

REPORT 3: ENVIRONMENTAL REPORT

STRATEGIC ENVIRONMENTAL ASSESSMENT ON MALTA'S OPERATIONAL PROGRAMMES 2007-2013

VERSION DATED: 30 NOVEMBER 2006

Strategic Environmental Assessment (SEA) of Malta's Operational Programmes 2007-2013

Report 3: Environmental Report

**Prepared for the Planning and Priorities
Coordination Division within the Office of the
Prime Minister
by**

**Adi Associates
Environmental Consultants Ltd**

November 2006

This report has been prepared by Adi Associates Environmental Consultants Ltd with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our Standard Terms and Conditions and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

**Adi Associates Environmental Consultants Ltd
2nd Floor, BSL Centre
B'kara Road
San Gwann SGN 08**

**Tel / Fax: 2137 8172 – 21378177 - 21378180
Email: info@adi-associates.com**

Web: <http://www.adi-associates.com>

QUALITY ASSURANCE

SEA of Malta's Operational Programmes Report 3: Environmental Report

Version : 2

Report for:

Planning & Priorities Coordination Division
Office of the Prime Minister
Castille Palace
Valletta



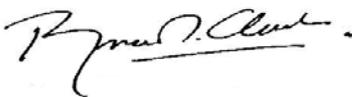
.....
Rachel Xuereb

Director
Adi Associates



.....
Kevin Morris

Director
Adi Associates



.....
Brian Clark
Independent Consultant

November 2006

CONTENTS

GLOSSARY	vii
CHAPTER 1: INTRODUCTION	I
STRATEGIC ENVIRONMENTAL ASSESSMENT PROCESS	1
Guidance	2
STRUCTURE OF ENVIRONMENTAL REPORT	3
CHAPTER 2: MALTA'S OPERATIONAL PROGRAMMES	5
INTRODUCTION.....	5
MALTA'S SINGLE PROGRAMMING DOCUMENT 2004-2006.....	6
Cohesion Fund.....	7
MALTA'S OPERATIONAL PROGRAMMES 2007-2013.....	8
National Strategic Reference Framework	8
Operational Programme I	9
RELATION OF OP I TO OTHER NATIONAL DOCUMENTS & LEGISLATION	23
CHAPTER 3: SEA METHODOLOGY	25
INTRODUCTION.....	25
DETERMINING THE SCOPE OF THE SEA	25
ASSESSMENT PROCESS	26
Link to Other Assessments	26
ALTERNATIVES	26
CHAPTER 4: ENVIRONMENTAL BASELINE	30
INTRODUCTION.....	30
LIMITATIONS OF DATA.....	32
AIR QUALITY AND CLIMATE CHANGE.....	33
Air Quality	33
Climatic Factors.....	39
ENERGY-EFFICIENCY AND RENEWABLE ENERGY RESOURCES	41
BIODIVERSITY	43
FRESHWATER.....	48
Water Framework Directive.....	53
WASTE.....	53
MARINE AND COASTAL ENVIRONMENT	56
LAND USE.....	61
TRANSPORT	64
NATURAL AND TECHNOLOGICAL RISKS.....	66
Oil Spills.....	66
Floods	67

LEISURE AND THE ENVIRONMENT.....	69
Landscape.....	69
Cultural Heritage.....	71
Noise, Dust and Light Pollution.....	71
EVALUATION OF THE CURRENT SITUATION IN THE ABSENCE OF THE OP.....	72
Air Quality and Climate Change.....	73
Energy-efficiency and Renewable Energy Resources.....	73
Biodiversity.....	74
Freshwater.....	74
Waste.....	75
Marine and Coastal Environment.....	75
Land Use.....	76
Transport.....	76
Natural and Technological Risks.....	77
Leisure and the Environment.....	77
CHAPTER 5: SEA FRAMEWORK	78
INTRODUCTION.....	78
SEA OBJECTIVES & INDICATORS.....	79
Relevance of the SEA Objectives to the Priority Axes	83
CHAPTER 6: IMPACT ASSESSMENT	88
INTRODUCTION.....	88
ASSESSING SIGNIFICANCE.....	88
ASSUMPTIONS MADE DURING THE ASSESSMENT	89
IMPACT ASSESSMENT.....	95
Summary of the Assessment	122
Cumulative & Synergistic Impacts.....	123
Mitigation Measures.....	125
Provision of Advice to Applicants	126
Provision of Checklists for Funding Application Assessors.....	126
Project Planning.....	126
Staff Training.....	126
Biodiversity Issues.....	127
Waste Management.....	127
Noise, Dust, and Light Pollution.....	127
Climate Change	127
Cultural Heritage.....	128
Land.....	128
CHAPTER 7: MONITORING	129
INTRODUCTION.....	129
DIFFICULTIES ENCOUNTERED.....	129
MONITORING PROPOSALS.....	130
Consideration of the final content of the OP.....	131

REFERENCES..... 132

FIGURES

Figure 4.1: Ozone levels in Malta: 2003-2004.....	34
Figure 4.2: Nitrogen Dioxide levels in Malta: 2003-2004.....	35
Figure 4.3: Sulphur Dioxide levels in Malta: 2003-2004	37
Figure 4.4: Benzene levels in Malta: 2003-2004.....	38
Figure 4.5: Greenhouse gas emissions: 1990 - 2003	39
Figure 4.6: CO ₂ emissions by sector: 1990 - 2003	40
Figure 4.7: Average temperature and total rainfall: 1950 - 2000.....	40
Figure 4.8: Sectoral Electricity Consumption	42
Figure 4.9: Energy Balance.....	43
Figure 4.10: Designated and managed areas	46
Figure 4.11: Percentage protection of local species of international importance: 2002 - 2005	48
Figure 4.12: Water consumption by sector: 2003.....	49
Figure 4.13: Quantitative status of Malta's groundwater bodies: 2004.....	50
Figure 4.14: Levels of Nitrates and Chlorides at abstraction boreholes: 2004.....	52
Figure 4.15: Waste arriving at principal waste management facilities by type	54
Figure 4.16: Bring-in Sites and major waste management facilities.....	55
Figure 4.17: Waste Separated and Recycled: 2004.....	56
Figure 4.18: Built-up Coast: 2004	57
Figure 4.19: Trends in Microbiological Status of Bathing Water: 2001, 2004	59
Figure 4.20: Percentage of Samples by Faecal Coliform Counts: 1996-2004	60
Figure 4.21: Corinne Land Cover 2000	62
Figure 4.22: Areas from which urban areas are visible.....	63
Figure 4.23: Total number of sold public transport tickets: 1989-2005.....	65
Figure 4.24: Trends in air travel: 2000-2005.....	66
Figure 4.25: Flood Prone Areas	68
Figure 4.26: Landscape Sensitivity Areas and Landscape Protective Designations.....	70

TABLES

Table 1.1: Key stages in the SEA process	2
Table 2.1: Priorities and corresponding measures	7
Table 2.2: Key outputs, results and impacts for Priority Axis 1	12
Table 2.3: Key outputs, results and impacts for Priority Axis 2.....	14

Table 2:4: Key outputs, results and impacts for Priority Axis 3.....	15
Table 2:5: Key outputs, results and impacts for Priority Axis 4.....	16
Table 2:6: Key outputs, results and impacts for Priority Axis 5.....	19
Table 2:7: Key outputs, results and impacts for Priority Axis 6.....	20
Table 2:8: Key outputs, results and impacts for Priority Axis 7.....	22
Table 2:9: Key outputs, results and impacts for Priority Axis 8.....	22
Table 4.1: Environmental baseline	31
Table 4.2: Current status of selected groups of species	44
Table 4.2: Road length by category: 2005.....	64
Table 4.3: Traffic comparison: Vehicle – km per Annum: 2000, 2006	65
Table 4.4: Oil Spills that were dealt with by Oil Pollution Response Module: 2005	67
Table 4.5: Antiquities List.....	71
Table 5.1: SEA Environmental Objectives & Criteria for Assessing Impacts.....	80
Table 5.2: Direct relevance of the SEA Objectives to the Priority Axes.....	86
Table 6.1: Assessment legend.....	88
Table 6.2: Assumptions made in the assessment for each of the Priority Axes.....	89
Table 6.3: Policy Assessment framework	96
Table 6.4: Summary of potential impacts of the OP	123
Table 6.5: Summary of cumulative environmental effects of the OP	124
Table I Analysis of Related Plans, Programmes, and Legislation.....	6
Table 2: Environmental baseline	18
Table 3: SEA Environmental Objectives & Criteria for Assessing Impacts	22
Table 4: Relevance of the SEA Objectives to the Priority Axes	24
Table 5: Assessment legend.....	27
Table 6: Example Policy Assessment framework and format for environmental report.....	28
Table 7: Structure of the Environment Report.....	32

APPENDICES

- Appendix 1: Programme Description Statement prepared by PPCD
- Appendix 2: Scoping Report
- Appendix 3: Other Plans and Programmes and Legislation relevant to the OP

GLOSSARY

ADT	Awtorita dwar it-Trassport (Malta Transport Authority)
BIC	Business Incubation Centre
CF	Cohesion Fund
CH ₄	Methane
Cl	Chlorine
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CSF	Community Support Framework
CSG	Community Strategic Guidelines
EAFRD	European Agricultural Fund for European Development
EAGGF	European Agricultural Guidance and Guarantee Fund
EC	European Commission
EFF	European Fisheries Fund
EIA	Environmental Impact Assessment
ERDF	European Regional Development Fund
ESF	European Social Fund
EU	European Union
FIFG	Financial Instrument for Fisheries Guidance
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIS	Geographic Information System
GMO	Genetically Modified Organisms
GRDP	Greening Regional Development Programme
ICT	Information and Communications Technologies
ISPA Programme	Instrument for Structural Policies for Pre-Accession Programme
LN	Legal Notice
LPG	Liquefied Petroleum Gas
LRP	Lead-Replacement Petrol
MDGs	Millennium Development Goals
MEPA	Malta Environment and Planning Authority
MIA	Malta International Airport
MICE	Meetings, Incentives, Conferences and Exhibitions
N ₂ O	Dinitrogen oxide
NAP	National Allocation Plan
NGOs	Non-Governmental Organisations
NMVOG	Non-Methane Volatile Organic Compound
NO ₂	Nitrogen Dioxide
NO ₃	Nitrate
NO _x	Nitrogen Oxides
NRP	National Reform Programme
NSO	National Statistics Office

NSRF	National Strategic Reference Framework
O ₃	Ozone
ODZ	Outside Development Zone
OP	Operational Programme
OPM	Office of the Prime Minister
PDS	Plan/Programme Description Statement
PEPFAA	Prevention of Environmental Pollution from Agricultural Activities
PM ₁₀	Particulate Matter
PPCD	Planning & Priorities Coordination Division
R & D	Research and Development
RDP	Rural Development Plan
RPAC	Regional Project Assessment Committee
RTDi	Research and Technological Development and Innovation
SAC	Special Areas of Conservation
SEA	Strategic Environmental Assessment
SEPA	Scottish Environmental Protection Agency
SME	Small and Medium-Sized Enterprises
SO ₂	Sulphur Dioxide
SPA	Specially Protected Areas
SPD	Single Programming Document
SWOT	Strength, Weaknesses, Opportunities and Threats
TEN-T Network	Trans-European Network for Transport
TINA	Transport Infrastructure Needs Assessment
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
WHO	World Health Organisation

CHAPTER I: INTRODUCTION

1. This Environmental Report describes the Strategic Environmental Assessment (SEA) in relation to Malta's Operational Programme I (OP I) 2007-2013 covering the entire territory of the Maltese Islands. The Operational Programme is coordinated by the Planning Priorities & Coordination Division (PPCD) within the Office of the Prime Minister.
2. The Strategic Environmental Assessment, Regulations 2005¹, which implement European Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment, require that a SEA of a wide range of plans and programmes is carried out prior to the implementation of the plan or programme. Malta's OP I falls within the scope of the Regulations.
3. Adi Associates Environmental Consultants Ltd in conjunction with Professor Brian Clark (hereafter referred to as "the Consultants") were awarded the contract to undertake the SEA of the OP I 2007-2013.

