Strada Conservatorio, and three within the footprint of the Conservatorio itself (Figure 1).

These sketches show the layout of each unit, give the corresponding measurements of the length, width, and height of the respective chambers, passages, and shafts, and include a short note indicating whether any tomb furniture and related archaeological material were found during the explorations. Moreover, Caruana gives the exact location of the respective units by recording the distance separating them from easily identifiable architectural features. In this respect, the hypogea in Piazza S. Francesco are tied to the main doors and semicircular tower-like protrusions incorporated in the façade of the Hospital building (today housing the Ministry for Gozo), while the respective door numbers in Strada Conservatorio are exploited for the location of the nearby graves. The ones within the Conservatorio’s footprint are related to the

⁴ A. Bonanno, Malta: Phoenician, Punic, and Roman, Midsea Books (Malta, 2005): 93.
⁵ A.A. Caruana, Report on the Phoenician and Roman Antiquities in the Group of Islands of Malta (Malta, 1882): 110.
⁶ Id., Ancient Pagan Tombs and Christian Cemeteries in the Islands of Malta Explored and Surveyed from the year 1881 to the year 1897 (Malta, 1898): 11, 77.
⁷ Ibid.: 84.
⁸ These manuscripts were brought to the author’s attention by Ms. Maroma Camilleri.
front door and to the side wall (Figure 2).

None of these seven hypogea explored in 1891 correspond to the ones eventually published in Plates XVI and XVII of his 1898 Ancient Pagan Tombs and Christian Cemeteries. The latter were inspected in 1893 as stated by the corresponding notes to Plate XVI. This suggests that Caruana conducted several exploration campaigns over a number of years to study the necropolis of Gozo’s main town. In this respect, the expeditions undertaken in 1892 and 1893 respectively, were preceded by another in 1891. Another testimony to Caruana’s keen interest to examine Gozo’s necropolis is provided by Rev. Joseph Zammit’s ‘Diario’. Actually, Zammit makes two entries with regards to Caruana’s explorations. The former is dated 13 April 1891 and states ‘dalla Piazza San Francesco si portavano alla strada del Conservatorio per gli scavi’ (on 13 April 1891 the excavation campaign was relocated from St Francis Square to the Street of the Conservatory). Eventually, Zammit notes also that ‘Il di 27 Giugno 1893 nella Piazza San Francesco principarano degli scavi onde trovar cose antiche. Settimana prima si fecero entro gli istituti caritetevoli’, (on 27 June 1893, St Francis Square started to be explored with the aim of unearthing ancient remains. During the first week, these excavations were held within the footprint of the charitable institutions).

Caruana’s efforts to locate and record Gozo’s...
hypogea must be viewed within a wider context. In April 1882, Caruana had presented papers to the government on the necessity to preserve the ancient monuments and the steps to be taken to achieve this, and by October 1884 the Archaeological Commission was in place with a budget of £200. One of the objectives was to survey and identify ancient sites and monuments outside Valletta, before the lands were lost to private developments.\(^{15}\)

Likewise, the immediate area to the south of the ancient settlement of Rabat started to be engulfed by urban sprawl during the latter half of the nineteenth century. Apart from the major developments of the Poor House adjacent to the Male Hospital in St Francis Square and of the new primary school in Vajringa Street in the 1850s,\(^{16}\) the whole neighbourhood extending from St. Augustine Square to Gżira Qatet was attracting several new private residences. In this respect, during the Council meeting of 19 June 1890 the Hon. M.A.M. Mizzi stressed the urgent need of a systematic archaeological survey of certain localities in Gozo.\(^{17}\) Caruana replied on 23 February 1891 by stating that these researches ‘will be undertaken as soon as circumstances will permit’.\(^{18}\)

### The 1891 explorations

Caruana seems to have been very anxious to honour his commitment. Judging from the manuscript in caption the first explorations were held a few weeks later in April 1891. The two hypogea in Piazza S. Francesco include two short notes stating ‘vedi abbozzo in data 8.4.91’ (consult design in entry dated 8.4.91) and ‘vedi misure esatte nel field-book in data 10.4.91’ (consult precise measurements in the field book’s entry of 10.4.91) respectively, while the sketch of one of the two units in Strada Conservatorio is accompanied by an annotation stating ‘vedi nel field-book un abbozzo piu in grande – datato 20.4.91’ (consult larger sketch in the field book’s entry of 20.4.91). These three dates, together with the aforementioned statement by Rev. Zammit of 13 April 1891 suggest that this exploration campaign was spread over a period of some three weeks, approximately one week each in Piazza S. Francesco, Strada Conservatorio, and in the grounds of the Conservatorio.

Unfortunately, the quoted documents reveal no information on the surveying and fieldwork techniques adopted and on the resources employed for the location and eventual clearance of the respective hypogea. The locals probably knew the exact location of a few of the hypogea in caption. These were rifled at an earlier date as betrayed by the insignificant amount of objects reclaimed in 1891. Likewise when commenting on the tomb cave discovered in 1888, Caruana remarks that ‘the whole hill Tal-Brag at Gozo is perforated by an extensive suite of these Phoenician and Roman tombs, some of which are very large and have been rifled long ago when they were returned into a place of refuge like those at Malta’.\(^{19}\) Nonetheless, some of the seven hypogea inspected in 1891 must have been still sealed, as indicated by the items recouped and tomb arrangements recorded. To locate them, Caruana was most likely assisted by employees from the Public Works, as had happened a few years earlier when conducting a similar systematic surveying exercise in southern Malta.\(^{20}\)

### Piazza S. Francesco

The first hypogeum to be inspected in Piazza S. Francesco was a few feet to the north-west from the prominent doorway on the right-hand side of the Hospital façade (Figure 3). It consisted of two interconnecting and roughly circular chambers forming an 8-shaped plan, and measuring about seven and nine feet in diameter respectively. On the southern and eastern sides, Caruana recorded two rectangular recesses, some eight feet long and two feet wide. This suggests that the resultant vault evolved in two distinct stages. Actually, the 8 shaped burial chamber is an amalgamation of two independent Phoenicio-Punic rock graves, while the rectangular recesses represent the vertical shafts leading down to the respective chambers. The site seems to have been rifled before being inspected by Caruana on 8

\(^{15}\) Sagona, 15.

\(^{16}\) Blue Books: Poor House – 1851, f. 60; Primary School – 1855, f. 52.


\(^{18}\) Ibid.

\(^{19}\) Ibid., f. 74.

\(^{20}\) Sagona: 15.
April, as he stated that ‘in essa pochissime cose si trovano, tra esse anche un pezzo di moneta’ (very few remains were found in this tomb, including a coin fragment).

On 10 April Caruana recorded a more extensive underground sepulchral complex in the same square. This was underlying the boundary wall along the northern perimeter of the square, opposite the conspicuous doorway on the left-hand side of the Hospital façade (Figure 3).

