



Environment Protection Directorate
Malta Environment & Planning Authority

**NATIONAL REPORT ON THE
IMPLEMENTATION OF THE
UNITED NATIONS CONVENTION TO
COMBAT DESERTIFICATION**



April 2002

PREFACE

The compilation of this report, the first national report for Malta since ratifying the Convention in 1998 has been very useful and fruitful. Since the implementation of a soil erosion/desertification control management activity initiated in February 2000, a vast amount of work has been done towards addressing the problem of desertification. A lot has been achieved. However, one of the most useful achievements has been getting the main actors and stakeholders together around the same table to discuss and work towards one goal - that of harmonising environmental integrity and ensuring sustainable agriculture in Malta.

In this regards, the author is indebted to MAP PAP/RAC (UNEP) for ensuring the above through the partial funding and provision of technical assistance for the implementation of the activity within the CAMP Project. The continual support of Louis Vella (National Project Co-ordinator) has also been invaluable since he has made sure that this activity is carried out and given its due importance.

The success of this activity lies however with the National team of experts working on the activity, especially Avertano Role', Anthony Borg, Ivan Calleja (and Christine Tanti, the author). Their incessant dedication and enthusiasm as well as the technical input they have provided throughout the two years have resulted in a successful and fruitful activity.

Last but not least, the inputs of the main stakeholders has been of tremendous benefit to the activity.

The author is also grateful for the assistance and contribution of Avertano Role', the National Focal point for the UNCCD Committee for Science and Technology, towards the compilation of this report.

This national report has been written when the final activity report for the soil erosion/desertification control management activity is at its very end. Therefore, it is augured that this report in conjunction with the final activity document will hasten the setting up of a National Co-ordinating Body and therefore securing the continuation of a desertification control management in Malta.

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LIST OF ACRONYMS

CAMP	Coastal Area Management Programmes
CIHEAM	Centre International des Hautes Etudies Agronomics Mediterranee
COS	Central Office of Statistics
EPD	Environment Protection Department
EU	European Union
FAO	The Food and Agriculture Organisation of the United Nations
GIS	Geographic Information Systems
ICAM	Integrated Coastal and Marine Areas Management
IPCC	International Panel on Climate Change
MAP	Mediterranean Action Programme
MCSD	Mediterranean Commission for Sustainable Development
MEPA	Malta Environment and Planning Authority
NGOs	Non-Governmental Organisations
NSO	National Statistics Office
NW	Northwest (of Malta)
PA	Planning Authority
PAP	Priority Actions Plan
RAC	Regional Activity Centre
SI(s)	Sustainability Indicator(s)
SPSA	Systemic and Prospective Sustainability Analysis
UN	United Nations
UNEP	United Nations Environment Programmes
UNCCD	United Nations Convention to Combat Desertification
UoM	University of Malta
WSC	Water Services Corporation

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EXECUTIVE SUMMARY

The present report represents the first National report on the implementation of the UN Convention to Combat Desertification.

Soil erosion in the Maltese Islands has been recognised as a predominating desertification and land degradation process and a major threat to the sustainability of the agricultural sector. Malta's extensive terraces testify an age-old practice of soil conservation. However, this has traditionally necessitated heavy investment in the maintenance of terraces. Despite this, there have been very few, if any, attempts to appropriately address and mitigate for this widespread problem on a national level.

In the framework of the Mediterranean Action Plan (MAP) and within its Coastal Area Management Programme (CAMP), a project for Malta was launched in November 1999. The Project was oriented towards sustainable management of the coast of Malta (in particular the Northwest area). A Soil erosion/desertification control management activity was implemented within the CAMP Malta Project.

The general objective of the activity consisted in contributing to the national efforts towards sustainable management and environmental protection in Malta, achieved through:

- undertaking and completing systematic erosion/desertification surveys and mapping activities at different levels;
- providing proposals for remedial measures and conservation/rehabilitation/protection recommendations;
- contributing to the protection, rehabilitation and rational exploitation of the limited soil resources, scenic beauty and biodiversity, by applying updated and adapted erosion/desertification control management strategies and techniques.

The Project activity was implemented through the application of the new consolidated erosion mapping and assessing methodological procedure as defined in the "Guidelines for Erosion and Desertification Control Management with particular reference to Mediterranean Coastal Areas" (UNEP/MAP/PAP, 2000).

The mapping survey procedures mainly identified and assessed physical parameters and processes that were integrated during the synthesis phase with socio-economic factors such as land use, land tenure and urbanisation.

During the implementation of the activity, there was a constant concern for participatory approaches, sustainability assessment and monitoring and integration of sectoral surveys. As the participatory approach was considered as a pre-requisite for proper determination of priority areas and elaboration of sustainable remedial options, special emphasis was placed on formal and informal contacts with the stakeholders.

A set of sustainability indicators were also drawn up as a tool for the development of trends on erosion/desertification processes and control management strategies. The development of these indicators involved several discussions with the main land users/stakeholders who also endorsed the indicators.

