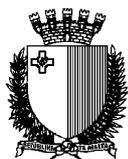




INNOVA PROJECT

Establishing common models of integrated sustainable monitoring, planning and management of high environmental value areas to control natural resources degradation.

INNOVA PROJECT PART-FINANCED BY THE EUROPEAN UNION



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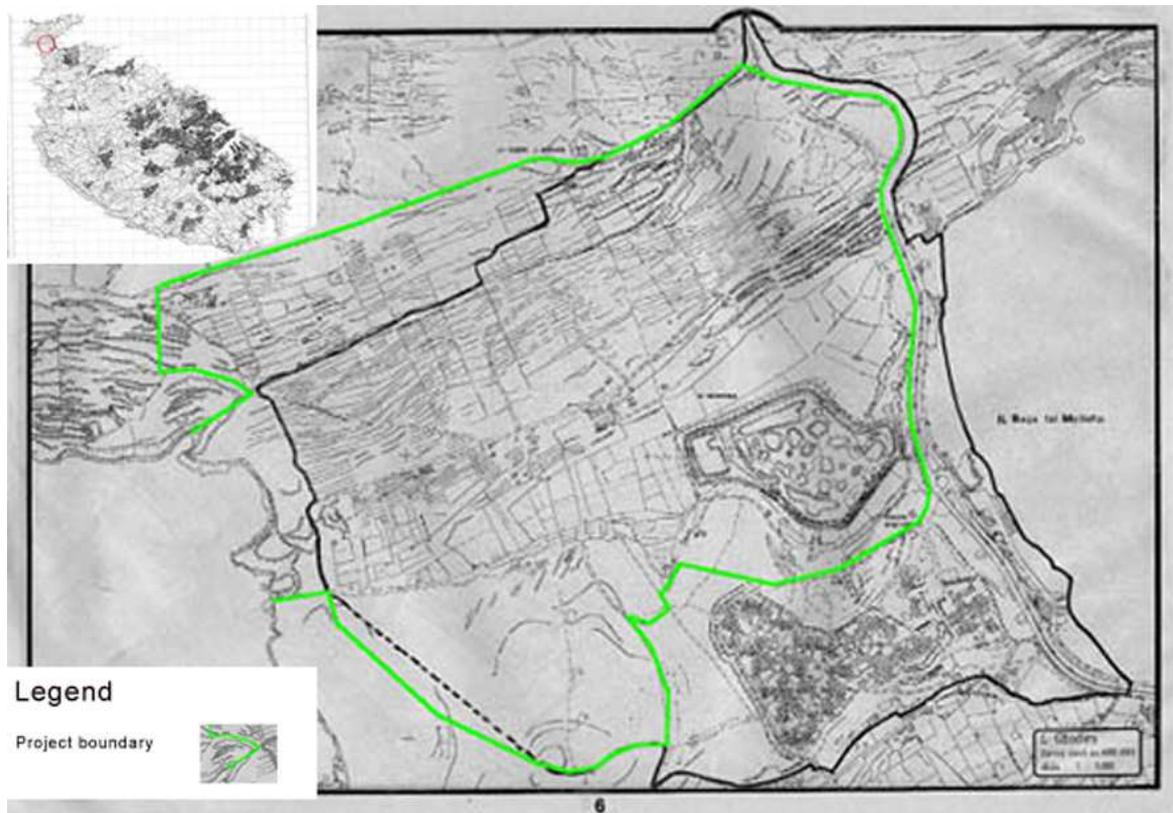
CO-FINANCING RATE; 75% ERDF, 25% GOVERNMENT OF MALTA

FORESTA 2000 – THE MALTA INNOVA PILOT PROJECT AREA

Authors: Mr Antoine Gatt, Mr Avertano Role' - Institute of Agriculture, University of Malta
Contact person: as above: agdesign@maltanet.net, avertano.role@um.edu.mt respectively

1 Description of pilot area

The site lies along the narrowest stretch of land of the island of Malta covering an area of 104 hectares. The site is composed of two hillsides enclosing a fairly wide valley floor. The hillsides fall gradually to meet the valley floor that in turn has a slight gradient running west to east, that is from ic-Cumnija (with c 50m high cliffs) down towards the Mellieha bay, at sea level. The area has been extensively used and altered by human activity, often to the detriment of the natural environment and the aesthetic qualities of the site.