![Figure 3: Plan of the burial complexes in St Francis Square](image)

The plan features a central and squarish hall flanked by three spacious alcoves along the eastern, southern, and western walls respectively. Access seems to have been provided via a narrow corridor heading northwards to the foot of the low cliff overlooking the bus terminus. The burial chambers had a fairly lofty ceiling, reaching in many places the 12 foot mark. Conversely, the access passage was four feet high only. Caruana gives no indication about the tomb furniture discovered, though he indicates what looks to be a group of three sarcophagi at the centre of the main burial chamber. These were aligned along a northwest/southeast axis, and about eight feet long.

Other burials were successively discovered in Piazza S. Francesco. According to Rev. Zammit, in July 1891 more ‘caverne sepolcrali’ (sepulchral caverns) were unearthed ‘nelle pedamenta’ (in the foundations) of the ‘facciata di San Francesco’ (façade of the St Francis)\(^\text{22}\). Likewise, Caruana conducted a second exploration campaign two years later in June 1893, when at least three more hypogea were located.\(^\text{23}\)

**Strada Conservatorio**

Having explored the two hypogea in Piazza S. Francesco, Caruana moved on to Strada Conservatorio, eventually renamed Archbishop Pietro Pace Street, to investigate two more hypogea. The former was located along the southern side of the street, more precisely 20 feet to the east of door number 55 (Figure 4), while the latter was on the opposite side of the street and faced door numbers 37 and 38 (Figure 5). Since the last decade of the nineteenth century the door numbers have been changed and the existing façades do not preserve any of the contemporary door numberings. However, when taking into consideration Caruana’s dimensions relating to the width of the street it is most likely that these hypogea were sited in the western half of Strada Conservatorio, namely the stretch between the back of the Franciscan Friary and the private residence of Archbishop Pietro Pace’s family.

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\(^{\text{21}}\) A large sarcophagus built of tiles was discovered in a close by hypogeum in 1893.


Caruana’s team seems to have entered the first complex by excavating a trench through the ceiling of one of the burial chambers. The layout consisted of two interconnecting and roughly circular vaults plus two low passages extending from the respective extremities. The burial chambers measured 7 x 3.6 feet and 13.3 x 10.6 feet respectively, and were linked to each other by a small opening barely 3 feet high. Correspondingly, the end passages were very claustrophobic, being a little more than 2 feet wide and 4 feet high. These passages lead to other burial chambers that Caruana had no access to, owing to their occupation by third parties. In this respect, it is quite evident that this hypogeum was rifled at an earlier stage, though Caruana included a note suggesting the discovery of several objects.

The other hypogeum located in Strada Conservatorio comprised three burial chambers and what looked to be two shafts. This layout betrays a piecemeal development, namely the amalgamation of two independent rock graves. One of the chambers had a circular plan and measured 7 x 7 feet, while the remaining two had an oval shape and measured 6 x 8 feet and 7 x 10 feet respectively. The shafts followed a typical rectangular layout and measured 3.6 x 7 feet and 2 x 8 feet respectively. Apparently this site was wrecked before Caruana’s investigation, as he records only the discovery of few objects of terracotta.

**The Conservatorio**

Underneath the Bishop’s Conservatorio, Caruana discovered a capacious burial compound featuring six chambers and two shafts arranged in a T-shaped layout (Figure 6). Most probably, he reached this complex by digging at the foot of the Conservatorio’s side wall bordering the ‘passaggio per la contrada tal Ibra’ and breaking through the ceiling of the northernmost chamber. Again, this complex looks to have had an organic development through the amalgamation of earlier independent units. As a matter of fact, the two sections labelled by Caruana as ‘spiraglio’ indicate the shafts of the original Phoenicio-Punic rock graves. Five of the resultant burial chambers had a circular or oval plan and their dimensions varied from 6 x 6 feet up to 22 x 12 feet. The sixth and remaining void had a rectangular plan and measured 11 x 6 feet. Generally speaking, these burial chambers had a relatively low ceiling, exceeding the five foot mark in one instance only. Most probably, this hypogeum was ransacked before or during the construction of the Conservatorio during the 1780’s, as Caruana makes no reference to the discovery of any objects or related tomb furniture.

Likewise, in the Conservatorio’s forecourt the 1891 expedition investigated two more Phoenicio-Punic rock graves. The larger was very close to the main door and featured a central shaft and two burial caverns, while an independent single-chambered crypt had its shaft positioned 31 feet and 6 inches to the west of the same door. The respective shafts measured 6 x 2 feet, and the chambers had a slightly oval layout. The ceiling of the vaults was 5 feet high only, while the more spacious crypt measured 12 x 10 feet and belonged to the second unit. Once more, no finds were found according to Caruana’s manuscript and it is assumed that these rock graves were looted at an earlier stage.

**Conclusion**

The description above presents a fairly homogeneous picture. Except for the second hypogeum in Piazza San Francesco, the 1891 expedition recorded the existence of several typical Phoenicio-Punic rock graves consisting of a rectangular shaft with one or two burial

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chambers in opposite walls. Besides, in four cases, two or more of these originally independent rock graves were dug very close to each other to the point that either by accident or by design the chambers were amalgamated with each other to form small hypogea. This scenario was eventually confirmed by the 1893 explorations in the whereabouts of Piazza San Francesco, when at least three similar arrangements were documented. Similarly, Sir Temi Zammit observed a number of matching instances at Tač-Cagħqi in Rabat-Malta.

Moreover, the layout and size of the respective hypogea present other conforming characteristics. Generally speaking, the burial chambers follow a circular or slightly oval plan, thus providing the only clue vis-à-vis their dating. Based on Sagona’s tomb development scheme, the majority of the graves discovered in April 1891 by A.A. Caruana are to be linked to the early Phoenician Period, datable to the eighth and seventh centuries BC. Besides, such a consistent number of early Phoenician tombs suggest that, by the opening years of the first millennium BC, the neighbourhood of Rabat was supporting an established settlement. This implies also that by 1000 BC Rabat had established itself as the most thriving settlement in Gozo. The relocation of Gozo’s centre of settlement from Xaghra to Rabat during the late Bronze Age was determined by the strategic combination of security and ample space for urban development offered by the naturally fortified hill of the Gran Castello and the underlying extensive plateau of Rabat.

Mr Godwin Vella is the Manager Gozo Museums and Sites within Heritage Malta.

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The University of Malta Giordan Lighthouse – Background Trace Gas Monitoring Station on Gozo
RAYMOND ELLUL AND MARTIN SALIBA

Introduction

The Physics Department of the University of Malta conceived the idea of setting up a background trace gas monitoring facility in the early 1990’s; more specifically 1993 when Dr R Ellul and Prof. Paul Crutzen of the Max Planck Institute for Atmospheric Chemistry in Mainz, Germany collaborated on questions of climate change and the pollutant trace gases responsible for this in the Mediterranean region.

In 1995 Prof. Crutzen was awarded the Nobel Prize for Atmospheric Chemistry; he has visited Malta twice in connection with this work.

In 1996 the University allocated a sum of money to this work and, with the kind consent of the Maritime Authority who hold the title to Giordan Lighthouse, Gozo, and the help of the Ministry for Gozo, instruments donated first by the Max Planck Institute and later by the International Bureau in Bonn were installed (Figure 1).