STRATEGIC ENVIRONMENTAL ASSESSMENT PROCESS

4. The objective of the "SEA Directive" is to provide a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans with a view to promoting sustainable development. It is the process of evaluating the environmental impacts of any proposed plan/programme likely to have significant effects on the environment. The SEA process helps to inform the decision making process and the final plan/programme with the aim of improving the final programme in order to promote sustainable development. In addition, the SEA process aims to increase public involvement in environmental decision making, with consultation at various stages in the SEA process being a requirement of the Regulations.
5. The SEA Regulations, 2005 require that:
 - A Plan / Programme Description Statement (PDS) is submitted to the Competent Authority when a proponent intends to prepare a plan or programme that is likely to require a SEA;
 - A Scoping Report is produced and submitted to the Competent Authority and consultation is carried out on the PDS and the Scoping Report; and
 - Consultations on the Scoping Report and the Environmental Report are carried out in accordance with the time frames set out in the Regulations.
6. The Programme Description Statement, which has been prepared by PPCD, on behalf of the Maltese Government, is found in **Appendix I**. This was submitted to the Malta Environment & Planning Authority (MEPA) in May 2006.

¹ Legal Notice 418 of 2005

7. The Scoping Report was prepared by the Consultants following discussions with PPCD, MEPA, the Department of Public Health and a number of identified stakeholders². **Appendix 2** contains the Scoping Report and includes a list of stakeholders and the issues that emerged from the stakeholder meeting. It is noted that the initial scoping report was revised as a result of the consultation undertaken. Public consultation on the Scoping Report is the responsibility of PPCD, as they are the entity responsible for the plan. This is in accordance with Regulation 12 (1) of the SEA Regulations, 2005 that state that the “proponent shall make a copy of the plan or programme description statement and a copy of the draft scoping report available to identified stakeholders”.
8. This Environmental Report is based on the Scoping Report. Consultation on the draft OP and the Environmental Report will be undertaken by PPCD.
9. The five main steps required as part of the SEA processes are summarised in **Table I.1** below.

Table I.1: Key stages in the SEA process

Stage in SEA Process	Details of Process Required
Screening	Screening is required to determine whether the proposed plan/programme is likely to have significant environmental effects and whether an SEA is required.
Scoping	Scoping enables the coverage and level of detail of the Environmental Report to be determined in conjunction with the statutory consultee/s; in this case MEPA (Malta Environment and Planning Authority).
Environmental Report	The Environmental Report details the anticipated environmental impacts of the programme and any proposed amendments to the plan to mitigate its effects. It must be consulted upon.
Adoption	The Adoption report details the results of consultation; how comments have been incorporated into the programme; the final programme; and the proposals for monitoring the environmental impacts of the programme.
Monitoring	The Monitoring stage is undertaken during implementation of the programme and serves to identify the level of monitoring required and, should adverse impacts be identified, any remediation proposals.

Guidance

10. Draft guidance on SEA for Malta has not yet been published. The Environmental Report therefore draws on other European Guidance namely, the Greening Regional Development Programme (GRDP) (2006) “*Handbook on SEA for Cohesion Policy 2007-2013*”, the Commission’s “*Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment*” and the UK’s (2005) “*A Practical Guide to the Implementation of the SEA Directive*”.

² The stakeholders comprised various representatives of Government departments and agencies responsible for implementing the OP. They were identified by PPCD.

STRUCTURE OF ENVIRONMENTAL REPORT

11. The structure of the Environmental Report has been developed following consideration of European Guidance and as described in the Scoping Report. The OP I Environmental Report structure is detailed below and, while it varies slightly from that proposed in the Scoping Report, it contains all the information required. The main reason for the change in structure is the scale of the OP I SEA, covering as it does the whole of the Maltese Islands. The OP I SEA contains the following sections:
- Non-technical summary;
 - Glossary of abbreviations;
 - References;
 - Chapter 1 - Introduction (overview of the SEA and its purpose; layout of report);
 - Chapter 2 – OP I and its Context (brief description of the OP I and related documents; links to other plans/programmes);
 - Chapter 3 - Methodology (identification of main options; approach taken, who has been consulted, and when);
 - Chapter 4 - Baseline environmental information and trends (and limitations of data);
 - Chapter 5 - SEA objectives and context (key environmental issues, relevant environmental objectives and criteria and likely environmental implications without the SEA);
 - Chapter 6 - Assessment of environmental effects and proposed mitigation (assessment of the OP objectives, potential mitigation measures and environmental implications of other aspects of the OP); and
 - Chapter 7 - Monitoring requirements.

CHAPTER 2: MALTA'S OPERATIONAL PROGRAMMES

INTRODUCTION

12. This chapter describes Malta's Operational Programme I³ and the framework within which it was prepared. It also includes a summary of the contents of the OP, its main requirements, and an overview of the previous Programme. The links of the OP to other plans, programmes, and legislation are also provided.
13. The operational programme takes into account both national needs and priorities that emanate from the National Strategic Reference Framework, the National Reform Programme exercises, and the Community priorities identified by the Community Strategic Guidelines 2007-2013. The Operational Programme includes:
- A situation analysis of the main focus areas of the OP;
 - An analysis of the country's strengths, weaknesses, opportunities and threats (SWOT);
 - A description of Malta's strategic direction;
 - An identification of the priority axes of the OP;
 - An indicative financial plan that specifies for each priority and for each year, the planned financial contribution from each Fund;
 - Complimentarity with measures under the European Agricultural Fund for European Development (EAFRD) and the European Fisheries Fund (EFF);
 - Provisions for the implementation of the OP.
14. For the period ending 2006, Member States were required to develop a National or Regional Development Plan. This was prepared in consultation with relevant stakeholders including businesses, local authorities and other interested parties. More detailed programming documents, known as a Single Programming Document (SPD) or a Community Support Framework (CSF) with supporting Operational Programmes (OP), were also prepared. The SPD contained the development strategy and details the actions to be funded; the CSF also contained the development strategy but the actions to be funded are detailed in separate, sector based OPs. OPs and SPDs are complemented by Programme Complements. PC documents provide further detail on how money will be spent, and where. For the period 2004 to 2006, Malta prepared a Single Programming Document and a Programme Complement.

³ Version dated 2nd June 2006

15. Changes to the Structural Funds composition were made for the programming period (2007-2013). For this programming period Member States are required to draw up a National Strategic Reference Framework (NSRF) document that will apply to the European Regional Development Fund (ERDF), the European Social Fund (ESF), and the Cohesion Fund. OPs will then be developed to detail actions to implement strategies laid out in the NSRF (COM(2004)492).

MALTA'S SINGLE PROGRAMMING DOCUMENT 2004-2006

16. Since joining the European Union on 1st May 2004, Malta was eligible for Structural Funds as an Objective I region. The allocation of the funds is laid out in Malta's Single Programming Document (SPD) 2004-2006. This lays down the main priorities for funding in order of importance as follows:
- Strategic Investments and Strengthening Competitiveness;
 - Developing People;
 - Rural Development and Fisheries;
 - Regional Distinctiveness (Gozo Special Needs); and
 - Technical Assistance.
17. The first two priorities were allocated with most of the financial resources since the SPD deemed them to be crucial for the attainment of the objectives of Malta's development strategy. In line with this strategy, and because Malta was not eligible for funding under the ISPA (Instrument for Structural Policies for Pre-Accession) Programme during the pre-accession period, the very limited allocation to Malta under the Cohesion Fund, and considering the limited time available for implementation, the projects implemented under the SPD were mainly public sector projects in the areas of environment, transport, human resource development, tourism, and enterprise support.
18. Other priorities identified in the SPD were education and social infrastructure, agriculture and fisheries and the territorial priority for Gozo. The declining agricultural sector was also raised as an issue of concern because, although together with fisheries, it contributes to less than 2.5% of Malta's GDP (Gross Domestic Product), these sectors are considered to be at the core of Maltese society. Funds were allocated to help the sectors face the challenge of modernisation and restructuring. A fourth priority that emerged from the SPD concerns a special priority for Gozo to address special needs arising mainly from Gozo's double insularity⁴.
19. The priorities and corresponding measures are set out in **Table 2.1**.

⁴ Because of its geographic location and because it is an island, Malta depends on air and sea travel; it is therefore considered insular. Double insularity refers to the fact that Gozo depends on Malta for access of services and goods.

Table 2.1: Priorities and corresponding measures

Axes	Measures
1. Strategic Investments and Strengthening Competitiveness	1.1 Improving the Environment Situation (ERDF) 1.2 Infrastructure (ERDF) 1.2.1 Transport Infrastructure 1.2.2 Education and Social Infrastructure 1.2.3 Service Infrastructure for Industry 1.3 Support to Enterprises (ERDF) 1.4 Support to the Tourism Sector (ERDF)
2. Developing People	2.1 Employability and Adaptability (ESF) 2.2 Gender Equality (ESF) 2.3 Lifelong Learning and Social Inclusion(ESF)
3. Rural Development and Fisheries	3.1 Investment in Agricultural Holdings (EAGGF) 3.2 Improving the Processing and Marketing of Agricultural Products (EAGGF) 3.3 Fisheries (FIFG) 3.3.1 Fleet 3.3.2 Structures
4. Regional Distinctiveness (Gozo Special Needs)	4.1 Basic Infrastructure and the Development of the Tourism Sector (ERDF) 4.2 Human Resources (ESF)
5. Technical Assistance	5.1 Technical Assistance (ERDF) 5.2 Technical Assistance (ESF)

ERDF – European Regional Development Fund

ESF – European Social Fund

EAGGF – European Agricultural Guidance and Guarantee Fund

FIFG – Financial Instrument for Fisheries Guidance

Cohesion Fund

20. For the period 2004 to 2006, it was estimated that Malta would receive approximately €22 million from the Cohesion Fund⁵. The fund is devoted to the Environment and Transport sectors. Malta allocated 60% of the funds to the environment sector. This allocation is also congruent with the SPD, where the largest single beneficiary was also the environment.
21. The Cohesion Fund was used to assist Malta in partially achieving its objectives in the field of solid waste management, by investing in the design, construction, and operation of a composting plant and the construction of a materials recovery facility. €16 million was allocated to this project.
22. In the transport sector, the projects co-funded by the Cohesion Fund were the upgrading of existing Trans-European Network for Transport (TEN-T) routes in accordance with the priorities established in the Transport Infrastructure Needs Assessment (TINA) Study. These roads are the NA7, Xemxija to NA8, Bugibba Roundabout; WA23, Freight Terminal, Luqa to WA24, Air Terminal, Luqa; and GA36

⁵ Cohesion Fund: Reference Framework Document, 2004-2006, Accessed from the website of the Planning & Priorities Coordination Division of the Office of the Prime Minister:
<http://www.ppcd.gov.mt/english/main.htm>

to GA 38, road linking Gozo Heliport to Ferry Terminal (all fall within the TEN-T Route No.1). The value of these works was estimated at €10 million.