As a result of the various field surveys, predictive/descriptive mapping and the integration of the socio-economic parameters, priority areas for immediate intervention were identified and categorised. The diagnostic analysis of the results clearly indicated that soil erosion (as a desertification process) is a common phenomenon which needs urgent attention, especially in the identified priority areas.



Fig. I Terracing is an age old measure to conserve soil

I. Introduction

Soil erosion in the Maltese Islands has been recognised as a problem and a major threat to the sustainability of the agricultural sector, due to a number of factors, i.e. aridity, low level of vegetation cover, topography and a set of human induced processes. Maltese farmers have long been aware of this problem and responded by creating an extensive series of terraces retained behind dry rubble walls. The major problem today is that many of these terraces are not adequately maintained, therefore increasing the threat of losing whatever soil has been retained for several hundreds of years.

The Government of Malta took measures towards soil conservation and control of desertification through the ratification of the United Nations Convention to Combat Desertification in 1998. Following this, a National awareness seminar on desertification and land degradation was organised in June 1998 by the Environment Protection Department¹ in collaboration with the Multilateral Affairs Department (Ministry of Foreign Affairs) and the Interim UNCCD Secretariat.

The Proceedings of this seminar were published (Baldacchino & Tanti, 1999) and these served as a useful eye-opener to the National authorities vis-à-vis the seriousness of the problem. The proceedings, together with a technical report "Soil erosion assessment and mapping in Malta" (Tanti, 1998) were presented to PAP/RAC (MAP, UNEP) as a justification for assistance in implementing a study on the erosion processes and related issues in Malta.

This was followed by the organisation of a national training course on "Guidelines for Mapping and Measurement of Rainfall-induced erosion processes in the Mediterranean coastal areas" by the Environment Protection Department where two senior consultants, from PAP/RAC and FAO provided their services (May, 1998). Representatives from the Environment Protection Department, Planning Authority¹, Department of Agriculture and University of Malta participated in this training course.

Technical and financial assistance were finally secured through an integrated coastal zone management project led by PAP/RAC, i.e. Coastal Areas Management Programme (CAMP). The growing impact of erosion processes and the enhanced risk of desertification as well as the present experience in the depletion of natural resources made it mandatory to consider erosion and desertification control management in the efforts for sustainable coastal management in Malta.

¹ As from 1st March 2002, the Environment Protection Department and the Planning Authority have been merged to form the Malta Environment and Planning Authority (MEPA). The Environment Protection Department is now the Environment Protection Directorate within MEPA.

The CAMP Malta Project was officially initiated in November 1999 and is currently in its final stages. It is envisaged that the results and outputs of the Project will be presented in a Final Integrated Project Document during a Presentation Conference around October 2002. The Final Integrated Project Document will also identify post project activities related to soil erosion/desertification for implementation in the following years.

I.1 Basic Information - the Maltese Islands

The Maltese Islands are a group of small islands located in the centre of the Mediterranean. The archipelago consists of three inhabited islands - Malta, Gozo and Comino, and a number of small uninhabited islets and rocks. Geologically, the islands are composed almost entirely of marine sedimentary rocks, mainly limestone of Oligo-Miocene age, capped by minor Quaternary deposits of terrestrial origin.

Due to its geographical location, the Maltese Islands have a typical Mediterranean climate: hot, dry summers and mild, humid winters. The average annual rainfall is around 524mm and the temperature generally varies between 7°C and 15°C in January to between 25°C and 35°C in August. Projected changes in precipitation and temperature patterns induced by climate change phenomena may aggravate the present regime².

The five main rock types of Malta are the Lower and Upper Coralline Limestones, Globigerina Limestone (subdivided into the Lower, Middle and Upper Globigerina), Blue Clay and Greensand. Since the limestone rocks are highly soluble, the soils in Malta are generally shallow and high in alkalinity (due to the high concentration of the insoluble calcium carbonate). The clay layers tend to provide the most material for soil, therefore increasing soil depth. The layers of greensand provide quartz which also give some soil depth. The soils of Malta are typically terra rossa soils.

In situ, the Globigerina and Coralline limestones and Blue Clay strata are important in terms of the Island's natural water resources. Rainwater percolates through the porous limestone rock and accumulates in natural underground water reservoirs, the aquifers, which are the only natural freshwater source of the country. These perched aquifers are also the main source of fresh water for farmers who tap the water for irrigation.

² Climate change models endorsed by IPCC concur that precipitation in central Mediterranean areas may not necessarily decrease but precipitation is expected to fall within a shorter period of time. This would mean that the intensity of rainfall would increase whilst the longer summer drought would place greater stress on natural vegetation area.

Erosion of the different rock types gives Malta its characteristic topography. The Lower and Upper Coralline limestones form the sheer cliffs at the southwest side of the island; the karstic landscape is also a result of erosion by rain of the Coralline limestones. Globigerina limestone forms exposed rock formations.