These instruments comprised ozone monitors, a full set of meteorological instruments measuring wind speed and direction, relative humidity, temperature, atmospheric pressure and radiation intensity. Later another ozone monitor, designed to serve as a standard, and meteorological instruments were installed at the University Gozo centre. This centre, which had just been opened in cooperation with the Ministry for Gozo, serves as a base for the operation which cannot realistically be run from the main University campus in view of the maintenance required for all the instruments.

Gas monitors

The International Bureau in Bonn as well as the Institute for Climate research in Karlsruhe continued to support the initial work with the further provision of carbon monoxide and sulphur dioxide monitors as well as annual calibration facilities for the ozone monitors. Ozone, being an unstable trace gas, cannot be calibrated in the normal way using ‘standard’ gas mixtures but requires a special transfer standard technique related to a primary standard only available in a few of the larger European laboratories.

Over the years the collection of data has grown more sophisticated so that the standard procedure is now the daily downloading of all the data to, as well as the remote calibration of the instruments from the Xewkija station. Weekly visits to the lighthouse are still, however, an essential part of the programme as these very delicate instruments need careful maintenance to be able to reliably and reproducibly detect the very low concentrations of ozone, carbon monoxide, and sulphur dioxide. We are talking here of parts per billion concentrations i.e. only a few molecules per one thousand million molecules of air.

Global atmospheric watch status

In the year 2000 the Giordan lighthouse station achieved Global Atmospheric Watch Status with the United Nations Environment programme of the World Meteorological Organisation.
The Global Atmospheric Watch programme (GAW) was set up in the 1980’s and contains 22 ‘global’ stations around the world in extremely remote spots away from direct man-made (anthropogenic) influences as well as another set of regional stations in geographically critical positions.

These stations record trace gas concentrations and meteorological parameters and annually pass their results to the World Data Centre for Greenhouse Gases based in Tokyo at the Japanese Meteorological Agency’s headquarters. These results are worked into an annual publication showing all the greenhouse gas changes in the northern and southern hemisphere.

The Giordan Lighthouse station (registration number 16587) is located in a strategically important position between Europe and North Africa and can be found on the GAWSIS website with all details necessary. The GAW network also works with and is slowly becoming interchangeable with the EMEP network run from the Norwegian Institute for Atmospheric Research – Cooperative programme for the monitoring and evaluation of the long-range transmission of air pollutants in Europe (NILU).

Dr Julian Wilson of the EU’s Joint Research Centre in Ispra as well as other researchers at WMO Geneva and NILU are presently engaged in unifying the two systems into one common database which can be used by climate researchers worldwide.

It is interesting to note that on 1 April 2005 Dr Slobodan Nickovic, formerly employed at the Euro Mediterranean Institute for Coastal Dynamics (ICOD) at the Foundation for International Studies, Valletta, has moved to join the team at WMO Geneva.

Expansion of the lighthouse instruments

The Giordan lighthouse monitoring station has now been running for eight years and the sum of Lm250,000 from German and Maltese taxpayers’ money has been expended in the setting up and running of this facility. In the pipeline is an expansion of the station’s instruments and facilities to work directly with MEPA as the environment agency responsible for reporting to the European Union the air quality in the Maltese islands. Also being worked on is a link to the meteorological office at MIA which requires the data for civil aviation purposes and is the official link to WMO in Geneva.

One of the main advantages of the Giordan lighthouse station is its location on the seashore and its proximity to the main shipping lane between Gibraltar and the Suez Canal. It is estimated that 25 per cent of the world’s shipping uses this route and hence measurement of the pollution from this ‘source’ is a critical part of the programme.

Indeed it is possible that the high concentration of ozone measured here could partly be due to this shipping intensity. (Figure 2)

Measuring aerosols

The location of the station is also excellent when it comes to measuring aerosols which are thought to be a primary factor in climate change. Put very simplistically the effect of aerosols is to change the reflectivity of the Earth’s surface to the sun’s radiation (albedo). This results in trapping of the heat rays in the atmosphere.
leading to an enhanced greenhouse effect and lower precipitation (rain) in the Mediterranean. The overall effect is an increase in the surface temperature of the Earth and hence global warming. Figure 3 shows the effect of a dust cloud (fine-coarse aerosol) and Figure 4 the eruption of Etna which sent a dense sulphur dioxide cloud as well as aerosol over the Mediterranean. At one point this cloud was directly over the Maltese islands.

Figure 3: The effect of a dust cloud in the Mediterranean

Figure 4: The eruption of Etna

The results from Giordan lighthouse show that the concentration of surface ozone in the Mediterranean is one of the highest in the world and very slowly but steadily increasing. In 2004 the mean concentration was 53 parts per billion by volume. A comparison of the data for Malta, Crete, Cyprus, and Athens shows that differently originating air masses are measured by these stations. While the Gozo station measures air masses from the Atlantic modified by passage over Spain and France, the Greek stations measure air masses originating over northern Europe and moving south via the Balkans.

In 2002 an atmospheric measurement campaign based on the island of Crete and led by the Max Planck Institute for Airchemistry in Mainz, Germany (the MINOS campaign) resulted in clarification of some of the mechanisms that lead to pollution of the Mediterranean region. It is clear that pollution finds its way directly into the upper levels of the Mediterranean from both the American continent and as a result of the south east Asian regime (Figure 5).

Figure 5: Direction of pollution from North America and South East Asia.

A campaign planned for 2005-07 and based on aircraft measurements from Malta, has failed to materialize at present owing to a shortage of EU funds in the VIth framework programme. However, it is hoped that this will be remedied in the next round due next year.

The results from the carbon monoxide and sulphur dioxide instruments enable us to pick out pollution episodes that affect the Maltese islands. During the summer months we find many examples of locally-recirculated pollution that comes back to effect us directly. However, the opposite is also true. Indeed

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A Draft Socio-Economic Development Plan for Gozo
GORDON CORDINA

1. Background

In 2005, the Ministry for Gozo launched a draft socio-economic development plan covering the forthcoming five-year period for consultation amongst the Gozitan social partners. The plan, which has not as yet been adopted as official policy, is intended to provide a coherent framework of measures towards the medium and long-term development of the island region of Gozo which would enable the effective utilization of budgetary allocations from the national Government and from European Union sources.

While taking fully into account the double insularity and the other permanent handicaps of the Island, the measures proposed in the plan are derived on the basis of the needs identified for different demographic strata of the population as well as needs which cut horizontally across the entire population of Gozo. Economic and social needs identified in this manner would include, for example, the creation of productive jobs, adequate health services, and the provision of recreational facilities.

2. Socio-economic assessment

Gozo is the smaller inhabited island in the Maltese archipelago with an area of 67km² and a population of around 31,000 persons, which amounts to 8 per cent of the total Maltese population. The plan observes that the Gozitan population has a markedly higher dependency ratio than that of Malta, mainly due to a relatively high proportion of persons in retirement. This is in part due to the fact that younger persons take up residence in Malta, attracted by better economic opportunities. Another factor in this regard is the steady flow of return migration to Gozo. In recent years, population growth in Gozo has been sustained more by immigration than by natural increases (birth rates less death rates).