MALTA'S OPERATIONAL PROGRAMMES 2007-2013

23. Operational Programmes set out the framework within which funds under the Cohesion Policy are spent over the next seven years. In Malta, there are two Operational Programmes that have been guided by the priorities contained in the National Strategic Reference Framework (NSRF), which was published for public consultation on 27th March 2006⁶. The latter document describes Malta's strategic objectives for Cohesion Policy 2007-2013.
24. The priorities under the two Operational Programmes represent the main focus areas for Cohesion Policy support during the period 2007-2013. They take into account the needs and priorities emanating from the NSRF, the National Reform Programme exercises, the strong link between Cohesion Policy and the achievement of the Lisbon objectives, and the regulatory framework of the Funds. The OPs constitute a plan of action for the period 2007-2013, whereby investment in the various sectors is not seen as an end in itself, but as a means of contributing to the realisation of the vision and the attainment of the underlying strategic objectives. The two operational programmes do not include other measures that are best funded through national funds and/or other Community / International financial instruments, including the programmes under the European Agricultural Fund for Rural Development (EAFRD) and the European Fisheries Fund (EFF) and the Territorial Objective in which Malta will participate.⁷
25. Operational Programme I, published for public consultation on 22nd June 2006, will be co-financed by the European Regional Development Fund (ERDF) and the Cohesion Fund (CF). It aims to address the infrastructural needs of the country. This Operational Programme is complemented by Operational Programme II, published for public consultation on 13th July 2006. It will be co-funded by the European Social Fund (ESF) and focuses on the development of human resources and employment. Both Operational Programmes foresee direct support to the private sector in the form of aid schemes.
26. This Environmental Report focuses on the issues that are relevant to OP I only. An SEA for OP II will not be prepared as the Programme does not fall within the remit of the SEA Directive and the local regulations⁸.

National Strategic Reference Framework

27. The NSRF is a document that describes Malta's principal needs and challenges in order for it to converge with the rest of the European Union over the period 2007-2013. It is Malta's aim to promote a competitive and "high value adding" economy

⁶ Ministry of Finance website: <http://www.mfin.gov.mt/page.aspx?site=MFIN&page=NSRF>

⁷ The Territorial Objective Programmes are the new Interreg Programmes for 2007-2013.

⁸ Letter from Chairman of the SEA Audit Team (Dr Chris Ciantar) to PPCD (Ms Marlene Bonnici) dated 20th July 2007 regarding the result of screening.

and to achieve sustainable socio-economic development that would result in a better quality of life. The NSRF summarises the country's needs and challenges as follows:

- To improve Malta's international competitiveness in its key economic sectors (promote indigenous investment and facilitate attraction and consolidation of foreign direct investment, to enable the diversification of the tourism industry market segments, and facilitate the development of knowledge intensive economic activities in existing and new economic sectors);
- To address existing deficiencies in Malta's physical infrastructure, particularly those related to the environment, energy, transport and ICT (Information and Communications Technologies);
- To ensure quality education and training for all, and provide a knowledge and skill development environment that targets the responsive identification of future labour market requirements;
- To raise the employment rate; and
- To address Gozo's regional distinctiveness, bolster economic activity and address the negative impact of the island's double insularity on its socio-economic development⁹.

Operational Programme I

28. Operational Programme I comprises a description of the eight priority axes¹⁰ to be funded under the ERDF and Cohesion Fund. It consists of seven Chapters that describe Malta's socio-economic background and the framework within which the priorities are set. The Introductory Chapter describes the relevant sectors that are the focus of the OP, namely the economy, accessibility issues, research and development, sustainable development, energy, education and social infrastructure, and territorial cohesion. Chapter II presents the findings of an exercise carried out with stakeholders on the country's strengths, weaknesses, opportunities and threats (SWOT). The third Chapter describes the strategic direction and context of Operational Programme I. It gives a brief overview of the Operational Programme, a synthesis of the National Strategic Reference Framework, the Community Strategic Guidelines (CSGs) and the National Reform Programme (NRP), and the links between these documents and the Priority Axes.
29. Chapter IV of OPI describes in detail the eight Priority Axes. These are discussed in further detail below. Chapters V, VI and VII of the OP present the financial tables,

⁹ PPCD, 2006, Operational Programme I, Cohesion Policy 2007-2013, Investing in Competitiveness for a Better Quality of Life, DRAFT dated 02.06.06

¹⁰ The OP that was assessed in this SEA is dated June 2006. Following stakeholder consultation and meetings with PPCD it is noted that although all the sectors targeted for funding by the OP have remained the same the Priority Axes have been changed slightly. These changes, however do not affect the assessment described in subsequent sections of this Report.

the complementarity with the EAFRD and EFF funds and the provisions for implementation, respectively.

30. The eight priorities¹¹ of OP I are:

- Priority Axis 1 - Investing in an enterprise-support infrastructure;
- Priority Axis 2 - Supporting a competitive enterprise;
- Priority Axis 3 - Promoting sustainable tourism;
- Priority Axis 4 - Developing the TEN-T infrastructure;
- Priority Axis 5 - Improving accessibility and services of general economic interest;
- Priority Axis 6 - Upgrading environment infrastructures;
- Priority Axis 7 - Urban regeneration and improving the quality of life; and
- Priority Axis 8 - Technical assistance.

31. Although project details are not available in the OP, the axes do give an indication of the types of initiatives that would be considered. For example, under Priority Axis 1 initiatives such as the establishment of a Public Research Centre focusing on sectors such as ICT, water, environment, alternative energy and bio-sciences, and upgrading of general industrial space with amenities such as childcare and energy efficiency facilities would be considered. A description of each of the Axes is provided below.

Priority Axis 1: Investing in an enterprise support infrastructure

The overall development objective of Priority Axis 1 is to undertake investment in state-of-the-art enterprise support infrastructure that would complement the promotion of RTDi initiatives and strengthen high-value added economic activity through dedicated industrial facilities and educational infrastructure.

32. Its specific objectives are:

- Government will provide the basic infrastructure designed to retain and attract high-value added investment, such as those related to industrial facilities and human capital; and
- Government will invest in RTDi to support certain business sectors that can be made more competitive.

33. The RTDi initiatives are:

¹¹ As noted above the number and title of the Priority Axes may have changed following consultation with the European Commission and various stakeholders.

-
- Set up a Public Research Centre to research ICT, water, environment, alternative energy and bio-sciences;
 - Establish links between business and University to
 - provide an intellectual property framework; and
 - manage technology transfer facilities;
 - Test the application of renewable energy research and other research projects in Gozo and export the technology / knowledge to the Euro-Mediterranean region; and
 - Use Gozo as an international show-case of a micro social and economic society.
34. The initiatives for high-value enterprises are:
- Support and attract businesses that present high potential for economic growth
 - ICT, health care (including pharmaceuticals), maritime and aviation operations, tourism operations, and financial services;
 - Brand Malta for key economic sectors
35. The initiatives for enterprise infrastructures are:
- Government will upgrade general industrial space in industrial estates, making them more energy efficient and providing supporting facilities such as child care
 - Government will create:
 - industrial space suitable for pharmaceutical, and medical industries;
 - business parks for targeted service industries such as ICT, Software, Back Office, Shared Services & Call Centres;
 - technology and commercial centres;
 - the expansion of the business incubation centre (BIC);
 - upgrade public amenities for the new crafts centre.
36. The initiatives for education and social infrastructure are:
- Expansion of schools, university and vocational training institutes;
 - New educational facilities and material to support ongoing and life-long training needs;
 - Schools used for learning centres and child-care; and
 - Provide facilities, such as childcare centres, to increase female workforce.
-

Table 2:2: Key outputs, results and impacts for Priority Axis I

Key Outputs	Targets ¹²
Sq m of modernised capacity in primary education	
Sq m of additional capacity in vocational/higher education	
No of projects involving ST knowledge dissemination	
No of initiatives between business and universities	
No of new, additional industrial units/factory spaces	
Results	
% increase in vocational/higher education take-up	
Impact	
% increase in RTDi as a % of GDP	

Priority Axis 2: Supporting a competitive enterprise

The overall development objective of Priority Axis 2 is to support enterprise competitiveness and to promote the further development of those economic activities that can add most value both economically and socially.

37. This Priority's specific objectives are:

- To encourage innovation in the manufacturing sector, to be proactive in encouraging collaboration between enterprises and to support the creation of a knowledge- based economy;
- To help make Malta more attractive to tourists by improving the tourism product, adopting better marketing techniques and improved cost structures;
- To encourage the sustainable use of resources and to strengthen the synergies between environment protection and growth; and
- To increase compliance with environmental and occupational health and safety regulations in enterprises.

38. The initiatives under "Manufacturing Enterprises" are:

- To introduce grant schemes in line with the Lisbon Agenda for the creation of jobs and growth, focusing on:
 - innovation;
 - RTDi;

¹² At the time of the Study, the targets and indicators were in the process of being identified and qualified, and were therefore not available. It is envisaged that subsequent to the public consultation process carried out both on the OP and the Environmental Report, the OPs will be consolidated and the quantified indicators will be included.

- enterprise collaboration to upgrade product / service value;
- knowledge base enhancement and transfer;
- environmental factors;
- financing of innovative enterprises that are or would have a high growth potential;
- supporting innovative knowledge based enterprises in setting up and expanding their operations; and
- supporting enterprises in benefiting from the internal market and the development of new market initiatives.

39. The initiatives under “Tourism Enterprises” are:

- To develop schemes to support the competitiveness of tourism enterprises, promote entrepreneurship and innovation, facilitate the effective use of ICT and encourage environmental practices by encouraging the sustainable use of resources and strengthening the synergies between environmental protection and growth.
 - increase employment in tourism sector;
 - encourage the use of technology and technological applications;
 - encourage R&D;
 - encourage sustainable use of resources;
 - support processes leading to quality-assured business practices and competitiveness; and
 - support innovative marketing by operators / provide mentoring programmes.
- Support to culture enterprises that would be connected to development needs within the cultural sector in the different art forms to sustain their small enterprises and will be linked to the aim of increasing the skills of cultural operators to enhance their professional development.

40. The initiatives under “Other Enterprises” are:

- Assistance in meeting challenges of environmental regulations; and
- Promote environmental excellence and eco-innovation.

Table 2:3: Key outputs, results and impacts for Priority Axis 2

Key Outputs	Targets
No of SMEs assisted in manufacturing	
No of SMEs assisted in tourism	
Results	
% increase in output per capita	
Incremental growth in sectoral value added (manufacturing, tourism)	
Impact	
Contribution of manufacturing to GDP	
Contribution of tourism to GDP	

Priority Axis 3: Promoting Sustainable Tourism

The overall development objective of Priority Axis 3 is to promote a sustainable and competitive tourism industry able to achieve its potential for growth and re-affirm its central role in Malta's economic activity.

41. The specific objectives under this Priority are:
- To further the promotion of key tourism niche segments, primarily those related to culture and heritage;
 - To invest in the physical infrastructure that is central to tourism product development;
 - To contribute to the ongoing branding exercise of Malta as a prime and diverse tourist destination; and
 - To foster further environmental protection and awareness
42. The initiatives for niche market developments are:
- Target 7 niche tourism segments: i) leisure and tour operator business; ii) cultural tourism; iii) meetings, incentives, conferences and exhibitions (MICE); iv) language learning segment; v) sports and in particular diving tourism; vi) Gozo-based tourism; and vii) other growth niche markets (including health tourism, film production, cruise and stay, short breaks and vacation ownership);
 - Promote regional and sub-regional based travel programmes; and
 - Improve interpretation and investment in facilities.
43. The initiatives for product development are:
- Foster and undertake the development of new tourist amenities;
 - Promote environmental awareness (clean environment); and

- Foster and organise regular events that promote Malta as a worthwhile experience rather than just another destination.
44. The “Branding” Initiative is:
- Malta will be branded on the basis of the three core values of heritage, diversity and hospitality. The branding exercise will be complemented by further investments in these areas.
45. For “Environment Protection and Awareness” the following initiatives are proposed in the OP:
- Encourage the propagation of native woodland, and the protection of other habitats and related fauna in order to complement other niche market initiatives, and offer recreational and educational facilities to the public; and
 - Foster the participation of NGOs (Non-Governmental Organisations) in the environment protection awareness sector.