Characteristic topographic features of importance are the *rdum*, near vertical faces of rock formed either by erosion or by tectonic movements. Their bases are surrounded by screes of boulders eroded from the *rdum* edges. These boulders may end up in fields thereby reducing agricultural activity. Also, at the base of the *rdum*, land holdings are marginal due to a number of factors:

- i. greater slopes, therefore higher retaining rubble walls required which in turn require greater maintenance;
- ii. narrow terraces,
- iii. continual threat of boulders damaging the retaining rubble walls.

Two types of valleys are recognised in Malta. The graben structures are formed by down faulting to form broad flat bottomed valleys. These tend to be used extensively for arable agriculture and afford relatively large land holdings. The other type of valleys is the *wied* (plural *widien*). These drainage channels presenting rather steep slopes were formed either by stream erosion during a previous much wetter climatic regime or by tectonism or by a combination of both. Most *widien* are now dry valleys, where water flows through the watercourse only during the wet season. A few valleys drain perennial springs and have some water flowing through them for a large part of the year, depending on precipitation. These slopes have been extensively terraced to allow cultivation (Fig.I.1). Risk of soil erosion in such valleys depends upon maintenance of terraces, especially where clay slopes outcrop along the valley sides. Farmers tend to draw water for irrigation from springs found along the watercourse.

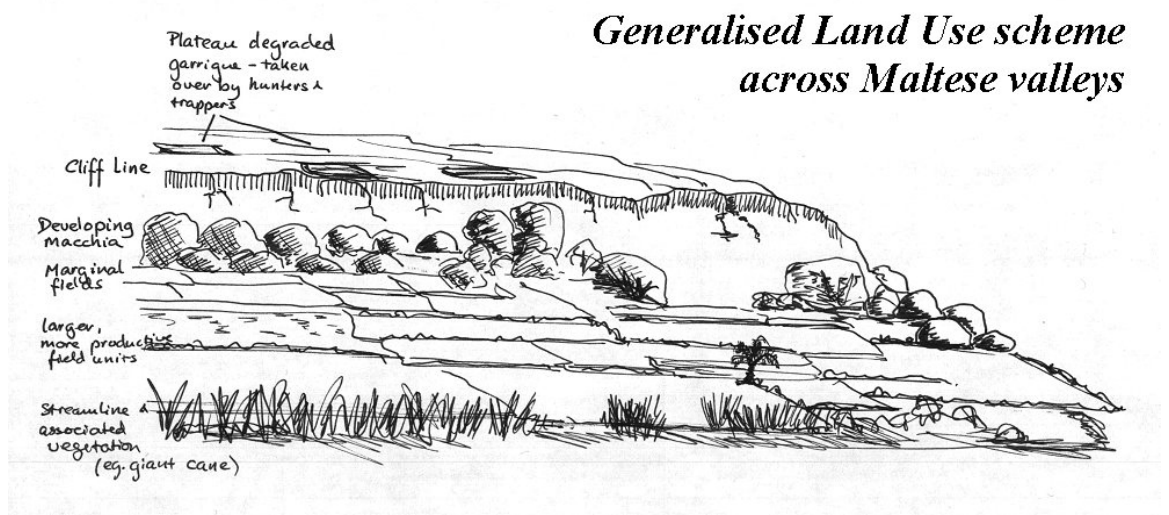


Fig.I.1 Generalised land use scheme across Maltese valleys (A. Role', 2000)



II. The CAMP Malta Project

Within the framework of the Mediterranean Action Plan (MAP) and within its Coastal Area Management Programme (CAMP), a project for Malta was launched in November 1999, to be completed by 2002. The implementation of the project is harmonised, co-ordinated and integrated at the level of individual project activities and at the project level. The Project was oriented towards sustainable management of the coast of Malta, in particular the Northwest area, whilst introducing and applying principles, methodologies and practices of sustainable coastal management and Integrated Coastal and Marine Areas Management (ICAM). The Project was co-ordinated locally by the Environment Protection Department and PAP/RAC, which also partially funded the Project and provided technical assistance.

II.1 Soil erosion/desertification control management activity

CAMP is performed through individual activities. The activity related to management of erosion control was implemented by an interdisciplinary team of selected national experts and officials from the main organisations (EPD, PA, Department of Agriculture & University of Malta) working together to achieve this goal.

The general objective of the project activity was contributing to the national efforts towards the sustainable management of resources and environment protection in Malta. This was achieved by undertaking and completing systematic erosion/desertification surveys and mapping activities at two scales: the Northwest (the CAMP Project study area) and three pilot areas within the Northwest, where a more detailed study was carried out. These pilot areas represented typical features of the Northwest, namely fields along the coastal fringe, terraced and flat lands and a valley system exhibiting typical slope processes.

II.1.1 Conceptual framework

Mapping is an essential tool for the knowledge of the distribution and geographic extent of the erosion phenomena. The common consolidated methodology of mapping of rainfall-induced erosion in the Mediterranean coastal areas (PAP/RAC, 1997) provides instructions for both predictive and descriptive mapping of erosion phenomena. This methodology was applied and adapted to Northwest Malta and to three pilot areas in the Northwest.