Per capita income

It is estimated that per capita output in Gozo is around 70 per cent that of Malta. This is because the phenomenon of Gozitans working in Malta owing to insufficient opportunities on the smaller island, a lower rate of employment within the population in Gozo, as well as the fact that employment in Gozo tends to be in lower value-added activities. This may reflect the competitive disadvantages of the island, due mainly to its double insularity and costs of market access, leading to a situation where the jobs available would offer relatively lower wages. Moreover, there is a prevalence of low-paid jobs in the public sector in Gozo.

The potential in exploiting the contribution of agriculture involves synergies with specialised tourism and environmental management.

The economic structure

The Gozitan economy depends to a larger extent than that of Malta on agriculture and fishing, construction, the public sector, and, to some extent, property income. There is a markedly lower dependence of the Gozitan economy on the manufacturing sector. At a strategic level, this indicates a number of threats and opportunities for the future development of economic activities in Gozo. For instance, the agricultural and fisheries sector is overall
declining in the Maltese islands but in Gozo there is the potential to build on the relatively strong contribution of the sector to exploit high-value market niches involving synergies with areas such as specialist tourism and environmental management.

Construction activity is reaching a saturation point in the Maltese islands but there is in Gozo the potential to combine the skills in construction with the maintenance of the architectural heritage, again offering the possibility of synergies with specialist tourism. The public sector is over-staffed in the Maltese islands and especially in Gozo, calling for re-deployment of human resources, which in Gozo may be made available to growth sectors.

In Gozo there is potential to combine the skills of construction with the maintenance of the architectural heritage.

The manufacturing sector is in decline in the Maltese islands and even more so in Gozo, calling for a re-consideration of the type of activities which are sustainable in Gozo. The services sector is, perhaps, the only area showing a significant growth in the Maltese islands, but it is still relatively underdeveloped in Gozo, calling for the creation of better-established year-round tourism-based activities, a push to drive back office and financial sector activities as well as ICT.

Gozo has to build its economic development around the sustainable exploitation of its distinctive characteristics which would not be unduly burdened by its inherent disadvantages while furthering its efforts to neutralize such disadvantages through enhanced efficiency. An economy based on distinctiveness is more likely to provide sustainable long-term economic growth than one which merely replicates what others are doing. Likewise, it is not desirable for Gozo to enter into activities which are no longer sufficiently profitable elsewhere, as this runs the risk of accentuating economic peripherality.

The future

Looking ahead into the future, the plan points out that by 2010, almost 1,400 jobs will need to be created in Gozo to accommodate the supply of labour on the island. This compares with the national target pointing to the creation of around 11,000 jobs by 2010 as implied in the National Action Plan. Thus, around 13 per cent of the jobs to be created in the national economy are to be located in Gozo to satisfy the increase in working age population and allow for a higher participation rate. At the same time, the working age population in Gozo is around 7 per cent that in Malta. This implies that, proportionately, the rate of job creation in Gozo must be almost twice as high as that in Malta, thus requiring closer attention from the economic policy perspective.

3. Measures

The plan proposes 100 measures intended to satisfy the socio-economic development needs of the island region of Gozo. The philosophy behind the derivation of the measures is that development has three essential, mutually reinforcing dimensions, namely (i) sustainable economic growth; (ii) social advancement; and (iii) effective governance. The development model involves sustainable economic growth providing the resources for social advancement and progressively effective governance. This creates a virtuous circle whereby improvements in the social and governance dimensions would further sustain economic performance.

The plan looks on the sustainable economic growth of Gozo to require the forging of an economy based on distinctiveness, the reaping of economic efficiency so as to overcome the disadvantages of smallness, peripherality and double insularity, and measures aimed at expanding labour demand while encouraging labour market participation.
Distinctive characteristics

The plan strongly argues that Gozo has to build its economic development around the sustainable exploitation of its distinctive characteristics which would not be unduly burdened by its inherent disadvantages while furthering its efforts to neutralize such disadvantages through enhanced efficiency. An economy based on distinctiveness is more likely to provide sustainable long-term economic growth than one which merely replicates what others are doing, which may in turn also be done by someone else. Likewise, it is not desirable for Gozo to enter into activities which are no longer sufficiently profitable elsewhere, as this runs the risk of accentuating economic peripherality.

Should Gozo pursue a different path from that of Malta?

A core concept in this regard is whether Gozo as a region should pursue a distinct path of economic development which does not necessarily replicate that of Malta. It is considered that there are sufficient differences in resource availability, mainly in terms of environmental amenities and human resources, between the two islands as to justify a development approach where Gozo would seek to optimize its development through measures and policies which are specific to the region.

Thus, economic and business development policies for Gozo should not merely aim at eliminating the disadvantages in relation to the main island, which is itself now facing a situation of lackluster development in new investment opportunities. Rather, the business opportunities in Gozo should be exploited in the own right as a major contributor not only to regional but also to national economic growth. Such business opportunities would be such as to neutralize or render irrelevant the inherent disadvantages of Gozo.

Competitive advantage

Among the main areas of activity where Gozo enjoys a distinct competitive advantage, the plan highlights agriculture (e.g. vineyards and olives), food production, crafts including lace-making and weaving, cultural/historical/religious/medical/sport tourism, and a congenial living area for IT and financial services providers. It advocates a number of measures to promote these activities in Gozo, including the training of workers, branding and marketing, and the development of necessary facilities. In the context of the promotion of efficiency, the plan focuses on measures which improve infrastructural services, especially for transportation, and business facilities, but also for research and innovation and business finance.

The plan also presents a number of measures aimed at stimulating activity, and hence, labour demand in the Gozitan economy and at enhancing labour market supply and flexibility. Among these are the development of a golf course, a conference centre, a translation institute, and yacht marinas in Gozo together with the retraining of public sector employees and the setting up of an employment temping agency.

Social Development

In the area of social development, the plan emphasizes that education and lifelong learning are key to sustaining progress. In this area, Gozo suffers especially from the problems of peripherality and double insularity, in that the supply of educational services is often limited, especially by constraints on human capital. It is also the case that for an economy of the small size of Gozo, the educational output needs to be more focused on the specific niches of economy activity which are to be undertaken on the island. The measures proposed in the plan aim at counteracting the effects of peripherality in the availability of educational services and at proving mechanisms which better align the output of the educational system with the economic needs of the island. The technological means used to counteract peripherality can also be used to develop Gozitan institutions into viable commercial activities. Health is another essential element of socio-economic development.

The arguments relating to education also apply broadly to the area of health. Gozo is in many ways subject to the pressures of peripherality and double insularity in the availability of health
services. On the other hand, there exists a potential for a better exploitation of health care provision resources available on the island, especially when viewed in terms of possible synergies with tourism. Socio-economic development depends crucially on an ever-increasing degree of social cohesion. The measures proposed in the plan focus on the main threats to poverty that exist in Gozo, emanating mainly from the lack of affordability of housing which intertwines with the sustainable use of land resources. Furthermore, the elderly and young families are viewed as important targets of measures aimed at sustaining social cohesion.

The Ministry for Gozo is responsible for the provision of a number of regional public services.