The project area is Government owned although scattered parcels are leased for agricultural purposes. Most of the agricultural activity is carried out on the valley floor where soil is deeper and more fertile. Agriculture predominates mainly in the form of small holdings enclosed in rubble walls. To the east however the site is dominated by the Ghadira wetland. The wetland is composed of brackish water and benefits migratory water birds and other wetland wildlife.

The south side of the area is dominated by the Mellieha Holiday Complex, and to the west the terrain changes to garigue typical of local exposed environments. To the north the landscape is composed mainly of abandoned fields, some of which were afforested with a mixture of Aleppo pines (*Pinus halepensis*) and blue wattle (*Acacia sp*) some 20 years back. In areas not afforested and where the rubble walls have collapsed, soil degradation is severe exposing the underlying rock in areas. A small percentage of the fields are under cultivation. At the foot of the hill, to the east of the site, are a considerable number of huts used as summer holiday retreats. The east part of the slope is composed of exposed blue clay. This area is devoid of trees and agricultural fields and until the commencement of this project, off-road driving was commonly practiced, causing severe erosion problems. The ridge is dominated by 'it-Torri l-Ahmar' a 17-century military outpost. The area to the

west of the site is mainly composed of a landfill site. A sewage treatment plant is being constructed within this area.

The site is very exposed to the weather. However, the south-facing slope is largely sheltered from the prevailing Northwest wind. Exposure to the elements has resulted in soil erosion and stunted vegetation. In areas, surface water run off has contributed to soil erosion. This is evident where rubble walls have been breached.

With the exception to the nature reserve, land under cultivation and private residential areas, the site is open to public access. Due to several elements of historical and ecological value the area is popular with walkers and picnickers especially during the winter months. The installation of metal gates to deter off-road driving and camping has reduced the frequency of people visiting the forested areas. However Fort St Agatha still attracts lots of visitors especially tourists.



The valley in question is a typical horst and graben structure which owes its origins to shallow tectonic displacement and is part of a series of such wide, “U” shaped valleys. A cross section of the island of Malta reveals this. These valleys have a relatively flat bed with gentle sloping hill sides. The main rock type found within the Foresta 2000 site is upper coralline limestone. Outcroppings of clay strata reveal that much of the area is underlain by impervious strata and this gives rise to ephemeral freshwater springs along the Marfa ridge.

In prehistory, the gentle sloping hill sides have been systematically terraced with rubble walls to provide land for agriculture. Such heavy human intervention on the landscape has led to a serious decline in natural habitats and related species. In recent years the less productive areas have been abandoned. These areas have either degraded due to soil loss, or have developed into a steppe and maquis habitat. Most of these habitats suffer degradation due to mismanagement and other human oriented activity. A number of rare and endemic plants can be found here too. Invasive exotic plants are also present and these constitute a threat.

Scattered within the site are historical and cultural structures dating back to prehistory. Rubble walls are an essential part of the rural landscape as are the few corbelled huts on site. More recent historical structures include the St Agata’s tower. This tower was built in 1649. It was constructed to guard the northern low lying coast of the island from possible Ottoman invasions. WWII pill boxes and anti aircraft search light and gun emplacements are also common.

Management Authority

The site is managed by a Management Committee composed of members representing three organisations: Birdlife Malta (an NGO dealing with bird protection and their habitats), Din l-Art Helwa (another NGO dealing with natural and cultural heritage) and the PARK Dept of the Ministry for Rural Affairs and the Environment.

Legislative status

Bird Sanctuary (EPA-LN 41/03) IUCN Category IV; Special Area of Conservation - International Importance (DPA/EPA LN 257/03 & GN 223/05); Area of Ecological Importance (DPA – GN 400/96); IUCN Category 1B

2 PASEM procedures

All the PASEM procedures have been carried out as requested. The Stakeholder identification process was successfully concluded. The following questionnaires were conducted and the results were evaluated through the PASEM procedure:

1. PA manager questionnaire (Project Manager)

2. Stakeholder Rapid Appraisal Questionnaires were administered to several individuals including representatives of Local residents, Din I-Art Helwa (Heritage NGO), Birdlife Malta (Avifauna NGO), Mellieha Local Council, University of Malta, Site Manager

A pilot community survey has also been conducted and a report has been generated. The Stakeholder workshop was organised and a comprehensive list of stakeholders were invited to participate.



