

# Agriculture

For centuries, agriculture has been one of the most important economic activities of the island. Its sustainability adds to the uniqueness of Gozo's identity and has its direct effect on the employment and agri-tourism sector.

Sustaining this sector is of vital importance for the presentation of the rural character of the countryside. Agriculture in Gozo provides a number of value-added food products, based on traditional techniques and practices. However this strategy is also intended to address improper agricultural practices, including lack of integrated pest management, disposal of waste and uncontrolled use of fertilisers, which do not blend well with the eco-Gozo concept.

## *Possible non ecological cropping, livestock and soil management practices*

Information about current agricultural practices in Gozo is not readily available. Cropping, livestock and soil management practices are not necessarily compliant with ecological principles of environment, animal welfare, hygiene and food safety.

## **Use of fertilisers**

Natural and mineral fertilisers have been used in the agricultural sector for a number of years. Pressures on demand for greater agricultural production have, perhaps, brought about greater use of fertilisers. The gross nitrogen balance for the year 2007 for Malta and Gozo is estimated at 117 Kg/Ha. This is approximately two and a half times the median for EU Member states, at 47 Kg/Ha. The nutrient/chemical fluxes are not well defined and need to be determined, as consumption and application methods of agro-chemicals may not be in compliance with environmental norms.

In Malta and Gozo, the lack of accurate data concerning fertiliser-use has been recognised as the most important obstacle to measuring the risks linked to fertilisers.<sup>1</sup>

## **Use of pesticides**

In Gozo many people grow their own crop for personal use as a hobby. This practice is very positive and must be encouraged, however the use of pesticides and pesticides' residue in products produced by such individuals must also be controlled.

### **issues**

*Possible non ecological practices*

*Water culture incompatible with eco standards*

*Fragmented and small sized holdings*

*Land ownership issues and legal right of access*

*Ageing farming population*

*Land quality value and potential*

*Lack of valorisation of genetic resources*

*Groundwater depletion and emissions*

*Neglect of indigenous traditional practices*

*Production beyond land carrying capacity*

*Change in land use not be in harmony with traditional landscape*

*Lack of institutionalised advisory services*

*Lack of research and development*

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<sup>1</sup> NSO, Gross Nitrogen Balance for Malta, 2007

The negative impact of agriculture on the environment mainly due to excessive pesticide use and the use of non-degradable plastics should be addressed. Specific education campaigns targeting the amateur and hobbyist farmers on proper plant protection product's use may be ideal for the reduction of excessive use of pesticides.

Agricultural products in Gozo have always been considered to be of good quality and genuine. In fact, Gozitan agricultural products are usually preferred to imported products even though the latter are usually better presented and sometimes sold at a lower price. This advantage can however be lost if the presentation of products is not improved, the quality and safety of produced ensured and the products are sold at a competitive price.

An eco-Gozo label that attests the quality of the produce can be set-up in order to improve the confidence of the consumers as regards the origin, the quality and safety of the product. The certification of the label would encourage integrated pest management, go into the detail of traceability, pesticide use and pesticide residue testing and the packaging and marketing of the products.

## ***Quality of soil***

Gozo is threatened by three main phenomena, soil erosion increasing levels of nitrates and increased levels of salinity. Soil erosion increases when agricultural land is abandoned or when rubbles and retaining walls collapse and are not rebuilt and properly maintained. The building of rubble walls to protect fields from soil erosion is being neglected. This is leading to deteriorating structures and land abandonment.

Information about rural structures, in terms of not only number and location, but also state of maintenance/conservation is not readily available. These systems have to be revived, encouraged and kept in good state of maintenance.

EU funding for the rebuilding of rubble walls is helping to reverse this trend however much more needs to be done in this area. Where possible, forestation of areas prone to erosion should be considered as a way of stabilizing the terrain. This practice can also help in extending the life of urban roads that are built above slopes leading to many villages situated on hill tops.

The excessive use of nitrates in agriculture is also an issue that requires immediate attention, in order to reduce the level of Nitrates in the soil and also result in savings for the farming community.

An effort to improve soil fertility is also commendable as this could improve the quality of agricultural products and may even result in more efficient use of resources such as water, which may be less required if the water retaining properties of the soil are improved.