**The environment**

A sustainable use of environmental amenities in Gozo is essential not only for the standard of living of the population but also to carry forward the niche economic activities on which Gozo is to base its future economic growth. Gozo to date maintains a reasonably pleasant environment, although there are a number of threats looming mainly from the perspectives of waste management and water quality. It is essential that an optimum balance between the economic and environmental dimensions be obtained where the two aspects would act as complements rather than as rivals in development. Selecting the proper niches for economic growth is one aspect of this. Maintaining the proper infrastructures for environmental management is another.

**Public Governance**

Public governance in Gozo suffers from a number of disadvantages associated with smallness, peripherality, and double insularity. The Ministry for Gozo is responsible for a number of public service areas but then there are others for which agencies from Malta would operate in Gozo on a branch basis. Public governance in such a small jurisdiction also suffers from inefficiencies arising out of indivisibilities. Certain administrative functions must be undertaken irrespective of how small or large the population is, resulting in a high cost per capita in such a small jurisdiction. It is also often the case that instances of market failure are more pronounced in small jurisdictions, calling for a larger degree of public sector intervention. This explains, for instance, the relatively large number of unproductive employment, mainly in the lower grades, in Gozo, which is an attempt at addressing an insufficient demand for labour and a lack of skills. These issues call for measures aiming at better efficiency and effectiveness in the conduct of public governance in Gozo. The plan emphasizes that at the core of governance in Gozo there shall be the regional dimension, whereby priorities and measures are established and implemented for Gozo in recognition of its distinctive characteristics, capabilities, and needs.

4. Conclusion

The economy of Gozo is facing a number of disadvantages owing to double insularity, small size, and peripherality. It has a lower per capita GDP than the national economy because of lower labour participation and involvement in less remunerative activities. From a social cohesion viewpoint, Gozo fares relatively well and needs to preserve its socio-cultural fabric. Demographic projections indicate the need for significant efforts aimed at job creation in Gozo over the next five years. The plan provides a framework for the socio-economic development of the island, based primarily on economic efficiency, education, and the environment, underpinned by suitable regional governance to enhance economic distinctiveness and promote social advancement. This is translated into 100 concrete, implementable measures for the island. It is expected that the plan should serve as a basis to the setting of the priorities and the formulation of a regional policy for Gozo.

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The various definitions of small states

In this article, a small state is defined as a country with a population of 1.5 million or less. Alternative measures of economic size involve GNP and land area. Each small state is unique and needs to address its development prospects in the context of its own cultural, historical, and social realities.

A report by the Commonwealth Secretariat/World Bank entitled ‘Toward an Outward-Orientated Development Strategy for Small States’ (2005) concludes that developing small states do share a number of characteristics that pose special development challenges: they are especially vulnerable to external events, including natural disasters that cause high volatility in national incomes; many of them face an uncertain and difficult economic transition to a changing world trade regime; and they suffer from limited capacity in the public and private sectors.

All states need revenue in order to meet their goals. The appropriate size and role of government is a function of many variables including political ideology, level of economic development, and the size of the state itself. Taxes are the price of civilization. They are fee levied by a government for the services it offers. As is well known taxes may be imposed directly on income or indirectly on expenditures.

Structures and patterns of taxation are of major relevance in a modern economy. They determine the level of tax burden; hence they affect both the welfare of the country and also its economic performance. In addition taxation effects efficiency in terms of economic performance and has also repercussions on equity in terms of distribution of income. Taxation reduces the level of disposable income, redistributes income, affects prices, reduces the ability to save, and may affect effort and enterprise. Besides, governments often use taxation as an instrument of its fiscal and budgetary policy to control fluctuations in the level of aggregate demand.

Taxes and small states

Small island states have particular characteristics in terms of taxation. They tend to have a very open economy, and a relatively large government owing to the fact that certain functions cannot be downscaled in proportion to the population.

The design of sensible tax policies for small economies requires that careful attention be paid to their international ramifications, i.e. their openness. This is a potentially daunting prospect, since the analysis of tax design in small open economies entails all of the complications and intricacies that appear in larger economies, with the addition of many others, given their high dependence on exports and imports.

Taxation patterns

The taxation patterns and structures can be described as the different forms of taxes applied. The taxes were not made in one day but were a process which took many years and in turn were affected by several different variables such as political ideology and the level of development of the economy concerned. This means that different states have different taxation patterns. Analysing the different taxation patterns of a number of economies may capture a trend showing that taxation patterns of small island states differ from those of larger economies.

The present author carried out such and exercise with a total of 48 countries, divided into 3 categories each comprising 16 countries: developed large states, developing large states, and developing small states. These
populations of these countries range from 290 million (the USA) to 38,000 (St Kitts and Nevis). It must also be noted that all developing states chosen here are also large states, therefore as a total there are 32 large states and 16 small states.

Taxation patterns of small island states

Figure 1 summarizes the taxation pattern in different categories of countries, where tax revenues are expressed as percentages of GDP. It can be seen that small states are more dependent on trade taxes and less dependent on sales and income taxes than larger countries.

<table>
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<th>Trade tax</th>
<th>Sales and Vat</th>
<th>Social security</th>
<th>Income and wealth</th>
<th>Other</th>
<th>Total tax as % of GDP</th>
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<td>6.4</td>
<td>0.3</td>
<td>18.1</td>
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<td>1.7</td>
<td>5.9</td>
<td>0.8</td>
<td>20.3</td>
</tr>
</tbody>
</table>

Figure 1: Taxation Patterns in different categories of countries

Another interesting tendency, shown in Figure 1 relates to the role played by revenue from social security contributions which tend to be marginally higher for small states when compared to other developing countries. However, they are much lower when compared to developed countries.

In general small states obtain relatively higher tax revenues when compared to their GDP, than other developing countries and relatively lower tax revenues when compared to developed countries.

Dependence of trade taxes

One of the most evident features presented in these findings is the heavy reliance of small states on trade taxes, amounting to 32 per cent of total tax revenue, while that of large states is only 8.4 per cent. This tendency was confirmed by fitting a line, using the Least Squares Method, correlating population and percentage of trade tax, with the results shown in Figure 2. In simple words, this means that the larger the country is, the lower is the tendency to depend on trade taxes.

Implications

The structure and sources of tax revenue have various implications especially for small island states which, in the coming years, have to face a new reality where trade taxes and tariffs must go significantly down, in line with WTO rules.

Assessing the relative costs of alternative forms of government finance is an important issue. In a developing economy, the government’s ability to collect revenue is affected by the fact that it is costly for the government to collect income taxes; hence the dependence on revenue from trade taxes.

Another issue relates to the attraction of FDI. Tax policies are obviously capable of affecting the volume and location of FDI since, keeping everything else constant, low income tax could encourage FDI and financial flows to small states. This has certainly played a part in the development of the financial sector of many small states. However, such policy is likely to be severely challenged owing to the drive against tax competition being pushed by OECD.

The future

Recent years have seen the progressive liberalization of world trade as a consequence of unilateral liberalization by countries; proliferation of regional trade arrangements; and agreements reached under the auspices of the World Trade Organization (WTO). As a result the trade preference once afforded to SIDS have been eroded and will continue to decrease in the coming years.
The association between trade liberalization and more rapid economic growth can increase revenues for a given level of tariffs. However, trade taxes will be negatively affected with trade liberalization. This implies the need for small island states to reform their taxation structure and shifts their dependence away from trade taxation.