Table 2:4: Key outputs, results and impacts for Priority Axis 3

Key Outputs	Targets
No of upgraded tourism zones	
No of different product/services supplied in Malta	
No of different product/services supplied in Gozo	
Results	
% increase in up-market hotel occupancy	
% decrease in unemployment rates in the off-peak seasons	
% increase in foreign exchange per capita	
Impact	
Maintaining tourism percentage contribution to GDP	

Priority Axis 4: Developing the TEN-T infrastructure

The overall development objective of Priority Axis 4 is to invest in the upgrading of transport links within the context of the TEN-T network.

46. The specific objectives of this Priority Axis are:
- To upgrade the road infrastructure that is part of the TEN-T network; and
 - To invest in sea and air ports in a bid to meet European transport network requirements and Malta's economic development requirements.
47. The proposed initiative for road transport links is:

- The main arterial and distributor road network needs to be supported by the appropriate road network infrastructure to provide the traffic linkages to population centres, areas of employment, and tourism and industrial areas;
 - continuing improvement of the backbone road with particular priority being given to alleviating bottlenecks in key areas, improving safety, reduce operation and transport costs; and
 - bring the whole road network up to the required standards.

48. The Maritime Transport Links Initiatives are:

- Upgrade and further develop the sea port infrastructure to enhance merchandise trade capacity and stimulate additional economic competitiveness; and
- Upgrading of port infrastructure such as breakwaters and quays in the Valletta and Marsaxlokk harbours and to carry out further development of the Mgarr harbour to cater for improved accessibility to reduce the island's insularity and further economic activity.

49. The Air Transport Links Initiative is:

- Enable the expansion of operational capacity, upgrade the current aerodrome infrastructure, and invest in air traffic control facilities in line with the airport's operational developments.

Table 2:5: Key outputs, results and impacts for Priority Axis 4

Key Outputs	Targets
Kms of roads upgraded	
No of ports improved	
Results	
% increase in satisfaction rate of transport operators/users	
Reduction in journey time	
Impact	
GDP growth	
Reduction in traffic accidents	
Increased flow of passenger and goods carrying vehicles	

Priority Axis 5: Improving accessibility and services of general economic interest

The overall development objective of Priority Axis 5 is to improve accessibility and those services of general economic interest.

50. The specific objectives are:

- To invest in internal mobility and inter-island transport modes and supporting infrastructures;

- To sustain the e-Inclusion initiatives across society and economy in a bid to narrow the digital divide, ensuring that all Maltese citizens are active participants in the knowledge society and leverage on the best use of ICTs across the public and private sector;
- To upgrade Malta's services of general economic interest, notably in those related to traditional and non-traditional energy sources and water; and
- To increase sewage treatment capacity to eliminate raw sewage discharges to the sea as well as to improve the management of wastewater and assess its possible utilisation for irrigation, agriculture, and other purposes.

51. The Internal Mobility Initiatives are:

- To complement the investment in the TEN-T network with the development of a comprehensive and effective road network that connects these TEN-T network with the hinterland;
- To complement the upgrading with reforms and investments in public transport so that it can become truly modern, attractive and sustainable;
- Implement "park and ride" systems to reduce traffic congestion in city centres, and introduce traffic management systems to encourage the use of public transport;
- Improve road safety;
- Reduce private car use; and
- Investigate feasibility of alternative mass transit systems that will support the projected modal shift.

52. The Inter-island Transport Initiatives are:

- To improve the quality and efficiency of the Gozo-Malta inter-island connections and ensure adequate port capacity.

53. The E-Accessibility Initiatives are:

- An ICT Consolidation Programme including the setting up of a data centre for the central provision of ICT services to Public Sector and Public Service;
- An e-health strategy aimed at providing a setup giving citizens access to health services from their home on a 24x7 basis.;
- A National GIS (Geographic Information System) strategy to consolidate the provision of services to increase efficiency of services delivered, to migrate to a common platform and to increase a wider dissemination of GIS related services within the Public Sector and Public Service;

- An eGovernment Contact Centre providing citizens and businesses with a unified way of accessing eGovernment services via multiple communication channels, bridging all varying public demands for services, all media used to interact with the public sector and all segments of the public sector engaged in providing the services.;
- An eID and eWork management framework to provide guidelines and required setup to Government for the provision of teleworking facilities to public employees; and
- The promotion of further utilisation of ICT.

54. The Services of general economic interest Initiatives are:

- Security and quality of electricity supply, competitiveness in energy pricing, compliance with EU regulations, demand management and efficiency improvement measures in generation, distribution and end-use through:
 - the replacement of ageing plant with new, more efficient plant employing best available techniques to reduce emission of pollutants;
 - rendering, where cost-effective, existing generation plant/s at both power stations to fall in line with current and proposed EU environmental legislation;
 - pursuing interconnectivity with the European energy networks for gas supply and/or as a cost-effective alternative to the local generation of electricity;
 - upgrading and developing further the distribution network;
 - installing necessary infrastructure for the implementation of demand side measures;
 - research, testing and development of energy efficiency measures tailored for local conditions; and
 - ensuring adequate and compliant fuel storage and transferring facilities;
- To remove existing barriers (cost) to the eventual take up of renewable energy source generation and energy efficiency measures by households, architects and building developers, and energy services providers;
- To investigate electricity generation from waste;
- To focus on desalination, to improve sea-water desalination efficiency, to further reduce water leakages from the distribution network and improve drinking water quality to come in line with the relevant EU Directives; and

- To improve the quality of groundwater and the regulatory framework governing its extraction and protection.

55. The Initiatives under “Liquid Waste” are:

- To manage waste effluent within the parameters mandated by environmental principles; and
- To assess the use of waste effluent for rural, woodland or agricultural purposes.

Table 2:6: Key outputs, results and impacts for Priority Axis 5

Key Outputs	Targets
No of energy plants upgraded	
Km of roads constructed/ upgraded	
No of facilities in sea terminal	
No of new e-services introduced	
No of e-accessibility projects	
Tonnes of liquid waste treated per day	
Results	
Efficiency of energy conversion and distribution	
Reduction in journey time	
% increase in satisfaction rate of transport operators/ users	
% increase in commuters using the ferry	
Increased use of e-services	
Increase in the share of e-services as a percentage of total public services	
Expected energy recovery resulting from the treatment of liquid waste	
Impact	
Increase in GDP growth	

Priority Axis 6: Upgrading environment infrastructures

The overall development objective of Priority Axis 6 is to continue with the upgrading process of the country's environmental infrastructures, in respect of solid waste, liquid waste, and storm water management.

56. The specific objectives are:

- To minimise landfilling of waste and to rehabilitate disused landfills, as well as to increase the capacity for waste treatment for energy recovery and recycling purposes; and
- To develop infrastructure to minimise the effects of storm water and reduce the incidence of flash flooding as well as develop storm water catchment and re-use facilities.

57. The Solid Waste Initiatives are:

- To continue to invest in infrastructures for sound waste management practices, including systems for hazardous waste and the rehabilitation of the old landfills.
- To minimise the effects of waste on the environment and society and to fully comply with EU Regulations; and
- To investigate the potential for exploiting waste as a potential energy source for electricity generation.

58. The Initiative under “Storm Water Management” is:

- To install effective and efficient storm water catchment facilities to harvest the water, and store it for a wide variety of purposes.

Table 2:7: Key outputs, results and impacts for Priority Axis 6

Key Outputs	Targets
No of projects related to storm water management	1
Tonnes of solid waste treated	135,000
Tonnes of liquid waste treated per day	50
Volume of storm water collected per year	700,000
Results	
% decrease in emissions, effluents (land, sea, air)	80
% increase in renewable energy from the treatment of solid/liquid waste compared to 2003 electricity production	1.5
Ratio of solid waste treated to total generated solid waste	
% increase in storm water collected	
Expected energy recovery resulting from the treatment of liquid waste	18,4000 kWh/day
Tonnes of solid waste diverted from landfill: biodegradable/ recyclable (metals only)	100,000/ 35,000
Impact	
Households benefiting from an improved quality of life	80,000

Priority Axis 7: Urban Regeneration and Improving the Quality of Life

The overall development objective of Priority Axis 7 is to safeguard and valorise the country's urban heritage, undertake urban regeneration initiatives for local development and promote a better quality of life.

59. The Specific objectives are:

- To upgrade the physical environment and visual appeal of urban cores (including restoration of fortifications);
- To encourage local development and village enhancement measures;

-
- To enhance environmental monitoring capabilities and the awareness of environmental issues; and
 - To undertake initiatives to continue to improve the delivery of health services.
60. The Urban Regeneration Initiatives are:
- To restore and preserve the fortifications and develop uses for them that respect their character and which contribute to employment and growth, particularly in the tourism industry; and
 - To upgrade the environment and visual appeal of urban cores, revitalise existing town centres, upgrade social housing in core urban areas and promote closer integration of development and land-use planning.
61. The “Local Development” Initiatives are:
- To strengthen the development of local communities;
 - To encourage local councils and the non profit sector to participate in development initiatives.
62. The Initiatives in the field of environmental monitoring are:
- The development of strategic plans, the setting up of monitoring and information and data compilation mechanisms, the carrying out of feasibility studies, coordinated environmental education through an established body as well as the implementation of awareness and education campaigns, and the stimulation of research and development to stimulate more environment friendly processes and procedures by economic operators; and
 - To focus particularly on environmental areas including industrial pollution control, environmentally friendly construction, air quality and climate change, water quality, biodiversity, and noise.
63. The Initiatives in the health sector are;
- To enhance the quality of life of Maltese citizens by ensuring the availability of quality health and care services;
 - To continue to improve the delivery of health services and ensure the sustainability of the sector; and
 - To reform primary health care, to develop community services, and promote the better integration of the local health centres, and to upgrade smaller specialised hospitals and the existing rehabilitation.

Table 2:8: Key outputs, results and impacts for Priority Axis 7

Key Outputs	Targets
Km of fortifications restored	
No of urban regeneration projects	
No of embellishment projects	
No of environmental monitoring projects	
Results	
% increase in economic activity in the restored areas	
% increase in the number of residents in areas hosting urban regeneration projects	
% increase in persons receiving treatment	
Impact	
% increase in GDP growth	

Priority Axis 8: Technical Assistance

The overall development objective of Priority Axis 8 is to reinforce the administrative capacity for implementing the 2007-2013 programme.

64. The Specific objectives are to:
- Ensure the administration and implementation of the programme through an effective application of regulations;
 - Optimise the programme quality and efficiency of the interventions;
 - Support the Operational Programme's communication plan.