Stakeholder Participation Conference – Foresta 2000 (F2K)

Venue: Mellieha Local Council premises 12th December 2007

List of participants:

University of Malta; PARKS (Ministry of Rural Affairs and the Environment); Din I-Art Helwa; Bird Life; MHRA; Site Manager; Local farmers; Mellieha Caravan Assoc; livestock breeder

Social Values and Objectives	Threats
The greenery of the PA provides a welcome element in the dry Maltese landscape	Fire (arson)
Tourist resource	Illegal Bird hunting and trapping
Recreational value for semi-permanent residents (caravans)	Security
Recreational value for hikers/campers	Lack of signage (including footpath access)
Educational value	Lack of interpretation
Scientific research	Hostile behaviour
Value of PA is not restricted to locals	Irresponsible camping (need control) – soil compaction due to unrestricted access to vehicles
The PA provides an ideal environment for family picnics and barbeques	Threat of fire spreading from barbeques and camp fires
Respect for the rural and ecological character of the local landscape	Illegal and unplanned constructions
Farmers' property and legal status are recognised by the rest of the community	Theft of farmer produce – often Lack of security regarding land tenure (applicable to farmers who lease land from the state as well as caravan site)
Need to control access to site	Vandalism of gates in area. Some have been stolen Littering

Two Identified Priorities and related indicators for Social Values:

1. Recreational value of PA
 - a. Number of vehicles parked on site (survey conducted by warden on a weekly basis)
 - b. Number of walkers on footpaths (determined by automated data loggers)
 - c. Questionnaire survey regarding satisfaction with recreational utility of PA (conducted seasonally every four years)
2. Educational value of PA
 - a. Number of student and school visits to site (daily records are available at Bird Sanctuary and Tower)
 - b. Number of academic and other research publications related to the site (Cumulative record of such publications can be obtained from University and copies of such material can be deposited at the interpretation centre library)
 - c. Number and type of educational support material disseminated at site (flyers, Multimedia material, etc)

Economic Values and Objectives	Threats
Agrotourism	Barriers to agrotourism exist – lack of incentives
Tourism – especially off-peak season	Hostile behaviour towards tourists
Farmers cooperatives to market local produce	Local produce is not marketed
Cottage industry based within the F2K project boundary	Need entrepreneurship and incentives to develop cottage industry
Safeguard existing high value agricultural land	Lack of Protection of high value arable land (especially irrigated land and horticulture – water needed to sustain such land)
Cultural tourism –	Need to realise the potential of local knowledge for interpretation of cultural heritage – knowledge is lost
Improvements in local agriculture	Service roads within the PA are in a disastrous state – inhibits visitors and farmer activity
The PA has the potential to attract a greater number of tourists – specially targeted niche markets like ornithologists	Widespread, indiscriminate, and illegal bird shooting must be controlled before tourist ornithologists are catered for. Problem is that the economic benefits of such tourism are only realised after politically painful measures are taken
Water	
The wetland can be regarded as a tourist attraction	

Two Identified Priorities and related indicators for Economic Values:

3. Value of PA as a tourist resource
 - a. Number of tourists visiting site (daily records are available at Bird Sanctuary and St Agatha Tower but datasets need to be disaggregated to identify tourist component of visitors)
 - b. Tourist satisfaction with PA as tourist amenity (analysis and evaluation of visitor comments based upon visitor book available at entry points. Analysis can be compiled annually)
 - c. Occupancy rates for tourist accommodation establishments in the vicinity of the PA (such data is published by the National Office of Statistics)
4. Value of PA as a Brand for Farmers' Produce
 - a. Number of product varieties of cottage-style produce sold by farmers located within and/or contiguous with the PA (This needs to be assessed through market surveys)
 - b. Number of farmers within PA registered as Organic Producers (Organic produce is perceived as complimentary to the goals of the PA. Records of Organic Produce certification are maintained by the Organic Produce Section of the Rural Development Program)
 - c. Amount of annual subsidies received by local farmers from the Rural Development Program awarded to environment focused measures. This includes measures targeted at rebuilding terrace-supporting rubble walls (Detailed records of such funds are maintained by the RDP)