**Conclusion**

Small island states need to transform their economies in response to the changing economic environment, particularly as a result of the globalization process. Among these there is the issue of trade taxes. In doing so, small island States might find themselves travelling between Scylla and Charybdis. They have to find a way to continue attracting FDI and financial flows, while reducing their relative dependence on trade tax and rely more on VAT and income tax. They will also have to develop capacity in order to build government departments capable of collecting income tax and VAT efficiently and equitably.

**Source:**
All statistical data refers to the year 1997. Most of the statistical data used in this work is taken from Penn World Tables and from the following website address: www.unpan.org/statistical_database-publicsector.asp (as per 01.08.2004).

Mr Mario Borg is currently following a course leading to the MA in Islands and Small States Studies at the University Gozo Centre.

The Univeristy of Malta Giordan Lighthouse
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Figure 6: Coincident Ozon, CO and SO2 peaks on 14 February 2004.

one such episode occurred last year on 14 August 2004 when three very high peaks of ozone, carbon monoxide, and sulphur dioxide were recorded. Analysis of the origin of these air masses using the so-called HYSPLIT - 4 model available from NCAR, Boulder Colorado, USA showed a track directly from the north west. It is probable that a strong pollution event, possibly the illegal discharge of hydrocarbons, took place and hit the Maltese islands in the afternoon of that day (Figures 6 & 7).

**Conclusion**

In conclusion the facility has obviously proved its worth both in scientific terms as well as practical usage and the University hopes it can continue to grow in collaboration with the environmental and civil protection agencies as well as serving as a major and southernmost European and UN station for climate change monitoring.

Dr Raymond Ellul obtained his B.Sc. in Chemistry and Physics in 1976 and M. Sc. in 1978 from the University of Malta. He subsequently obtained his Dr. Rer. Nat. working at the Max Planck Institute fur Strahlenchemie in Mulheim / Ruhr, Germany. He currently lectures on Mechanics, Atomic Physics and Atmospheric Physics.

Martin Saliba graduated B.Sc. (Maths and Physics) from the University of Malta in 2004. He is currently reading for an M.Sc at the Atmospheric Pollution Research Unit.
The Impact of the Gozo Ferry Price Increase on Gozo’s Economy*

MARGARET CASSAR

Introduction

The Gozo Channel Co. was formed in 1979 to operate a sea transport service between Malta and Gozo at reasonable and competitive prices and comply with the social obligation commitment.

In June 2004, the Gozo Channel Co. increased the fares of the ferry service for standard trips as well as for Gozitan passengers and cars. The standard car ticket increased by 75c. The Gozitan car ticket increased by 70c. For visitors who have a Gozitan address in their identity card, the increase in the subsidized fare in June 2004 was of 25c for passengers and 70c for cars.

The increase in the Gozo ferry fares has direct as well as indirect effects on the economy of Gozo. These effects include:

- increases in the cost of materials and of goods which could lead to lower demand for the final products
- fewer tourists that visit Gozo, especially domestic tourists, leading to a decline in demand for goods and services supplied by Gozitan businesses
- reduction in purchasing power of income of Gozitan workers and students who travel frequently to Malta.

The survey

The present author conducted a study to assess the impact of the increase in the fare on the economy of Gozo, based on a survey involving 200 ferry users.

Maltese visitors

The study showed that most Maltese ferry service users (47 per cent) travel to Gozo for a weekend visit while a small proportion (3 per cent) travel to Gozo for business purposes. A substantial proportion (39 per cent) of Maltese visitors travel to Gozo for a day-visit.

About 34 per cent of Maltese visitors travel frequently to Gozo (i.e. at least once every two weeks). Most of these declared that they have been negatively affected by the June 2004 increase in fares in a way that they reduced the frequency of visits and/or spent fewer days in Gozo. The other two-thirds of those surveyed visit Gozo less frequently, generally once or twice a year. Most of these stated that the increase in the fare did not affect them that much. However, all visitors stated that a further increase in the fare is likely to affect their frequency of visits to Gozo.

Gozitan travellers

For visitors who have a Gozitan address on the identity card, the increase in the subsidized fare in June 2004 was of 25c for passengers and 70c for cars.

A number of those surveyed were Gozitan persons who work in Malta and are therefore frequent travellers. 70 per cent of these stated that the increase in the fare was an extra burden on their pockets, with no compensating improvement in the ferry service. A number of these workers stated that the fare increase affected the purchasing power of their income negatively. Although the increase in the fare of Gozitan passengers is low, it often adds up to an increase of well over Lm100 annually.

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* This is a summary of a long essay on ‘The Impact of the Gozo Ferry Price Increase on Gozo’s Economy’ presented by the same author in partial fulfilment of the B.Com (Hons) degree in Economics, June 2005.
The Future of Agriculture and the Agro-Industry in Gozo*

KATHERINE HILI

Introduction

This brief article summaries the main findings of a dissertation presented by the present author in partial fulfilment of the B.Com. (Hons) degree in Economics. The study mainly focused on the Gozitan agro-industry and analyses the implications brought upon by membership of the European Union. It deals with four main products, namely tomatoes, grapes, milk, and honey. The conclusions derived, therefore, are also relevant to the Gozitan agricultural sector as a whole.

Gozo has a relatively large agricultural sector when compared to Malta. One reason for this is that Gozo is very dependent on its sister island Malta for practically all manufacturing raw material, and therefore it is difficult to develop a sustainable manufacturing sector in Gozo.

Most of the information was obtained by means of qualitative data, that is, interviews with the directors and managers of organisations. Also a few informal interviews were made with farmers to get a feel on the current situation. Quantitative data was also derived from surveys conducted by the National Statistics Office (NSO) and other findings by previous authors on the subject.

A new competitive setting

Before accession to the EU, Gozitan agriculture and the Gozitan agro-industry survived to a large extent without the need for major subsidies, mostly through protection from competition from imported products. However, when Malta became a member of the EU, levies and other forms of protection were dismantled. Although subsidies have been introduced, these are often temporary arrangements, and Gozitan farmers have no other option but to adapt to a new unprotective setting which will eventually expose them to full competition with their European counterparts.

Main findings regarding agriculture

The study produced a number of interesting conclusions, including the following:

1. It appears that the initial impact on agriculture in Gozo immediately after accession, was negative. The total amount of full-time and part-time farmers decreased. Furthermore, the increase of foreign products entering the market negatively affected the income of Gozitan farmers. However, in spite of all this, the key stakeholders interviewed were optimistic that with the right attitudes and with improved efficiency, the Gozitan agro-industry could survive and thrive.

2. Gozitan farmers face a number of problems, with the main ones being water resources constraints and very small holdings. This makes it somewhat difficult for Gozitan farmers to compete with their EU counterparts. Mechanization is greatly restricted owing to the small size of the fields and the typology of Gozitan farmland.

3. Another problem is that the Gozitan domestic market is very small, and transporting goods to Malta or to European markets is costly. This keeps Gozitan farmers from diversifying their products.