Table 2:9: Key outputs, results and impacts for Priority Axis 8

Key Outputs	Targets
No of projects supported	
Results	
% increase in absorption rate	
Impact	

65. The detailed Financial Tables are found in the OP.

RELATION OF OP I TO OTHER NATIONAL DOCUMENTS & LEGISLATION

66. Schedule 3 of the SEA Regulations requires a discussion of the "relation [of the plan] with existing legislation, policies, and other plans and programmes and their objectives, with information on potential synergies or conflicts". **Appendix 3** provides an analysis of the policies, plans, and programmes relevant to the OP.
67. The analysis has been subdivided into four main categories:
- (i) **International Commitments:** this category covers the highest-level environment and sustainability policy framework within which Malta must work. It includes a selection of global commitments, such as those arising from the Millennium Development Goals (MDGs) as well as some international conventions. Since European Directives have been transposed into national legislation, the Directives *per se* will not be discussed; the section on national legislation is described below;
 - (ii) **National Environmental & Planning Documents** including the Structure Plan for the Maltese Islands and the draft National Sustainable Development Strategy. The review provided herein summarises the key issues raised; further information can be obtained from the original documents;
 - (iii) **Sectoral Policies and Strategies:** this section covers highest-level policy and strategy documents published by the Government, such as the Transport Infrastructure Needs Assessment (TINA) Study. Rather than summarise entire documents this review seeks to emphasise the key sustainability objectives and priorities; and
 - (iv) **National legislation:** no attempt will be made to assess the individual regulations, as in done at the project level EIA (Environmental Impact Assessment). However, the main areas of concern for the OP will be highlighted. Given the scale (and evolutionary nature of this field) this review is not exhaustive and represents a current (May 2006) snapshot.
68. The assessment of the links to other plans and programmes and legislation shows that the OP is both affected by and affects other plans. At an international level, the OP must reflect Malta's commitments to implement sustainable development objectives including issues related to climate change and biodiversity. Other plans and programmes (such as the TINA Study) are directly linked to the OP because they set the framework for the implementation of projects to be funded under the OP.
69. The OP must be cognisant of national legislation and any projects to be funded must be compliant with local legislation. Of particular relevance is legislation related to development of land such as the Environmental Impact Assessment Regulations, 2001 and the safeguarding of protected areas through nature protection regulations. Other relevant legislation includes that related to cultural heritage and its conservation and the safeguarding of designated landscapes.
-

CHAPTER 3: SEA METHODOLOGY

INTRODUCTION

70. This chapter describes the approach adopted, the SEA process, its limitations, and the consultation process.
71. As discussed in Chapter 1, the SEA process in Malta is regulated by Legal Notice 418 of 2005, the SEA Regulations; this Legal Notice transposes Council Directive 2001/42/EC. Since guidance on SEA for Malta has not yet been published, this assessment draws on other European Guidance namely, the GRDP's (2006) "*Handbook on SEA for Cohesion Policy 2007- 2013*", the Commission's "*Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment*" and the UK's (2005) "*A Practical Guide to the Implementation of the SEA Directive*".
72. Although the various guidance documents recommend that the SEA process should start at the same time as the preparation of the OP, it is noted that the preparation of the OP was already at an advanced stage when the SEA commenced. Extensive consultation with various implementing Government departments and agencies had already been undertaken in order to establish the strategic thrust of the document.
73. This SEA began in mid-May 2006, following a call for Tender by the Planning & Priorities Coordination Division. The Consultants (Adi Associates Environmental Consultants Ltd and Professor Brian Clark) have carried out the SEA, with support and guidance from the PPCD and MEPA. The SEA Audit Team also provided guidance.

DETERMINING THE SCOPE OF THE SEA

74. The scope of the SEA is identified in the OP I SEA Scoping Report that was sent to the PPCD in May 2006. The Scoping report identifies a range of relevant policies and plans that could be influenced by, or which could influence the OP.
75. The Scoping Report also contains an initial assessment of the key environmental issues that were identified and reasons for their inclusion in the Scoping Report are provided. SEA objectives were also identified and indicators against which the effectiveness of the OP I in achieving the SEA objectives were described.
76. The Scoping Report was discussed with stakeholders in a meeting dated 25th May 2006. The most significant comment that emerged from the meeting was that the formulation of the Operational Programme had commenced in 2005 and a series of consultation meetings had taken place in order to agree on the Priorities for the OP. This process commenced and finished before the SEA process began so most of the alternatives were debated during this period. No formal documentation on the various alternatives that were considered was kept.

77. Following the stakeholder meeting, written comments on the draft Scoping Report were submitted to the Consultants by MEPA. These are included in Appendix 3. The Scoping Report was revised where necessary.

ASSESSMENT PROCESS

78. The nature of the OP is such that it is not possible to predict the exact location, nature and impact of the actions or, at this stage, the delivery mechanisms for the strategy. Therefore, the SEA does not assess the exact environmental impacts of the programme, rather it provides an indication of that impact and suggests ways that negative impacts may be mitigated.
79. The SEA process provides the start of the 'green thread', having identified: a) potential environmental impacts that could result from the implementation of specific actions or strategies detailed in Priority Axes 1 - 8; b) various mitigation strategies and measures that could be used to minimise or negate the impacts of these actions; and c) a number of future areas or activities for which further environmental assessments may be required before and during the implementation of the OP.
80. Detailed information relating to the assessment process undertaken during the Strategic Environmental Assessment is detailed in **Chapter 6**.

Link to Other Assessments

81. The SEA takes into account environmental issues¹³ in accordance with Schedule I of the SEA Regulations, 2005. Economic and social issues are being considered in a separate assessment – the ex-ante Evaluation that was prepared by Price Waterhouse Coopers.

ALTERNATIVES

82. The SEA Directive requires that an assessment must identify the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme.
83. It is noted that the OP was well advanced by the time the SEA process commenced. During the formulation of the OP, Government met with the Stakeholders on many occasions, conducted public consultation on the matters to be included in it, and that drafting of most of the key documents that informed the Programme commenced or had been completed well before the SEA legislation came into force.
84. The procedures leading to the preparation of the OP were complex and lengthy. The discussion on the Programming of Cohesion Policy 2007-2013 started in early 2005 with the launch of the *Governments' Pre-Budget Document* which was followed by a consultation process in the summer of 2005 on the National Reform Programme. Four Working Groups were set up during the third quarter of 2005 to prepare the

¹³ This includes cultural heritage, material assets, population, and human health.

Cohesion Policy Programmes. They focused on economic development and competitiveness, accessibility, environment, and employment and social inclusion. The Working Groups brought together various experts, Government ministries, public sector organisations, NGOs and socio-economic partners. A Steering Committee was set up in 2005 to oversee the programming process of the 2007-2013 Cohesion Policy Programmes. The Steering Committee¹⁴ oversees the drafting of the overall strategy and the identification of the Priorities to be presented in the National Strategic Reference Framework and the Operational Programmes. A national SWOT (Strengths, Weaknesses, Opportunities, Threats) workshop spanning five half day sessions was organised in September 2005. Four sessions dealing with the same thematic areas as the Working Groups were held in Malta and a fifth session was held in Gozo dealing with Gozo special needs. Over 80 key personnel were invited to the workshops.

85. A series of public dialogues were then organised by the Office of the Prime Minister in the first quarter of 2006. These public dialogues were led by the Prime Minister; members of the public and public and private organisations were invited to attend. Five public dialogues were held covering the themes: human resources, environment, accessibility, enterprise and tourism, and Gozo. During this time a number of high level inter-governmental consultations were also held to prioritise the areas of intervention that had been identified through the working groups, the SWOT analysis and the public dialogues. The prioritisation exercise was based on a number of criteria, namely: clear needs that had emerged from all the consultation exercises¹⁵, the sectoral strategies¹⁶, available budget¹⁷, obligations emanating from the EU¹⁸, the regulatory package of the Structural Funds¹⁹, and proposed duration, sustainability and risks²⁰.

¹⁴ The Steering Committee is composed of a number of senior public officers including the Principal Permanent Secretary (as the link to Cabinet and the relevant Cabinet Committees with an overview of national priorities the Permanent Secretary (Policy) within the Office of the Prime Minister (as the link between Cohesion Policy Programmes and the National Reform Programme), the Permanent Secretary and the Director General Budgetary Operations within the Ministry of Finance (as the links between Cohesion Policy and national budget initiatives), the Director General Economic Policy (the link between Cohesion Policy and the overall macro-economic situation in Malta), and the Head of the designated Managing Authority for the 2007-2013 Cohesion Policy Programmes

¹⁵ There was a high degree of consistency between the priorities that were proposed internally by public organisations and those which were proposed most strongly by the partners and the public in the public dialogues.

¹⁶ Where these were available.

¹⁷ Not just the global allocation but also the allocations by Fund.

¹⁸ These included commitments undertaken under the Accession Treaty (e.g. environment), priorities for the EU for Cohesion Policy (Community Strategic Guidelines, Lisbon Agenda, National Reform Programme amongst others)

¹⁹ The issue of eligibility, state aid (which could delay) and project implementation period were amongst the main issues considered under this item.

²⁰ Under this item the issue of implementation risks such as expropriation and MEPA permits were discussed and where the risk was considered to be too high in terms of timing, the use of national funds were proposed instead.

-
86. Following this process, the first draft of the NSRF²¹ was published for public consultation. No substantial comments were received.
87. This process finally led to the preparation of the OPs. As described in Chapter 2 of this Report, the Priority Axes cover all sectors of the economy²². The scope of the OP is to identify priority sectors for funding and not to identify priorities within each sector. It should be noted that a strategy exists for each sector funded by the OP. Alternatives are considered within each sectoral strategy by the relevant Competent Authority, e.g. the Malta Tourism Authority in the case of Tourism. Since no sectors of the economy have been omitted no options could be considered in the SEA for the OP.
88. The strategic level at which the objectives have been formulated means that any project that is eligible for funding under Cohesion Policy could be considered.
89. Some potentially alternative initiatives were not taken forward because there was a consensus amongst the Stakeholders that they would be better funded by private / public partnerships, and some of those initiatives that would be eligible for ERDF / CF funding were not included in the OP because they were either too uncertain, or would be likely to require so much research and development / negotiations with the Commission, that they would not be likely to be completed within the funding period; the funds secured for the Initiative would, therefore, not be used in time. The initiatives are those that Government has identified as most suitable for funding from the national budget.
90. As a result of the extensive consultation exercise carried out prior to the formulation of the OP and considering that the OP is multi-sectoral, comprehensive, and that no sectors have been omitted, PPCD and the stakeholders have confirmed that there are no realistic alternatives to the ones presented in the OP²³.

²¹ The strategy underpinning the Operational Programmes.

²² With the exception of education and training that are covered by OP2 and agriculture and fisheries that are covered by programmes co-funded by the EAFRD and the EFF respectively.

²³ The relevant documents and strategy leading to the formulation of the OP have been made available to the SEA Audit team by PPCD.

91. It is further noted that detailed alternatives will be considered at project level. Alternative technologies and sites will be considered where these have not already been identified within the sectoral strategies.