## ***Use of water***

There are currently no statistics on water use intensity, the quality of water used for irrigation and crop selection methods adopted in the Maltese islands. The water flux in Gozo is not well defined and needs to be determined. Consequently, water culture in Gozo may not be compatible with ecological standards. Traditional practices such as water harvesting in valleys are being neglected.

### **Recommendations**

1. Provide farm advisory services and demonstration facilities as a first step for farmers to acquire certification to eco-agricultural practices standards (also refer to Environmental Standards In Industry Section)

2. Provide advice to farmers on how to achieve an ecological balance on the farm in terms of nutrients, water and energy
3. Encourage farmers to adopt the ecological label certification
4. Upgrade Civil Abattoir
5. Simplify any bureaucratic procedures and enhance institutional transparency to facilitate the adoption of the eco-label certification
6. Create a national food quality scheme for Gozo. This will build upon unique eco-friendly product characteristics, practices and process ethics
7. Launch a project to control the use of pesticides
8. Carry out continuous checks to prevent the use of illegal use of pesticides
9. Launch an awareness campaign about the effects of pesticides
10. Provide for the safe disposal of pesticide containers and linked materials
11. Strengthen the agricultural division within the Ministry for Gozo
12. Carry out a market demand analysis to identify actual/potential demand for Gozitan agricultural products
13. Rationalise resources and identify which agricultural products are best suited for cultivation given the local agro climatic conditions in
14. Determine a comprehensive nutrient /chemical flux diagram
15. Awareness campaign about the excessive use of nitrates and other nutrients
16. Assist and support feed mills to produce feeds for livestock that have a more balanced nutrient ratio and that contribute to lessen the impact on the environment through the quality of the manure produced.
17. Undertake afforestation projects in erosion-sensitive areas
18. Provide training to farmers in adopting methods to counter soil erosion.
19. Encourage rebuilding of rubble walls
20. Explore ways to increase organic content in soil
21. Remove silt from dams in valleys
22. Foster the building of rubble walls
23. Introduce courses in traditional wall building at post-secondary level and in life-long learning courses
24. Document information regarding the state of maintenance of selected rural structures
25. Deter land abandonment and provide incentives to encourage its use for agricultural purposes

### *Farming is a less viable / attractive occupation*

In Gozo, there are fragmented and small sized holdings having poor physical access. This may be one of the contributing factors which make farming a less viable occupation. NSO statistics (2007) show that there are 2,399 holdings in Gozo (and Comino) occupying 2,292 ha, the majority of which are between 0 and 0.5 ha. Holdings of this scale are deemed as not feasible to cultivate, and discourage tenants from taking farming as an occupation due to lack of economies of scale.

According to the most recent census (NSO, 2001), there are 217 full-time farmers in Gozo (and Comino), most of whom are males in the 45 – 54 age bracket. Data is not updated and the farming population may be on the decrease since the last census.

Farmers may also have insufficient level of education.

### **Recommendations**

26. Incentivise tenants through various means to consolidate land for agricultural purposes to gain economies of scale and make farming more viable and attractive as a source of income
27. Where possible, devise new methods to render small land parcels viable for cultivation
28. Encourage new entrants to start operating in the agricultural sector through educational campaigns
29. Facilitate part-time farming activity
30. Provide sufficient resources from human resource and financial perspectives to provide formal training in agriculture
31. Relocate farms from urban areas

### *Land Ownership Issues and Legal Right of Access*

Land ownership issues and legal right of access to privately owned land may prohibit private initiatives by those who want to use a specific piece of land for agricultural purposes and/or agro-tourism initiatives. Furthermore, it is increasingly difficult for young / new entrants to start operating in the agricultural sector because of failure in acquiring the legal and physical access to land. At present, there is no data on whether privately owned land is occupied by a tenant and whether this is being used exclusively for agricultural purposes.

### **Recommendations**

32. Provide incentives so that tenants use their land exclusively for agricultural purposes
33. Provide incentives so that tenants who are not in a position to use their land for agricultural purposes return the land to the lawful private owner to enable the resumption of agricultural activity on abandoned land
34. Assess methods whereby Government may intervene to reverse the trend of agricultural land abandonment

### *Land quality value and potential*

Modernization, investments and change in land use is not always respectful to and in conformity with the land quality value and potential. Information about the type of investments needed is not readily available and would need to be assessed in view of the accompanying change in land use.