The activity was implemented by applying the basic conceptual approach of the new consolidated erosion mapping and assessing methodological procedure of UNEP/MAP/PAP (2000) (Fig.II.1).

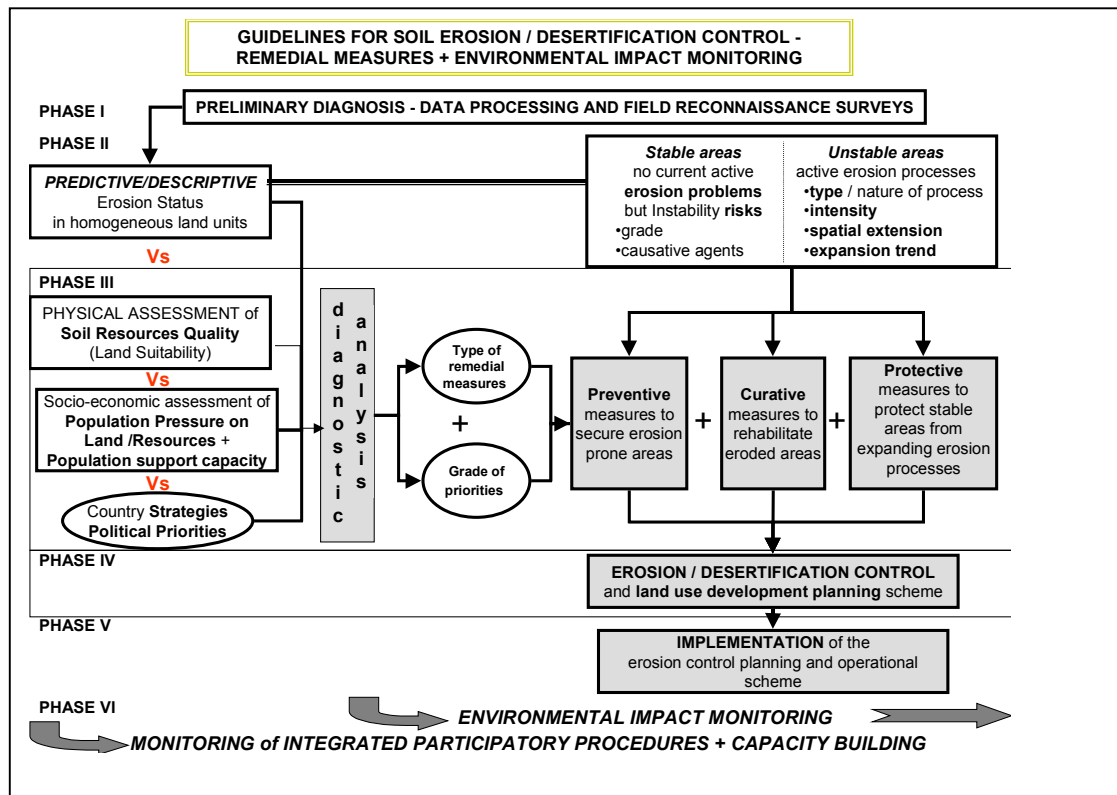


Fig.II.1. Integrated erosion/desertification control management procedure (UNEP/MAP/PAP, 2000)

Detailed methodologies and results are given in the Final Activity Document (Tanti C., 2002).

The major output of the activity has been the production of a series of site-descriptive maps (1:2,500) for the three pilot areas. Actual on-site erosion processes were identified and assessed. The different grades of erosion risk and evolutive trends were also assessed. An example of the final digitised (MAP Info) map is given in Fig.II.2.

A predictive erosion risk map for the Northwest (based on a scale of 1:25,000) has also been produced. Erosion status homogenous units and the general erosion potential and trends were mapped. The basic physical parameters, namely slope, geology, soils, land vegetation cover and land use were identified, assessed and integrated to determine the erodibility-potential erosion.

During this phase, an important and valuable mapping layer – the state of repair of rubble walls and terraces was created for the Northwest³. The production of this thematic map was perceived to be crucial within the Maltese context since vegetation cover on the islands is very limited. The vegetation cover layer proposed by the methodology (UNEP/MAP/PAP 2000) has little relevance to the Maltese case. On the other hand, terraces and the state of repair of retaining rubble walls play a far greater role in ensuring soil conservation.

During the synthesis phase, socio-economic factors, such as land tenure were integrated. Therefore, following the various field surveys, the predictive and descriptive mapping and the integration of socio-economic parameters, priority areas for immediate intervention were identified and categorised. Preventive, curative and protective remedial measures were also proposed.