CHAPTER 4: ENVIRONMENTAL BASELINE

INTRODUCTION

92. Schedule I of the SEA Regulations requires that the Environmental Report includes a description of "*the relevant aspects of the current state of the environment*". This Chapter provides summary information on the current state of Malta's environment, environmental trends (where available), and indicates those issues that are considered to be of particular relevance to the development of the OP. This information informs the environmental baseline against which the impacts of the objectives within the OP were assessed during the SEA process.
93. Since the OP is so broad ranging and applies to the whole of the Maltese Islands, it means that projects can be implemented anywhere in Malta. Furthermore, although certain measures in the OP indicate certain areas where projects will be implemented (such as the ports and the arterial road network), this Chapter describes the environmental situation in the whole of the Maltese Islands.
94. The Environmental Baseline does not refer to specific locations because project details are not known at this stage. While some measures such as the improvements on the arterial road network (through the TEN-T projects) are known, their exact location and the type of interventions to be funded are not known. The environmental characteristics of the sites where projects will be built (such as roads or the Malta South sewage treatment plant) will be described in detail through the Environmental Impact Assessment process.
95. The data replicated here were collated from a number of sources. It is noted that none of the data collated were gathered by the relevant authorities with a specific view of assessing the impacts of Malta's OP; the SEA relies on existing data. The description provided below is essentially a broad-brush "State of the Environment" review of the Maltese Islands focusing on the main environmental issues. **Table 4.1** summarises this broad-brush description.
96. The draft Sustainable Development Strategy 2006 to 2016 identifies Malta's environmental challenges; it arises from a systematic review of official reports including the State of The Environment Report (1998, 2002 and 2005) and Malta's National Report to the World Summit on Sustainable Development (2002), and an extensive consultation process. The following environmental challenges were identified:
- Air quality and climate change;
 - Energy-efficiency and renewable energy resources;
 - Biodiversity;
 - Freshwater;

- Waste;
- Marine and Coastal Environment;
- Land Use;
- Transport;
- Natural and Technological Risks; and
- Leisure and the Environment.

97. On the basis of the above challenges, **Table 4.1** shows how the Environmental Report draws together the issues and baseline data.
98. It is noted that population and human health are considered in the assessment of impacts and indirectly in the environmental baseline. Impacts on human health and population emanate from noise, dust and light pollution and impacts from waste management. Chapter 5 of this Report expands further on issues of population and human health.

Table 4.1: Environmental baseline

Issue	Relevant baseline data	Illustrative material
Air quality / pollution	<ul style="list-style-type: none"> • Malta's national air monitoring programme 	Ozone, benzene, nitrogen oxides, and sulphur dioxide concentrations by locality
Climate change	<ul style="list-style-type: none"> • Greenhouse gas emissions • Temperature and rainfall 	Graphs and figures
Energy-efficiency and renewable energy resources	<ul style="list-style-type: none"> • Energy consumption • Energy from renewable resources 	Graphs and figures
Biodiversity	<ul style="list-style-type: none"> • Natural areas designated and managed • Percentage of total species of international importance per group protected by national legislation • Status of selected groups of species 	Designated and managed areas
Freshwater	<ul style="list-style-type: none"> • Water consumption • Nitrate and chloride levels at abstraction boreholes • Groundwater quantitative status 	<ul style="list-style-type: none"> • Quantitative status of Malta's groundwater bodies • Levels of Nitrates and Chlorides at abstraction boreholes in 2004
Waste	<ul style="list-style-type: none"> • Waste generation • Waste separated and recycled in 2004 	Waste management facilities
Marine and Coastal Environment	<ul style="list-style-type: none"> • Bathing water quality • % of the coastal zone that is built up 	<ul style="list-style-type: none"> • Trends in microbiological status of bathing water (2001, 2004) • Built up coast
Land Use	<ul style="list-style-type: none"> • Land cover by type • No. of vacant properties 	<ul style="list-style-type: none"> • CORINE 2000 land cover • Areas from which urban areas are visible
Transport	<ul style="list-style-type: none"> • Private car ownership 	Various graphs and figures

Issue	Relevant baseline data	Illustrative material
	<ul style="list-style-type: none"> • Kilometres of roads • Use of public transport • Road traffic growth (if available) • Traffic (vehicle kms) • Road building expenditure • Road accidents • Increasing trend towards air travel 	
Natural and Technological Risks (oil spills and floods)	<ul style="list-style-type: none"> • Number of oil spills • Information on floods 	
Leisure and the environment ²⁴ .	<ul style="list-style-type: none"> • Areas protected for landscape value • Number of sites protected for cultural heritage • Light, dust, and noise pollution information 	Landscape sensitivity areas and protective designations

99. Where possible quantitative data are presented in the form of maps, tables and figures. A brief description of the baseline and any trends are given, where available. Difficulties were encountered in obtaining national data with respect to noise pollution because a “noise map” for Malta (as required by the Noise Directive) has not yet been produced.
100. Schedule I of the SEA Regulations, 2005 requires a description of the environmental characteristics of the areas to be affected. It is noted that since the OP is a national strategic document that only identifies priority areas and not individual projects in specific areas, the environmental characteristics of the Maltese Islands will be described in accordance with the parameters listed in **Table 4.1**.

LIMITATIONS OF DATA

101. The data used to formulate the environment baseline were collated by a wide range of organisations for a number of purposes; no information has been collated specifically for the assessment of the environment impacts of the OP. It is only possible, therefore, to infer relationships between changes in the environmental baseline recorded and the potential effects of the OP.
102. This shortcoming is further exacerbated by the fact that the OP only contains general objectives and examples of initiatives that may be funded under a particular Priority Axes. Since the more detailed measures are not described, the environmental impact can only be inferred. This means that although general conclusions could be reached specific environmental impacts could not be assessed.

²⁴ The draft Sustainable Development Strategy includes dust, noise, and light pollution in this category. Data on a national level are not available.

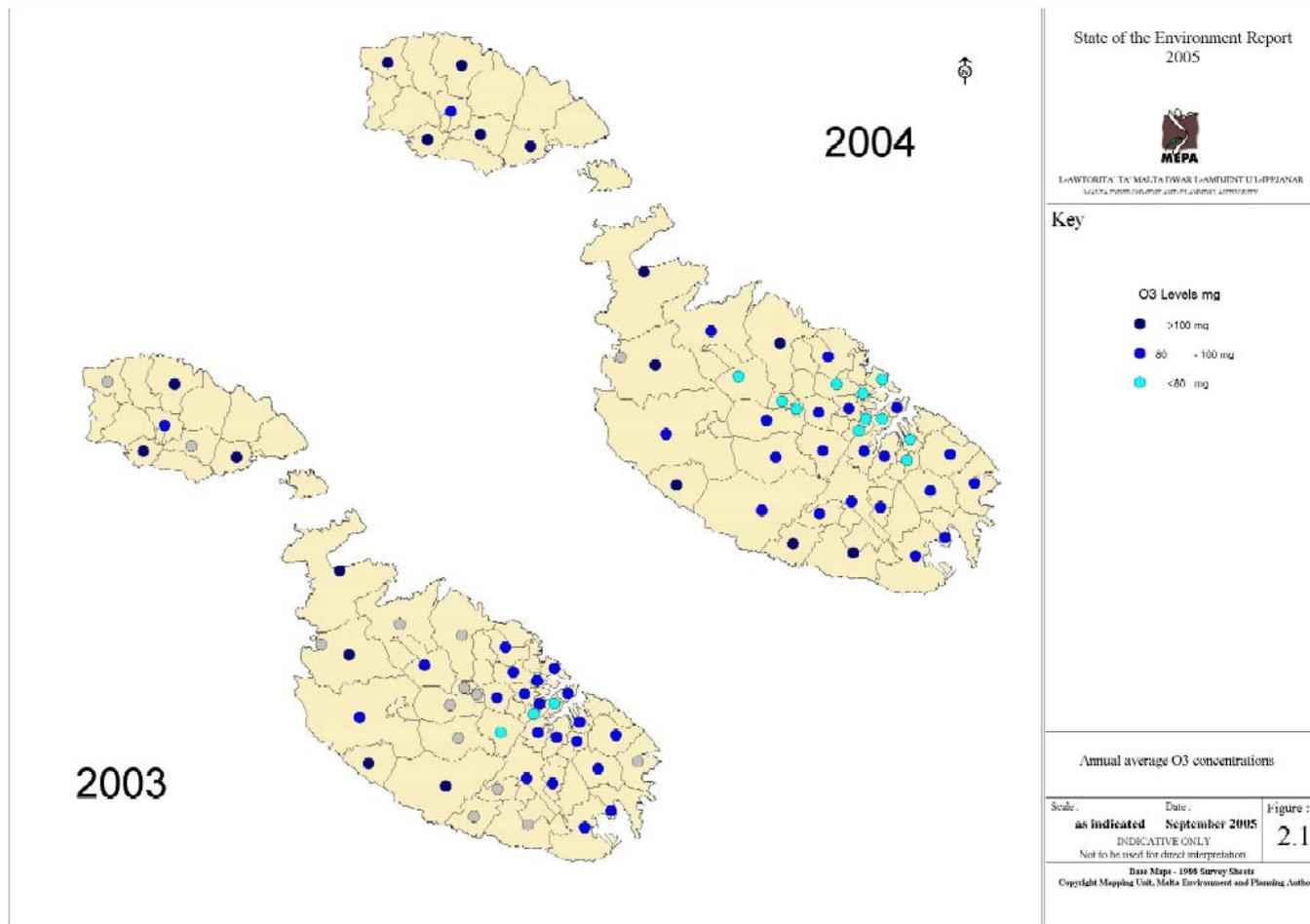
AIR QUALITY AND CLIMATE CHANGE

Air Quality

- I03. Air quality is assessed by measuring the levels of the major pollutants: sulphur dioxide (SO_2), nitrogen oxides (NO_x), benzene and ozone (O_3), as well as suspended particulate matter. In Malta, these pollutants are mainly created by traffic and electricity generation.
- I04. Ozone (O_3) presence in Malta is largely the result of transboundary movement²⁵. The highest concentration of O_3 was found in villages farthest away from the high traffic densities, see **Figure 4.1**. One of the reasons for this is that O_3 reacts with nitrogen oxide emitted from combustion engines to form nitrogen dioxide. Subsequently, localities where O_3 was low experienced high levels of NO_2 , see **Figure 4.2**.

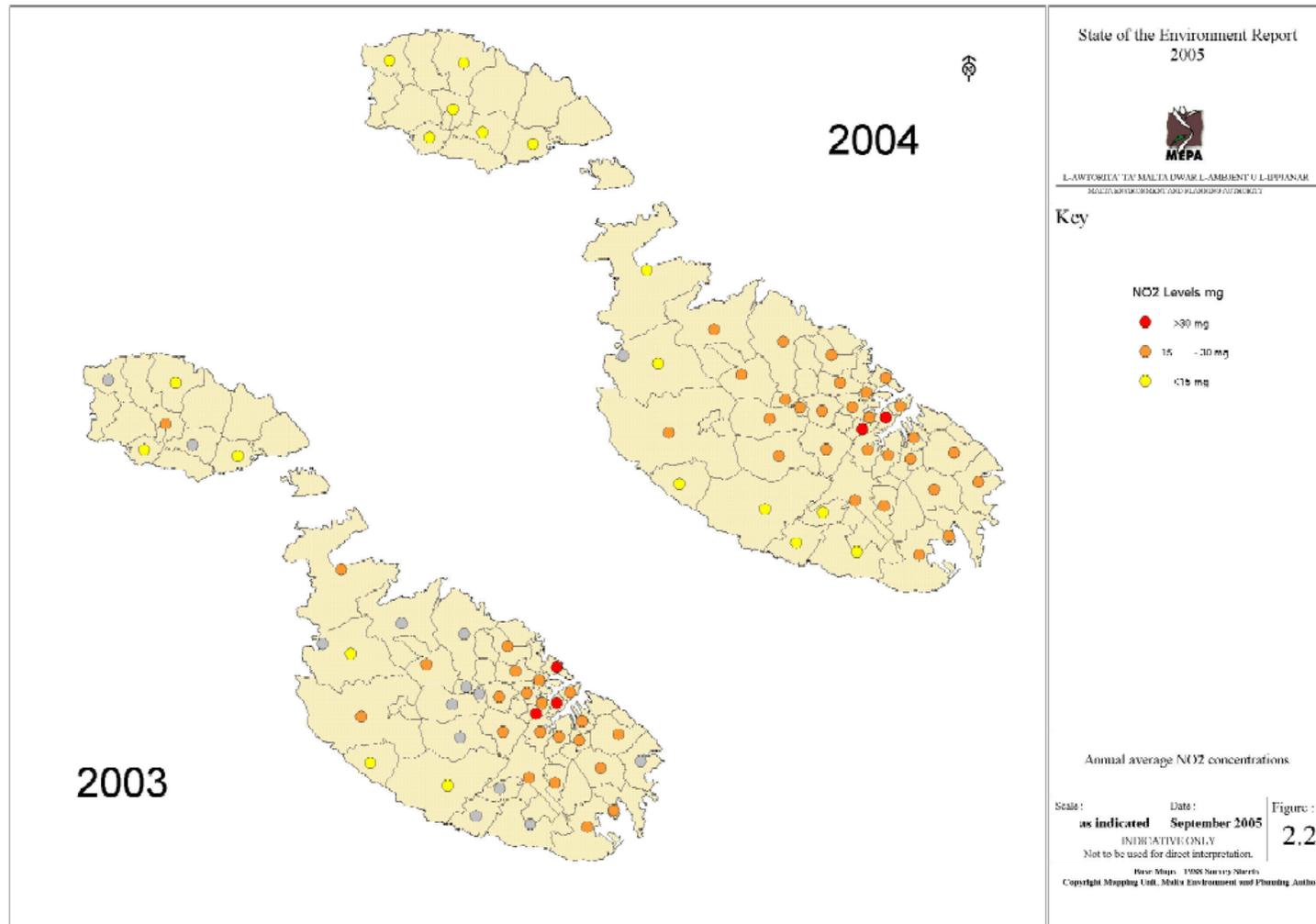
²⁵ MEPA, State of the Environment Report 2005, Sub-report 2: Air, 2005