* This is a summary of a long essay on ‘The Future of the Agro-Industry in Gozo’ submitted in June 2005 by the same author in partial fulfilment of the B.Com (Hons) degree in Economics, June 2005.
4. Gozitan farmers have benefited from a number of compensatory arrangements in order to mitigate these disadvantages. From the funds obtained through the SMPPMA\(^1\) as well as from Process Fund from the Rural and Development Plan (2004-2006)\(^2\), funds have been allocated for marketing schemes. This is to help improve the local market and induce consumers to choose local products. Currently there is a campaign running entitled ‘Naturalment Malti’ – it appears however, that more effort needs to be made to foster awareness that local products are fresher and better than imported ones.

The agro-industry

Regarding Gozo’s agro-industry, it is very important that the restructuring plans be implemented within the defined transition period and are followed by the operators concerned and that, during this period, operators adjust and creatively find alternatives as to how to improve their current production and become more efficient in order to compete in an open market within the EU.

After just one year as members in the EU, it is difficult to access long term impacts on the Gozitan agro-industry. However some operators in the industry are already achieving promising results but others need to upgrade their organization with regard to marketing, hygiene, and safety standards. This is a great challenge which requires considerable effort by all concerned since. Gozitan business tend to be somewhat conservative in this regard and it is sometimes difficult to persuade some operators to change their traditional mentality and pull them away from old working practices to a more modern market-oriented approach.

Furthermore, hygiene and safety standards are very expensive to implement and this could prove unsustainable for some small operators. Therefore the funding obtained from the EU appropriate attention should be given to hygiene and quality standards.

Conclusion

From several interviews conducted by the present author with key stakeholders and from the information gathered from press releases and other sources, one can conclude that after a year as members of the EU, it appears that there is still much to be done to render the industry sustainable and a lot of hardship involved in the restructuring process, which will need to be undertaken in the coming years.

It is, therefore, important that Gozitan farmers and agro-industrialists prepare themselves for a more intense competitive setting, and towards this end, the funding and compensatory measures should be wisely utilized in order to enable Gozitan operators to become more competitive and to step up their efficiency.

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\(^1\) The Special Market Policy Programme for Maltese farmers is a programme, which provides the gradual removal of levies, which will then be replaced with direct income support for farmers and restructuring assistance for the processing industry.

\(^2\) This programme provides a framework to build, over the medium to long-term, a new agricultural sector that is integrated with the rest of the economy.
International Workshop

Between 7 and 9 March 2005, twenty-five experts from different countries attended a workshop on economic resilience of small states. The workshop was organized by the Commonwealth Secretariat and the University of Malta and was held at the University of Malta Gozo Centre, Xewkija.

The objectives of the workshop were to identify economic, social, environmental, and governance aspects that help to build economic resilience in small states.

During the first day, the experts delivered a number of presentations on themes related to economic resilience-building in small states, focusing on different aspects of resilience-building. The second day was mostly dedicated to the conceptual and methodological issues involved in measuring economic resilience, while the third day was dedicated to the drafting and approval of a final statement and a discussion on the publication of the workshop proceedings.

The Gozo Lace Day

On 10 April, the Lace-Making Programme at the University of Malta Gozo Centre organized the annual event ‘Gozo Lace Day’ for the ninth consecutive year. The event was held at the University Gozo Centre premises and consisted of a number of exhibitions and demonstrations of Maltese lace and a number of talks on matters related to lace-making. Present for the event were Hon. Giovanna Debono, Minister for Gozo, Hon. Anton Tabone, Speaker of the House of Representatives, and Ms Consiglia Azzopardi, coordinator of the Lace-Making Programme.

In her introductory talk, Ms Consiglia Azzopardi stated that, for the first time last year, lace studies have not only been approved by the University of Malta as a certificate course but also as a diploma. A certificate course in lace studies has already been offered in 2004, and a diploma course is scheduled to commence in October 2005, subject to there being a sufficient number of applicants.

Extra-curricular Activities at the University Gozo Centre - 2005

JOSEPH CALLEJA
In his talk the Hon. Anton Tabone praised the initiative taken by the University of Malta to approve the diploma course in lace studies. He expressed his wish that the next step would be that of upgrading this unique course to a degree.

The Hon. Giovanna Debono mentioned a number of EU-funded projects related to Gozo crafts in general which the Ministry for Gozo has embarked on. One such project has the aim to set up an organization to verify the authenticity of Gozitan craft products including lace. The Hon. Debono also praised Prof. Lino Briguglio, Director of the University Gozo Centre, the staff of the Centre, as well as Ms Consiglia Azzopardi for their work and the efforts in offering such courses in Gozo.

The event continued with the award of certificates by the Hon. Giovanna Debono to a number of students. Those present were then invited to visit the exhibitions of Lace Programme projects and textile crafts. Other exhibitions were mounted by the International Organization of Needle and Bobbin Lace (OIDFA), and by the Malta Lace Guild. There were also demonstrations of pillow-covering, card-weaving, cord-making by ATC, and information about short courses in different aspects of Maltese lace. A number of stands were mounted by the Koperattiva Għawxa tal-Bizzilla u Artiġjanat with lace-making materials.

Publications

On 30 April, the 12th edition of the Gozo Observer was published. It contained a number of interesting articles. One article shows how some of the graduates of the University Gozo Centre made their way into important positions in the civil service. An interesting article was on banking in Gozo analysing the perceptions of Gozitans regarding the commercial banks. Ms Lorraine Vella, a pharmacist, wrote an article on Salmonella Gozo, a serovar she discovered in Gozo. Other articles relate to the natural environment in Gozo, sustainable development in Gozo, projects submitted for the lace studies course, and an interview with Ann Monsarrat.

The Hon. Giovanna Debono awards a certificate to a participant who successfully completed a course in lace-making.

International Course in Lace-Making

Lace-makers from Australia and England attended the International Summer Lace Course which was the fifth in sequence. The course was held at the University Gozo Centre between 6 and 11 June. It covered 24 hours of tuition in making Maltese lace by the Maltese technique using Maltese pillow and bobbins. The programme of the course also included various activities and excursions. The participants had also the opportunity to meet local students attending lace classes at the University Gozo Centre and with them they discussed old pieces of Maltese lace from private collections.
The group was taken round the island to visit interesting nooks that may be hidden to the eye of the tourist. The programme included also visits to various villages. Moreover, the parish church displayed for the annual festa provided an insight to the environment of Maltese lace.

The Summer Activity

On 3rd September the Centre organised its annual summer activity entitled ‘An Evening of Traditional Maltese Music… and Beyond with NAFRA’.

Mr Ruben Zahra who is the leader of the ensemble, acted as compere, explaining to the audience the origins of a number of traditional musical instruments, including the bag-pipes, the friction drum and the reed pipe, which he himself played. The other members of the band were Daniel Cauchi (frame drum), Mario Frendo (Viola), Andrew Micallef (Accordion), Tricia Dawn Williams (Piano), and Paul Borg (Tuba).

The band played several innovative and thought provoking pieces including ‘Loghba’, ‘Harba’, ‘Raghaj’, and ‘Dawl ta’ Qamar’. The concert was received with great enthusiasm by the large audience present. Among the guests were the Hon. Anton Tabone, Speaker of the House of Representatives and Professor Lino Briguglio, Director of the Centre.