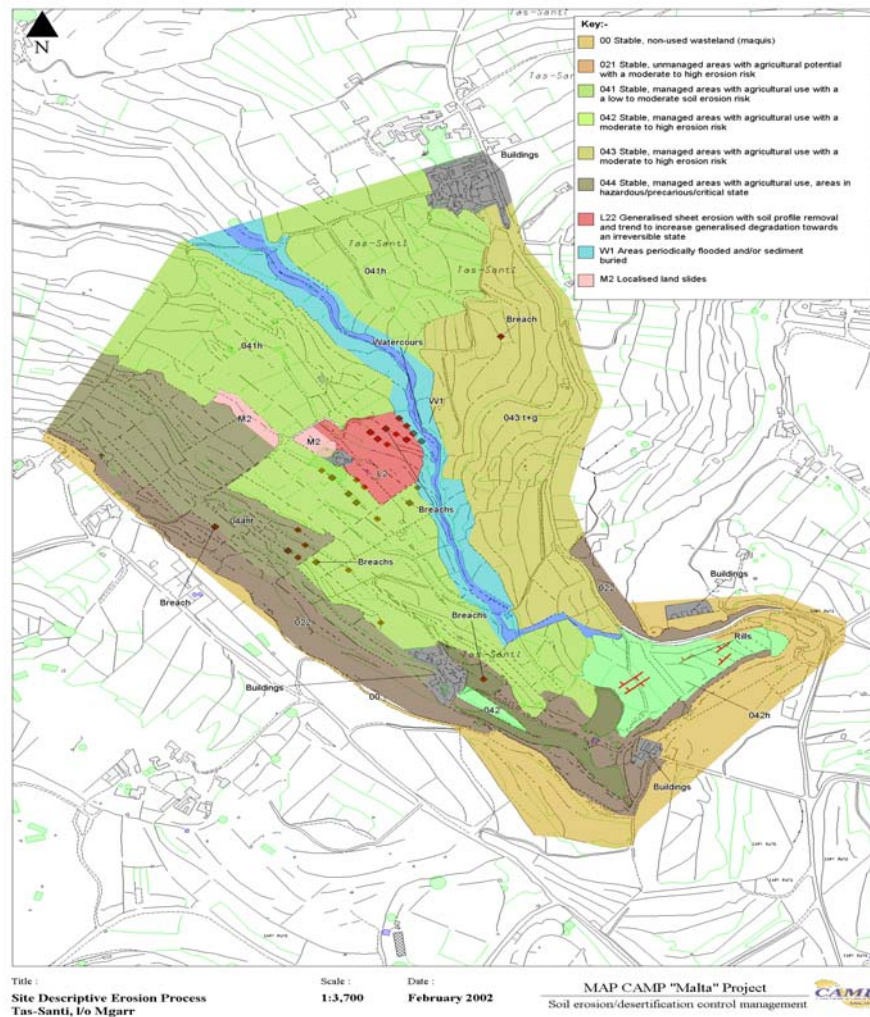


Fig.II.2 Erosion status map for Tas-Santi valley I/o Mgarr, Malta (2000)

³ The production of this map was based on field observations carried out between June and August 2001 by the National team. The results were digitised into MAP Info and integrated with other geographical layers.

II.1.2 Other outputs

Another main output of the activity was the preparation of the Final Activity Document (Tanti C., 2002) which lays the foundation for strategy development and an action framework for soil erosion/desertification control management. Since the activity also concentrated on environmental and planning issues, the document serves as tool for the protection of the environment as well as a planning tool.

Through this activity, the persons to be nominated on the National Co-ordinating Body were identified. In fact, the Document serves as a good sound basis for the setting up of the NCB as well as a justification for the funding of this NCB. The work that was carried out within the CAMP Project will provide the ground work for the NCB.

III. Participation of Stakeholders/actors

An interactive participatory approach was considered as a pre-requisite for the proper determination of priority areas and elaboration of sustainable remedial options. Therefore, emphasis was placed on formal and informal contacts with the key stakeholders to design and implement erosion/desertification activities.

The first exercise taken in this regards was the identification of major stakeholders. Farmers and their Co-operatives were identified as being the main stakeholders since they are the ones working the land. Other actors who may have a role in erosion control management include hunters/trappers, land owners and NGOs.



Plate III.1. Members of the National team speaking to a farmer on the field (2000)

Regular formal meetings with the farmers and their Co-operatives were very successful and were followed by informal meetings on the field (Plate III.1). This exercise also assisted the National team to have a different perception of the problem the farmers are encountering.

Furthermore, NGOs were also involved in this activity. Nature Trust as the main CAMP NGO was mostly involved with the dissemination of information to the public by organising on site information field sessions. The Fondazjoni Wirt Artna (FWA) was involved through the organisation of a campaign for increasing consciousness of the importance of rubble walls as soil retaining structures. The FWA was also responsible for securing funds for the organisation of a regular course in the revival of the skill of traditional rubble walls building.

Regular meetings with the local authorities, especially those occurring in localities with a high percentage of agricultural land were held.