Figure 4.1: Ozone levels in Malta: 2003-2004



Source: MEPA, State of the Environment Report 2005, Sub-report 2: Air, 2005

Figure 4.2: Nitrogen Dioxide levels in Malta: 2003-2004



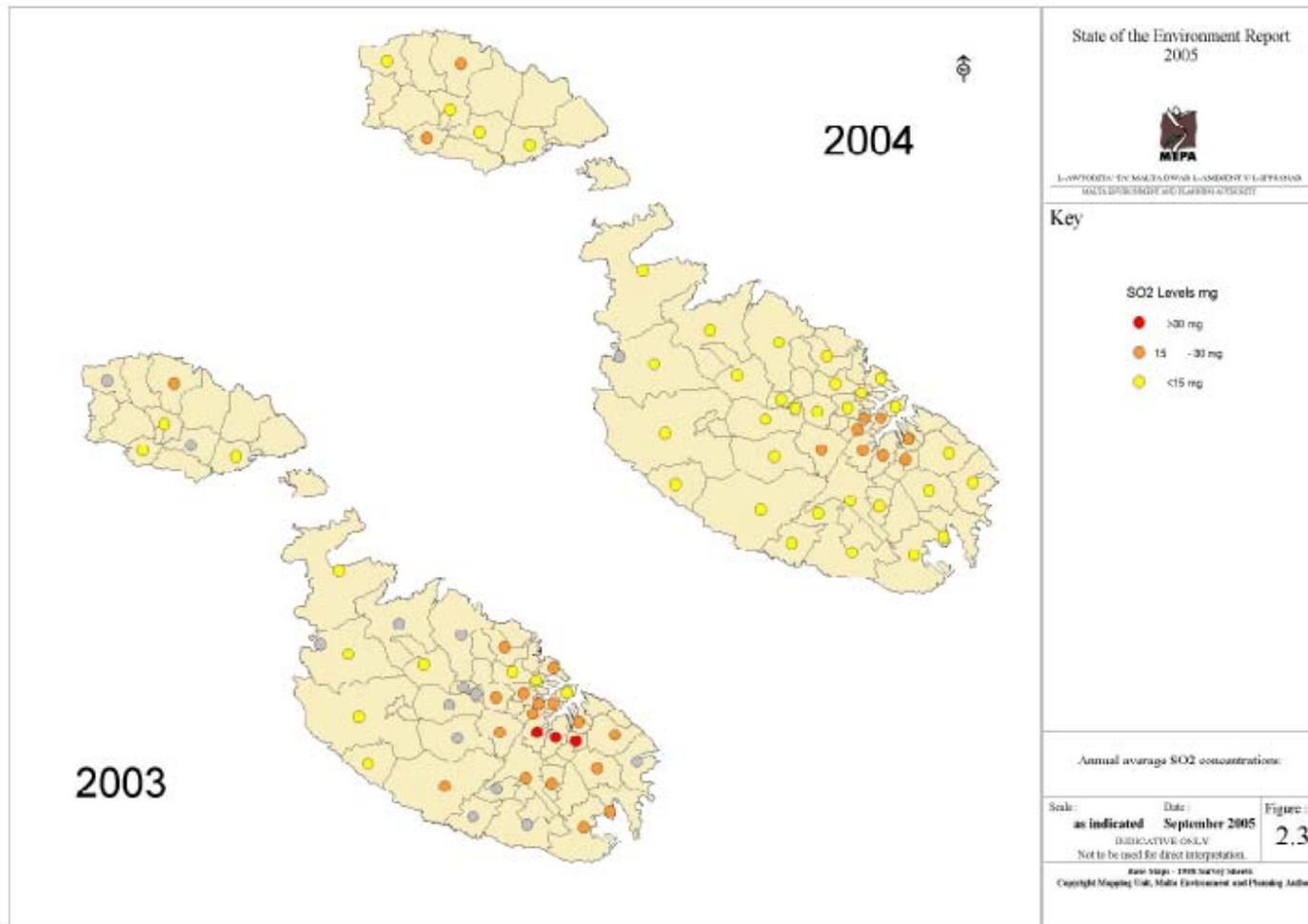
Source: MEPA, State of the Environment Report 2005, Sub-report 2: Air, 2005

-
105. Sulphur dioxide levels decreased significantly between 2003 and 2004, probably because of the change to low-sulphur fuel in early 2004. Localities lying to the south-east of the Marsa power generation plant experienced the greatest reductions (see **Figure 4.3**). Nonetheless, SO₂ concentrations in particular localities were still above both hourly and annual EU standards. The high level of SO₂, especially during the summer months, is thought to be the result of increased electricity generation and pollution from transboundary sources²⁶.
106. Concentrations of benzene in the air have been on the decrease since 2000; in that year, many localities had concentrations that exceeded 5µg/m³ (1.5 ppd). This had improved significantly by 2004, when only Hamrun had an annual average concentration level greater than 5 µg/m³, (see **Figure 4.4**). Such improvements have been attributed to the introduction of lead-replacement petrol (LRP), which substituted leaded petrol in January 2003²⁷.

²⁶ MEPA, State of the Environment Report 2005, Sub-report 2: Air, 2005

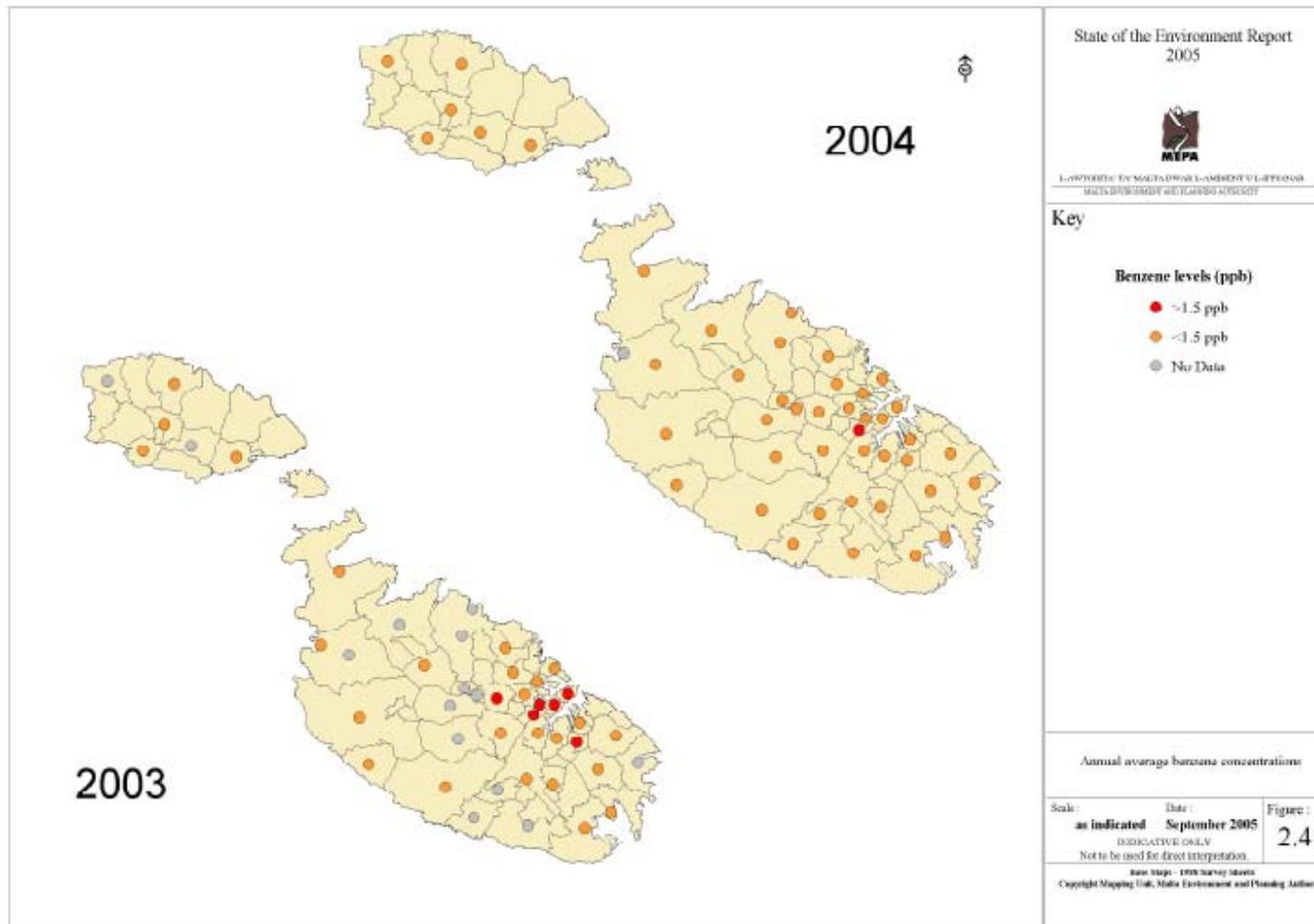
²⁷ MEPA, State of the Environment Report 2005, Sub-report 2: Air, 2005