Environmental Values and Objectives	Threats
Clean air	Arterial road abutting PA is contributing to air pollution and noise
PA may provide an opportunity for the utilisation of recycled water (irrigation of saplings) which is unlikely to be utilised by local farmers	Recycled water quality is a major issue since it may be very high in salinity – need to monitor quality
PA is now considerably cleaner – closure of dump at “Ic-Cumnija”	Litter, illegal dumping of waste (fly tipping)
The PA should serve as a medium by which environmental information is communicated to the public	Insufficient information regarding environmental initiatives in PA
	Vandalism
	Lack of enforcement
	Occasional sewage outfalls within PA area when pumps fail
Reforestation has provided a green image to	Need to plant more trees in some locations but garigue

the area – much needed in deforested Malta	habitat needs to be safeguarded from any misguided planting
PA provides for groundwater recharge	Hotel boreholes are major threat to farmers' water supply – serious depletion of groundwater
Ghadira Wetland is a rare and endangered habitat in Malta.	Rising salinity in groundwater – abstraction rates exceed safe-well yield. Situation exacerbated by hotel demand for water
The wetland is an important stop-off point for migrating avifauna	Lack of adequate enforcement regarding illegal hunting within PA and its immediate environs.
Terraces and their rubble wall armouring reduce soil erosion and promote groundwater recharge	Neglect and lack of maintenance of rubble walls lead to accelerated soil erosion
Soil erosion and clay slope stabilisation measures (mini check-dams) contribute to reduction in soil erosion within PA	Off-road activities in area contribute significantly to accelerated soil erosion – especially on clay slopes – prevent recolonisation of slopes by vegetation
PA policy of reforestation with indigenous species ensures restoration and protection of local flora and fauna	Stands of exotic species of flora still pose a threat to local flora – acacia is now self-propagating
Rubble walls and other rural structures are vital elements in the local landscape and need to be regarded as a valuable tourist product	Some rubble walls are in a state of decay while some irresponsible people dismantle walls in search of edible snails (escargot)
The PA provides forage for beneficial insects thus reducing need for indiscriminate use of crop protection insecticides	Indiscriminate crop spraying in arable areas impacts beneficial insects and other fauna
	Lack of adequate signage and misleading signage. Lack of adequate footpaths and interpretation facilities

Two Identified Priorities and related indicators for Environmental Values:

5. Value of PA as a Biodiversity resource
 - a. Number/density of Indicator species which reveal relative health of ecosystem: avifauna (especially nesting songbirds), insects (especially butterflies), and flora. (Birdlife carry out regular monitoring of avifauna within the Protected Area. Occasional studies of insect distributions are also undertaken by students for research purposes. These can be coordinated in order to yield maximum information regarding PA. Incentives should be provided to facilitate such work)
 - b. Number of endemic species within PA. Higher values for this indicator provide some indication regarding the priority of protection that needs to be accorded to the site (Malta enjoys a surprising degree of endemics and some of these are found within the site. On site surveys need to be carried out at regular intervals)
 - c. Number of exotic species within PA. Exotic species of flora and fauna pose a threat to ecosystem integrity. Eucalyptus and Acacia species of trees and shrubs had been planted within the PA and in the immediate vicinity while misguided landscaping in tourist-related facilities may facilitate the spread of exotics. (This indicator is closely linked to the preceding one and the same survey can service both indicators)
6. Value of PA as an example of soil erosion control and groundwater recharge resource and utilisation of recycled water
 - a. Soil erosion control monitoring. (This can be evaluated by employing sediment traps installed at strategic locations. In particular, the efficacy of micro-terraces constructed across gullies can also be assessed. Another related indicator is an assessment of the number of breaches in terrace rubble walls. This can be assessed after the month of March when the probability of intense rainfall is greatly diminished)
 - b. Monitoring of irrigation groundwater quality and quantity (most farmers keep track of salinity levels of water utilised for irrigation. Well yields are also duly noted)
 - c. Soil salinity levels at various locations in the PA. (At present, the threat of salinization is only applicable in the low lying area surrounding the wetland. This should be monitored annually during the dry season. However, the proposed utilisation of recycled water on the slopes of the PA demands that such monitoring should be extended upslope)