The involvement of the scientific community was secured through the Institute of Mediterranean studies (University of Malta) which was represented also on the National team. Several lectures at the University as well as to the Geography Teachers' Association were given on the issues and processes of land degradation and soil erosion in Malta. University dissertations were also geared towards desertification by the undertaking of specific issues on land degradation, e.g. the effect of salinisation and the state of terracing and rubble walls in specific valleys located on the two main Islands.

Another step taken was to pictorially describe the main processes of soil erosion. This proved to be a very useful tool especially for school children and teachers.

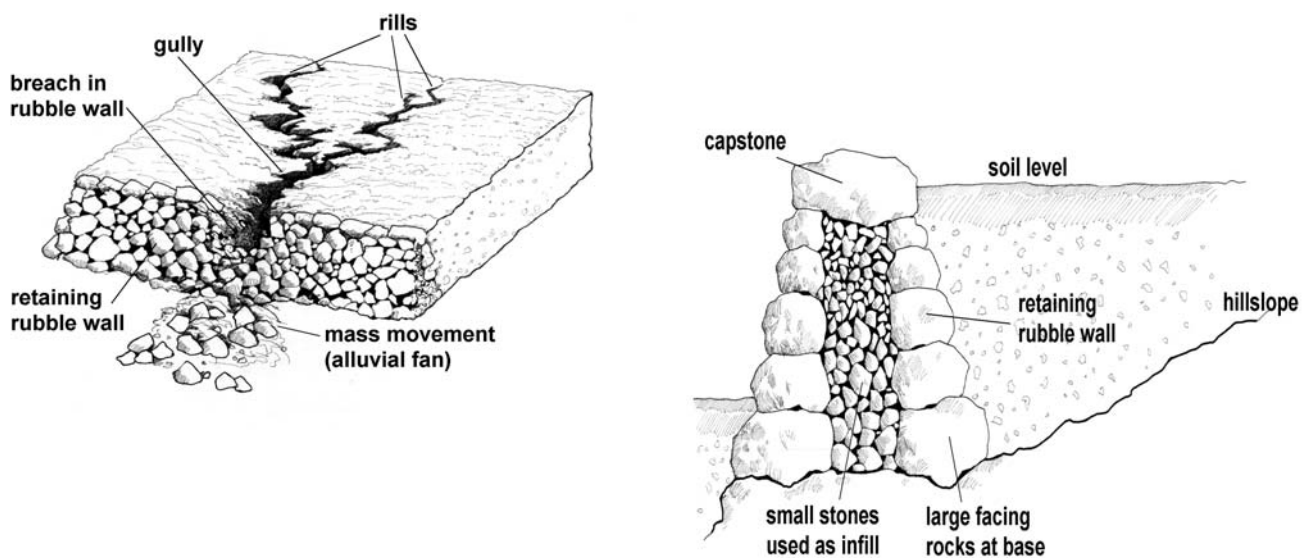


Plate III. 2 Examples of soil erosion processes

A public participation week was organised through the CAMP Malta Project by the drawing up of an exhibition (Plate III.3). At least 200 Secondary school children visited this exhibition. During this week, information re soil erosion processes and issues in Malta as well as the UNCCD were given. Members from the National team were always present to answer any queries asked by the public.



Plate III.3 CAMP Malta Project Exhibition – showing the erosion/desertification exhibits (2001)

In addition to the above, several articles on the subject were written and published. These included two separate articles (English) published on local papers; two separate articles (Maltese) published on a local farmers' journal (published by the local Department of Agriculture) and two separate articles published in a children's journal (Maltese).

Furthermore, two separate radio programmes (on a programme specifically for farmers) were recorded by the National team and transmitted. This also proved to be a success since the Team received a substantial amount of feedback following these programmes. Finally, a 10 minute TV slot on the local station was allocated where a journalist interviewed the National team leader on the subject of erosion and its control in Malta.

III.1 List of potential stakeholders vis-à-vis land degradation and soil erosion

A tentative list of the potential stakeholders that may have an effect on soil erosion/land degradation/desertification was drawn up as follows:

- | | |
|--|---|
| 1. National Team of experts | 12. Joint Office |
| 2. Environment Protection Directorate (MEPA) | 13. Administrative Law Enforcement (Police) |
| 3. Ministry/Department of Agriculture | 14. University of Malta |
| 4. Institute for Water Technology (WSC) | 15. NGOs |
| 5. Malta Tourism Authority | 16. MAP/PAP/RAC |
| 6. Farmers' Co-operatives | 17. FAO |
| 7. Local Councils | 18. CIHEAM |
| 8. National Statistics Office | 19. European Commission |
| 9. Works Division | 20. UNCCD Secretariat |
| 10. Civil Protection Department | 21. Media |
| 11. Lands Department | 22. Teachers |
| | 23. Geography Teachers' Association |

IV. Sustainability Indicators

Identification and preparation of a set of monitoring indicators is an integral part of an erosion control management programme (UNEP, 2000). Therefore, a set of indicators was drawn up. These serve as a tool for the development of trends on erosion/desertification processes as well as the monitoring of the implementation of control management strategies.