### **Recommendations**

35. Compile a land vocation map to assist in the best use of land and ecological environmental principles
36. Assist farmers to broaden their understanding of the importance of agricultural land for the environment, thus enabling pockets of ecological habitats to co-exist
37. Provide financial assistance to encourage change in land-use and modernisation aimed at high-value agricultural products, provided these are compatible with agricultural land suitability and allow for the co-existence of the agricultural landscape with the natural ecological habitats
38. Support the improvement of arable land
39. Develop portions of land into agricultural parks that would include greenhouses, to ensure a premium and early product which can be grown constantly throughout the year

### *Lack of Valorisation of Genetic Resources*

There is little or no data on the number, distribution and geographical location of plant and animal genetic resources of importance, but it is recognised that this is an unexploited asset, especially in Gozo. These local varieties may be best suited within the ecological framework.

There is an issue with animal breeds which are becoming inexistent in Gozo as development is replacing the function certain animals used to have within the Gozitan society. There is no information on the numbers, distribution, geographical location and characteristics of generic resources of conservation value in Gozo.

#### **Recommendations**

40. Identify and map high-nature-value farmland in Gozo
41. Identify and locate plant and animal genetic resources in terms of numbers, geographical distribution and genetic characteristics
42. Foster the development of local genetic resources into economically viable assets
43. Support farmers to make use of local varieties and breeds since these are adapted to local conditions and have a stronger link with territorial identity and ecological balance.
44. Upgrade government greenhouses and plants and open the garden to the public

### *Groundwater depletion and emissions*

Availability of energy is resulting in misuse and negative impact on the environment. Statistics on the number of crop farms supplied with energy from the main grid is not readily available. Nonetheless, the readily access to power has led to the implementation of practices that have boosted production to the detriment of natural resources, in particular the use of electric pumps to gain access to groundwater.

#### **Recommendations**

45. Develop the infrastructure and technical skills for farmers to make use of recycled water for certain products
46. Provide training to foster awareness on the reduction of negative agricultural impacts on the environment

### *Production beyond land carrying capacity*

Farmers are paid according to the quantity of products they produce. Efforts are made by most farmers to attain higher levels of productivity and cropping intensities or higher livestock intensities which are beyond the carrying capacity of land. Less attention is given to the quality of product. There is no quantification and data on yield levels of certain crops in Gozo. Although this problem exists, we do not have information as to what extent productivity is exceeding capacity.

#### **Recommendations**

47. Reduce efforts of farmers to increase yields and intensify production
48. Produce a pricing formula to give reasonable weight to the quality of the product rather than solely on the quantity
49. Strengthen links between producers and agro-processors in the agro-food chain
50. Identify and promote lucrative business lines in agriculture including organic farming and horticulture

### *Lack of institutionalised advisory services and research and development*

Recognised farm advisory services have only very recently (2008) started to operate. The agricultural research and development facility in Gozo needs to be developed and supported.

#### **Recommendations**

51. Set up a structure to establish, implement and coordinate a research and development programme for eco-development in Gozo
52. Set up and operate a research and development and demonstration facility to test, advise farmers and offer services to the rural community, competent authority and industry to underpin policy and bring about eco-development of the Gozitan environment.
53. Adopt measures to encourage farmers to manage, exchange and transform excess nutrients and waste into energy from renewable sources (such as bio-gas production)

### *Lack of Policies*

While agro-tourism policy for Gozo needs to be addressed to target resources and implement projects for agro tourism initiatives, information on the number and typologies of agro-touristic projects is not available at present. Similarly, there is no agricultural policy specific to Gozo.

#### **Recommendations**

54. Draft and adopt an agricultural policy for Gozo which is in line with the eco-Gozo strategy
55. Draft, communicate and enforce a code of best agricultural practices

56. Set up a dedicated education programme to assist in the implementation of the agricultural code of best practices
57. Draft and adopt an agro-tourism policy for Gozo to provide a framework and support for agro-tourism resources and initiatives

Draft for discussion purposes