University Gozo Centre Graduates

During November, 11 students were awarded with a Diploma in Commerce after having successfully completed the course offered at the University Gozo Centre between October 2003 and July 2005. The graduation ceremony was held at the University of Malta.

Courses Co-financed by the EU

Four new courses were inaugurated at the University Gozo Centre on 2nd December 2005. The courses form part of a project which is being carried out under the European Union’s Structural Funds for Malta 2004-2006 and had been submitted for funding by the Ministry for Gozo, under the Gozo-Priority. The courses are: Introduction to Agricultural studies, Introduction to Business studies, Introduction to E-commerce and IT, and Introduction to Environmental Planning and Management.

During her inauguration speech, the Hon. Giovanna Debono, Minister for Gozo, stated that she was very glad with the number of persons who applied to follow these courses. She said that this is a very unique opportunity which among other things, will allow Gozitans to improve their employability.

The other speakers were Professor Lino Briguglio, coordinator of the course in Business Studies, Prof Albert Leone Ganado, coordinator of the course in E-commerce and IT, Dr George Attard, coordinator of the course in Agriculture and Mr George Said, coordinator of the course in Environmental Studies. In their speech they gave a general description of the structure of each course and the regulations governing them.
The Hon. Giovanna Debono addressing the participants during the inauguration.

**Award of Certificates Event**

On 30th December 2005, the ‘Award of Certificates’ event was held. The Hon. Giovanna Debono, distributed certificates to 149 candidates who were eligible after they had followed courses at the University Gozo Centre during 2005.

Minister Debono, commenting on the activities of the Gozo Centre, said that the partnership between the Ministry for Gozo and the University Gozo Centre is bearing fruit. Referring to the short courses being offered at the Gozo Centre, she said that she is very pleased that these courses are attracting participants from all walks of life and of different age group.

The Impact of the Gozo Ferry Price Increase on Gozo’s Economy continued from page 24

Another group of persons surveyed were Gozitan students who travel to Malta to attend an educational institution. The survey results indicate that the impact of the increase in the fare varied according to the frequency of travel. Sixty-six per cent of these students cross to Malta daily and travel by car. They have indicated that the June 2004 increase in ferry tariff negatively affected them while those who travel once a week (34 per cent) said that they were not much affected.

Some of those surveyed were Gozitan persons travelling to Malta for business purposes. The survey results show clearly that, in general, these businessmen decreased their frequency of crossing to Malta after the fare increase. Sixty per cent of these businessmen stated that, owing to the increase in the ferry fare, they had to increase moderately the price of the goods that they sell, but they did not pass the full burden of the ferry fare increase on to customers because they feared that this will affect demand for their products. The remaining proportion stated that they did not change their prices even though the fare increase affected the cost of their products. This is because the demand for their product is elastic and hence an increase in price would lead to a substantial decrease in the quantity demanded for their products. Considering the fact that none of the businessmen have shifted the total burden of the increase in ferry fares on the consumers, their profits were probably negatively affected in one way or another.

**Conclusion**

On the basis of the survey results, it can be concluded that the June 2004 increase in the Gozo ferry fare had a negative impact on the Gozitan economy. As expected the increase in fares tended to reduce the frequency of travel, to increase the prices of goods and services in Gozo, and to reduce the purchasing power of income of Gozitans who had no option but to travel to Malta frequently.

Ms Margaret Cassar graduated in November 2005 in B.Com (Hons) Economics.
Born in 1975, artist Christopher Saliba received his first artistic training at the University of Malta where he graduated B.Educ. Art Honours. In 1997, he was granted a four-year scholarship at the Accademia di Belle Arti ‘Pietro Vannucci’ in Perugia, where he studied at the Cattedra di Pittura under the direction of internationally renowned artist Sauro Cardinali. Throughout his studies, Saliba specialised in abstract painting, but he also studied sculpture and etching in depth. The informal and progressive teaching methods applied at the academy enabled Saliba to develop an inquisitive and autocritical approach in terms of his artistic development. The healthy ethos which existed at the academy during the course of his studies triggered the organisation of important artistic projects which were acclaimed by important art critics in Italy. The works presented by Saliba for these projects during the period 1998-2001 were in the form of video art and installations. In June 2001, he presented his dissertation, La Poetica del Sublime, and graduated with distinction. The period Saliba spent in Italy enabled him to imbibe the current trends in art, whereas the distance from home enabled the Gozitan artist to appreciate more the unique values and the richness of his native culture.

Saliba’s personal idea of the contemporary artist is that of an all-rounder. Painting, sculpture, printmaking, photography, installations and video art are all valid means by which he expresses his thoughts and emotions. What is common to all his works is his ideology about man and his relation with the natural environment. What Saliba tries to reveal through his art is the spiritual nature of the human being as well as the primordial link between mankind and the natural environment. Saliba exhibited several times in different countries like Italy, England and Malta and his works are to be found in numerous private collections around Europe and the United States. On the local artistic scene Christopher Saliba is known for reviving Land Art in Malta.

Saliba works in his studio at Nadur, Gozo, and teaches art at Sir Wistin Camilleri School of Art in Ghajnsielem. For more information about the artist and a chronology of his past and current works, one may refer to his official website, www.gozo-art.com
Gozitan Launches two books on Migrants in Melbourne

MAURICE CAUCHI

Dr Raymond Xerri, currently Counsellor at the Malta High Commission in London, has recently launched two books in Melbourne relating to migrant issues.

His first book, *Gozitan Crossings - The impact of migration and return migration on an island community* (2005), is a version of his thesis which he submitted to Victoria University for his Ph.D. It deals with various aspects of life in Gozo (mainly his native Qala), as well as in Melbourne, and includes insights of life in both lands. It emphasizes the identity of the Gozitan migrant and highlights differences with those from the sister island of Malta. The several chapters deal with ferry crossings and their vicissitudes, life in Melbourne as forged by the Gozitan migrant, work related ethic of the Gozitan, faith and festas, as well as insights into linguistic differences between Gozitan and Maltese. Other chapters deal with bingo, races, and bars, making money, flags, and fireworks. One attractive feature of the book is the number of photographs which are collected in ‘pictorial essays’ relating to life in Gozo and Melbourne. This book is intended to be the first of a series on Gozo & the Gozitans. It is a very readable book which should be on the shelf of everyone interested in migrant issues as well as life in Gozo.

Another book launched at the same time by this author is *A Decade of Australian Qala Association 1995-2005*. This book deals primarily with the development of this association in Melbourne, emphasizing its continuing contacts with the village of Qala in Gozo. It contains a history of the Australian Qala Association, which includes several pictures of personalities involved. It concludes with four ‘expert essays’ by Dr Joseph Bezzina, Prof. Ron Adams (Victoria University), Prof. Maurice Cauchi and Mark Caruana, and Dr Ray Xerri about aspects of Gozitan migration and return migration with particular focus on Qala. These essays apart, this book is of more interest to those from Qala, be they resident in Gozo or beyond the Maltese shores.

Prof. Maurice Cauchi was the head of the Pathology Department at the University of Malta. He is currently retired in Australia, where he is also President of the Maltese Community Council of Victoria.