The drawing up of the indicators was based on the approach adopted by Blue Plan (UNEP/MAP) through the systemic and prospective sustainability analysis implemented in the Malta CAMP Project (A full report of this exercise has recently been published by Blue Plan, 2002). This exercise involved training courses and workshops for the Project team members as well as the main stakeholders who were involved in the development and eventual endorsement of the final set of SIs.

Five main indicators were identified for erosion/desertification control – the number of flood warnings, land tenure, the number and length of breaches in rubble walls and the number of monetary claims for compensation of storm damages to the fields. Finally, the source of data for monitoring was identified and real data collected such that scenarios for the future could also be developed.

Indicator 1. Official flood warnings			
Description	Source of data	Time factor	Interpretation of indicator
The flood warning gives a warning for a certain amount of precipitation and intensity which will lead to a volume of water that is hazardous for safety of humans in urban and specific areas which are prone to flooding.	Civil Protection Department	Seasonal/ yearly	This indicator gives a good estimate of the intensity and volume of water following a rainstorm. The greater the number of flood warnings in a particular season, the greater the risk of soil erosion. Most serious flood warnings expected to occur around beginning of autumn when farmers deep plough fields and therefore no vegetation cover can mitigate rain splash effect.

Indicator 2. Land tenure			
Description	Source of data	Time factor	Interpretation of indicator
Land tenure is described as the percentage of agricultural land owned and farmed by occupying farmer (owns title of that land).	Lands Department and Joint Office	Decade	Farmers owning land they work tend to be more willing to invest in agricultural productivity of their holdings, i.e. irrigation; water retention structures; e.g. reservoirs; building and maintaining rubble walls. Also, any soil lost from the fields has to be replaced by the farmer himself at a considerable amount.

Indicator 3. Number of claims for compensation			
Description	Source of data	Time factor	Interpretation of indicator
Compensation (monetary and other depending on availability) was given to farmers suffering for storm damages (including wind storm/whirlwind, flashfloods). Soil loss is one of the claims (e.g. 19/11/98). Claims could be monetary or in kind, i.e. material including soil.	Department of Agriculture	Seasonal	A decrease in the number of claims shows that less damage is done to agricultural holding (maintenance of rubble walls and terraces), therefore indicating better maintenance regime within farming community.

Indicator 4. Number and length of beaches in rubble walls (2 indicators)			
Description	Source of data	Time factor	Interpretation of indicator
A breach can be described wherever the level of soil is higher than the retaining rubble wall and wherever there is a physical evidence of failure to the retaining wall, therefore exposing the soil layer at that particular point.	Erosion/desertification national team (CAMP Malta Project)	Seasonal	A high number of breaches in retaining rubble walls indicate that a considerable amount of soil is being lost following rainfall as well as an increase in annual rainfall intensity. The state of repair of rubble walls is linked to land tenure since farmers owning the land tend to maintain the rubble walls.

Table IV.1 Proposed Sustainability indicators for erosion control management

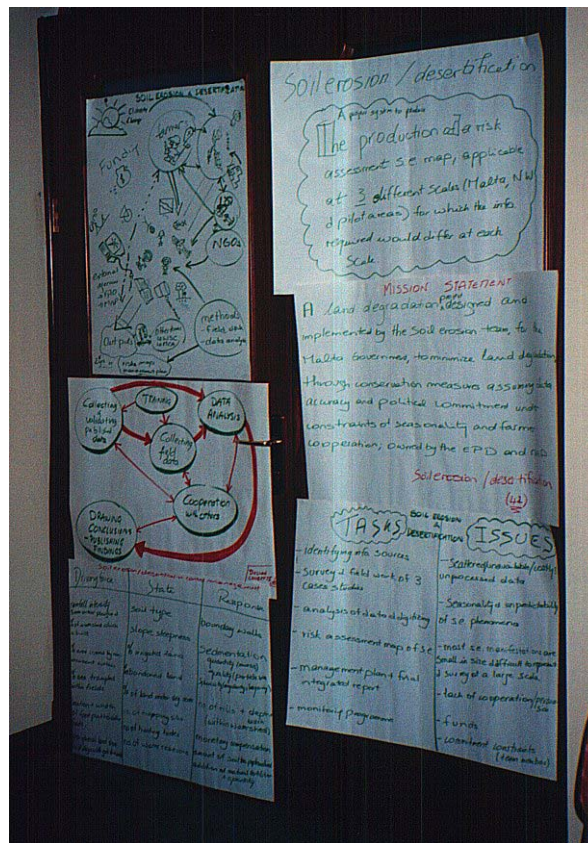


Plate IV.1 Drawing of up SIs involved various training courses & workshops (2000-2002)

V.1 Legal and regulatory framework

Clearly defined national policies on land use and soil conservation are a precondition for successful management of erosion/desertification control programmes (UNEP/PAP/MAP, 2000). The existing Maltese legislation was thus reviewed and analysed. As such, there are no regulations that explicitly tackle the problem of soil erosion. However, since soil has been recognised as an invaluable resource, there are particular regulations that protect soil.