Governance Values and Objectives	Threats
A sense of “ownership” of the PA by the local and wider community	Vandalism seems to be endemic to the PA. Hundreds of recently planted trees destroyed and rubble walls damaged
The caravan site within the PA needs greater security	Theft from unattended caravans and general vandalism are common occurrences
The PA vision needs to be clearly communicated to users and the general public	Illegal hunting must be addressed through adequate wardening of the PA. Several cases are reported each year of birds being killed in the Bird Sanctuary
Shared responsibility for the management of the PA	The Management Plan for the PA needs to be finalised and stakeholders need to be consulted
Respect for the rural and ecological character of the local landscape	Illegal and unplanned constructions
Farmers’ property and legal status are recognised by the rest of the community	Theft of farmer produce. Such theft is widespread but the risk is greater in the PA since the flow of people in the area is greater
	Lack of security regarding land tenure (applicable to farmers who lease land from the state as well as caravan site)
Need to control access to site	Vandalism of gates in area. Some have been stolen
	Littering

Two Identified Priorities and related indicators for Governance Values:

7. The relative success of the PA as an example of best practice in environmental management
 - a. Number of police reports concerning contraventions reported within the PA. This can include theft and vandalism cases affecting the caravan site. (Such reports are logged at the Mellieha Police Station and deposited at District Police Headquarters. The number of such reports can be classified and evaluated over a given time period)
 - b. Level of public participation in tree planting exercises and other similar events. (Attendance at such events can be monitored and logged by the organisers of the activity. Such data can be relayed to the Management of the PA)
 - c. Levels of satisfaction expressed by visitors/users of the PA. (This shall be elicited by the application of social surveys – questionnaires and structured interviews – carried out periodically)
8. Value of PA as an example of shared environmental responsibility
 - a. Level of stakeholder participation in the management of the PA. (This can be evaluated through the composition of the management board, or similar organisations, that are responsible for the PA)
 - b. Number of participatory meetings held over a five-year period. (This indicator refers to the number of meetings where the views of the general public – not just the stakeholders – are sought over particular issues)
 - c. Number of national/international projects that involve the PA. (This indicator highlights inter/national interest in the site. One example of this is the INNOVA project which has identified Foresta 2000 as a case study area. Other projects can be simple student exchange programs involving even minor, focused research. The number of such projects, duly classified, over a given number of years can be easily compiled and evaluated by the PA management)

The stakeholder workshop – General Comments

- Most participants in the meeting were under the impression that we were asking them for suggestions regarding specific actions which needed to be tasked by the PA manager or “the authorities” in general. Values and threats were somewhat difficult to elicit despite repeated explanations of what we needed.
- A long, chequered history of public consultation/ participation in Malta ensured that several participants were rather unsure of what they needed to do. Most often the participants ended up complaining about specific issues rather than identifying values, threats, and indicators.

- Many farmers had difficulty in dissociating their own needs from the needs of the PA. They felt that these were interchangeable.
- The lowest response was in the identification of indicators. Most participants had little notion (if any) of what indicators were despite our repeated explanations. This is hardly surprising considering that their exposure to the concept was rather limited but we were expecting a greater degree of insight in this respect. It may be interesting to conduct an exercise where farmers are taught about the value of indicators over a longer period of time and their performance is subsequently evaluated.



Conclusions

The Protected Area (Foresta 2000) is at a critical phase since the Management Plan is currently under construction. The INNOVA experience provided useful support in this regard. The stakeholder identification process is a good example of this and the questionnaires and workshop yielded a useful set of values, objectives, and identified threats to the PA. The Community questionnaire revealed that such objectives and values closely coincided with those of the stakeholders.

A useful set of objectives and their relevant indicators resulted from the stakeholder workshop and this shall be utilised in drafting the management plan. The results of the workshop were sent to the participants to keep them informed about the outcomes and for their reactions. The net benefit of the workshop, however, is far more than mere consultation; stakeholders now firmly believe that they share a common sense of ownership and responsibility over the PA. This should foster a greater degree of trust in its management and ensure a greater degree of sustainability and security for the PA.