- Legislation falling under the responsibility of the Ministry for Agriculture

Agricultural Leases (Reletting) Act 1967

Under this act, the landlord may wish to impose lease conditions on the tenant, thus resulting in a shift of responsibility of the maintenance of rubble walls from the landlord to the tenant. Failure to maintain the rubble walls may lead to a legal suit to evict the tenant.

Fertile Soil (Preservation) Act 1973 - Amended in 1983 [Act XXIX of 1973] & Preservation of Fertile Soil Regulations, 1973 [L/N 104/1973]

No person may transport soil to any site for any purpose in larger quantities than one half cubic metre without permission from the Director of Agriculture. Fertile soil is not to be covered with stones or similar material. All soil effected by building development has to be removed from site and transported elsewhere.

- Environment Protection Act, 1991 [Act V of 1991](Revised 2001)

This Act provides the legal framework for the protection of the environment against activities and practices that are potentially harmful. The provisions of this Act seek a holistic treatment of the environment, and therefore include soil and agricultural land.

Rubble Walls & Rural Structures (Conservation & Maintenance) Regulations 1997

Rubble walls and non-habitable rural structures are protected, in view of their exceptional beauty, their affording a habitat for flora and fauna and their vital importance in the conservation of soil and of water.

These regulations prevent any person from demolishing or endangering by any means whatsoever, the stability or integrity of any rubble wall or to prevent the free percolation of rainwater through the structure of a rubble wall.

Motor Vehicle (Offroading) Regulations 1997

No person is allowed to drive any motor vehicle other than in a locality which is marked as an offroading site (any place authorised in writing by the Environment Protection Department). These regulations thus prevent activities that have an impact on the soil structure, thereby increasing soil erosion risk.

- Development Planning Act, 1992 [Act I of 1992] & Act to Amend the Development Planning Act 1997 [Act XXIII of 1997]

This Act provides legal mechanism for the planning, management and control of development, and ancillary provisions such as legal protection of sites of conservation value. It is highly relevant to the agriculture-environment interface since it provides for land use planning, control of agricultural development in the countryside and control of development at the expense of agricultural land.

Local Plans (Soil Conservation)

Soil conservation and soil saving measures will continue to be mandatory in accordance with the Fertile Soil (Preservation) Act 1973. Development will only be granted if existing rubble walling is suitably constructed or if new walling is required, it must be constructed to the satisfaction of the Planning Authority using traditional methods which are compatible with the landscape.

- Other related documents

A Rural strategy topic paper is being currently drawn up for the review of the Structure Plan (the main planning document in Malta). A Rural development plan is also currently being compiled by the Department of Agriculture. Issues and problems of land degradation and soil erosion are being taken into consideration during the compilation of these reports.

V.1 National profile for the implementation of the UNCCD

a) UNCCD ratification

The Government of Malta ratified the Convention in January 1998.

b) UNCCD National focal point

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d) UNCCD national events

In June 1998, a National Awareness seminar was organised at the Foundation for International Studies, Valletta, Malta. The Proceedings of this Seminar (published in English) were widely distributed free of charge during the first two years following the seminar. Public and school libraries were given a copy. Copies are now available on sale in leading book shops and are available also from the Environment Protection Directorate on request.

e) Organisations relevant to the UNCCD

The list given is preliminary and not meant to be totally comprehensive. It is envisaged that more institutions and persons would be added after further consultations.

i. Institutions and Agencies

- Christine M Tanti
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iii. Farmers' Co-operatives

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iv. NGOs

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References

Baldacchino, A. E. & C. M. Tanti (1999) National Awareness Seminar on land degradation and desertification - Proceedings of Seminar 3rd - 4th June, 1998, Malta. Environment Protection Department, Floriana, Malta.

Borg, V. (1993) Soil Loss by Rain and Wind Erosion in Malta Unpublished Diploma Dissertation in Agriculture, University of Malta.

Environment Protection Department (1999) State of the Environment report. Environment Protection Department, Floriana, Malta

MAP/RAC & UNEP (1997) Report of the Training Course on Mapping of Erosion Processes in Mediterranean Coastal Areas Priority Actions Programme Regional Activity Centre, Split, Croatia.

PAP/RAC (1997) Guidelines for Mapping and Measurement of Rainfall-Induced Erosion Processes in the Mediterranean Coastal Areas PAP-8/PP/GL.1. Split, Priority Actions Programme Regional Activity Centre (MAP/UNEP), with the co-operation of FAO.

Tanti, C. (1998) Soil erosion assessment and mapping in the Malta. Technical report prepared for UNEP Priority Actions Programme, Regional Activity Centre (PAP/RAC), Split.

Tanti, C. (2002) Soil erosion/desertification control management - Final Activity Document MEPA, Floriana, Malta