Figure 4.3: Sulphur Dioxide levels in Malta: 2003-2004



Source: MEPA, State of the Environment Report 2005, Sub-report 2: Air, 2005

Figure 4.4: Benzene levels in Malta: 2003-2004



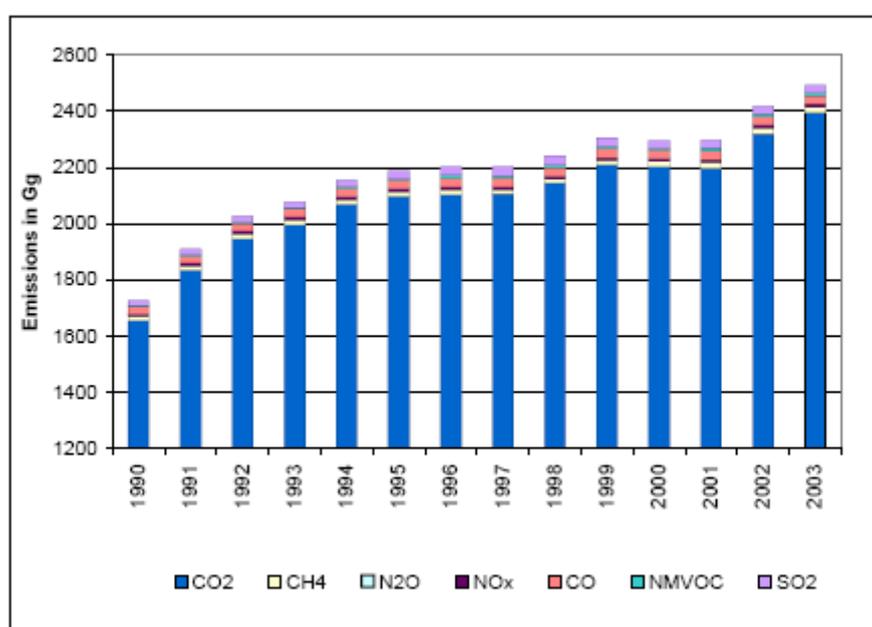
Source: MEPA, State of the Environment Report 2005, Sub-report 2: Air, 2005

107. Particulate matter (PM₁₀) is currently only measured in Floriana. The EU threshold of 50 µ/m³ was exceeded on 37 out of 99 days in 2004 (between September and December); the EU Air Quality Directive provides for 25 exceedances each calendar year. Due to its geographic location, the Maltese islands are affected by transboundary aerosols such as Sahara dust, PM₁₀ of marine origin and non-sea salt fraction of soluble inorganic elements²⁸.

Climatic Factors

108. Greenhouse gases are the major contributors to climate change²⁹. Between 1990 and 2003, greenhouse gas (GHG) emissions in Malta increased by more than 44 per cent (See **Figure 4.5**). This increase is due to increased carbon dioxide (CO₂), emissions (i.e. 44 per cent). Compared to EU member states, Malta has a low rate of GHG emissions per capita but a high rate of emissions per GDP unit. This is most likely related to the inefficiencies in energy generation, distribution and consumption.

Figure 4.5: Greenhouse gas emissions: 1990 - 2003



Source: MEPA, State of the Environment Report 2005, Sub-report 3: Climate Change, 2005

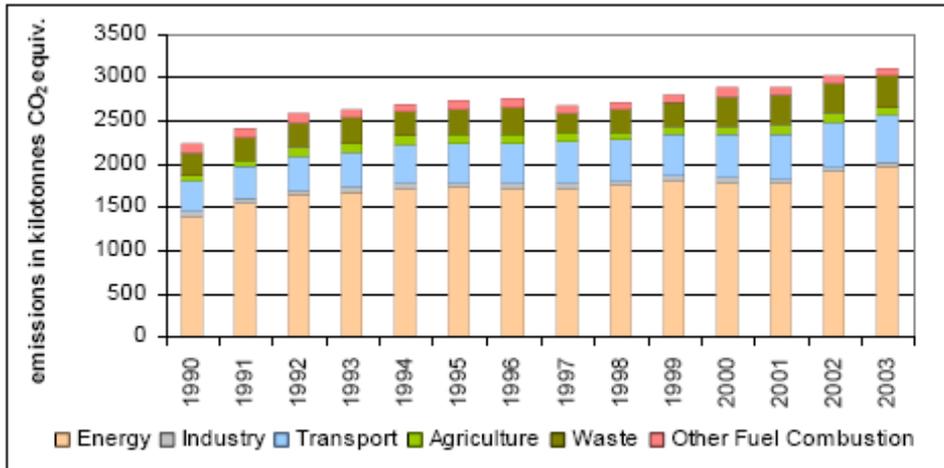
109. The greatest contributors of carbon dioxide are the energy and transport sectors (see **Figure 4.6**). CO₂ emissions in the energy and transport sectors have increased by 41 per cent and 53 per cent respectively since 1990. Together, they currently contribute 95 per cent of Malta's CO₂ emissions³⁰.

²⁸ MEPA, State of the Environment Report 2005, Sub-report 2: Air, 2005

²⁹ MEPA, State of the Environment Report 2005, Sub-report 10: Cross cutting concerns, 2005

³⁰ MEPA, State of the Environment Report 2005, Sub-report 3: Climate Change, 2005

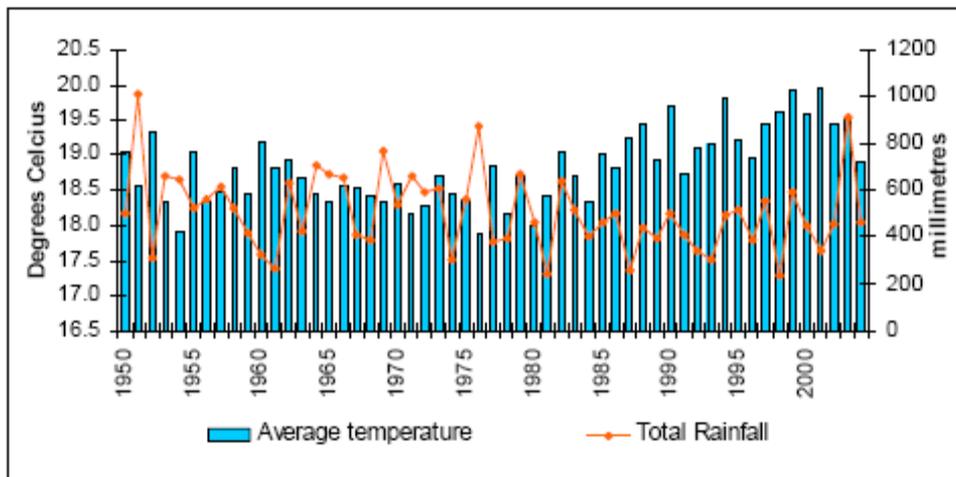
Figure 4.6: CO₂ emissions by sector: 1990 - 2003



Source: MEPA, State of the Environment Report 2005, Sub-report 3: Climate Change, 2005

110. Records indicate that the effect of climate change is being felt on the Maltese Islands. For the periods 1950-1975 and 1975-2000, average annual rainfall decreased by 17 per cent, from 549mm to 453mm. Over the same period, air temperatures increased from an average of 18.68°C between 1950-1960 to 19.38°C between 1990 and 2000 (see **Figure 4.7**). Over the past 77 years, the local mean annual air temperature rose by 0.5°C. The major impacts of climate change on the Maltese Islands are predicted to be related to a deterioration of water supply and quality, and more extreme weather events accompanied by increased soil erosion and desertification³¹.

Figure 4.7: Average temperature and total rainfall: 1950 - 2000



Source: MEPA, State of the Environment Report 2005, Sub-report 3: Climate Change, 2005

³¹ MEPA, State of the Environment Report 2005, Sub-report 3: Climate Change, 2005

111. The Maltese Government has identified areas that need to be tackled so that air quality and climate change issues are adequately addressed³². These include:
- Improve efficiency in electricity generation;
 - Promote energy efficiency and conservation;
 - Take steps to reduce greenhouse gas emissions through an energy policy that promotes environmental protection, competitiveness and security of supplies, and as a result decouple the rate of growth of energy demand from economic growth;
 - Take remedial action to control emissions of air pollutants (ambient levels of particulate matter, sulphur dioxide, carbon monoxide, benzene, lead, ozone, heavy metals and nitrogen oxides) and achieve compliance with European standards;
 - Encourage people to make use of public transport and / or adopt car-pooling practices in order to reduce vehicle emissions;
 - Introduce smaller buses on certain public transport routes; and
 - Require the construction industry to reduce the generation of fine dust particles, and introduce energy efficiency measures as part of the development permission process.
112. It is noted that, to date, Malta does not have any quantified mandatory targets for the limitation or reduction of greenhouse gas emissions, either under the United Nations Framework Convention on Climate Change (UNFCCC) / Kyoto Protocol process (being a non- Annex I party) or under the EU 'burden-sharing' agreement (limited to the EU-15). In the future, under an EU post-2012 regime, targets for Malta for the limitation or reduction of emissions may be a possibility³³.

ENERGY-EFFICIENCY AND RENEWABLE ENERGY RESOURCES

113. Energy in Malta is generated from the combustion of imported fossil fuels. Domestic transport, industry, and power stations are the three main energy consumers. From 1990 to 2004, Malta's gross energy consumption increased by 73 per cent to 2,204GWh, with the commercial sector growing by 128 per cent and the domestic sector by 94 per cent. **Figure 4.8** illustrates the trend in electricity consumption; it also shows that there is a significant amount of energy generated that is unaccounted for³⁴.

³² Malta Government, 2006, A Sustainable Development Strategy for the Maltese Islands 2006 -2016, Third draft, National Commission for Sustainable Development

³³ Malta Resources Authority, 2006, A Proposal for an Energy Policy for Malta, Public Consultation Draft.

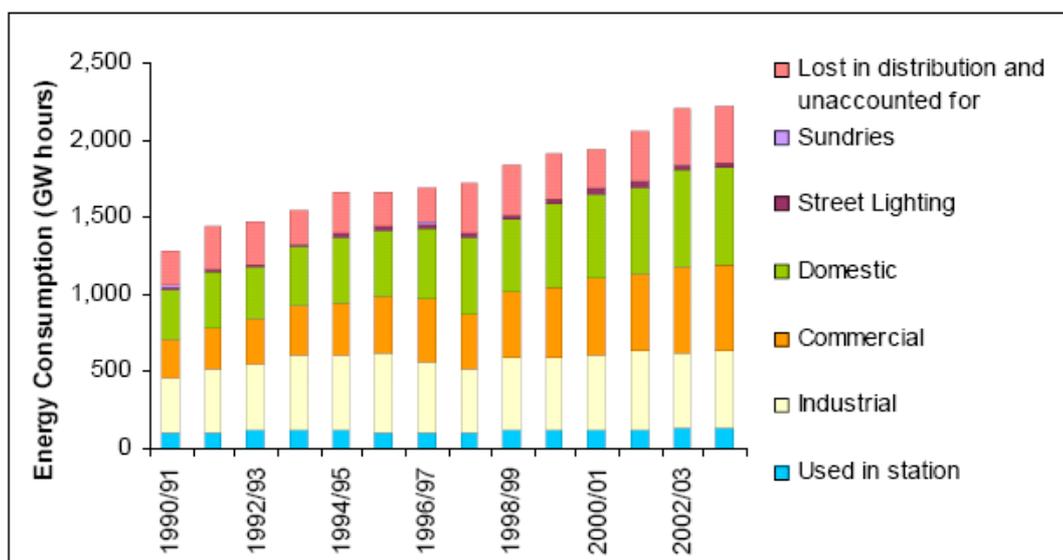
³⁴ MEPA, State of the Environment Report 2005, Sub-report I: Driving Forces for Environmental Change, 2005

114. This trend in consumption can be attributed to a number of factors including:

- Growth in the islands' economic activity;
- A higher standard of living, which has contributed to the increase in electrical loads; and
- Improved distribution network and use of electrical energy.

115. The Malta Resources Authority's Proposal for an Energy Policy for Malta³⁵ indicates that until recently, the active power maximum demand in any one year occurred on a cold winter day, but now the summer active power maximum demand is close to the winter maximum demand. The winter demand is associated with the use of electrical heaters; the high summer demand is a result of increased use of air-conditioning systems.

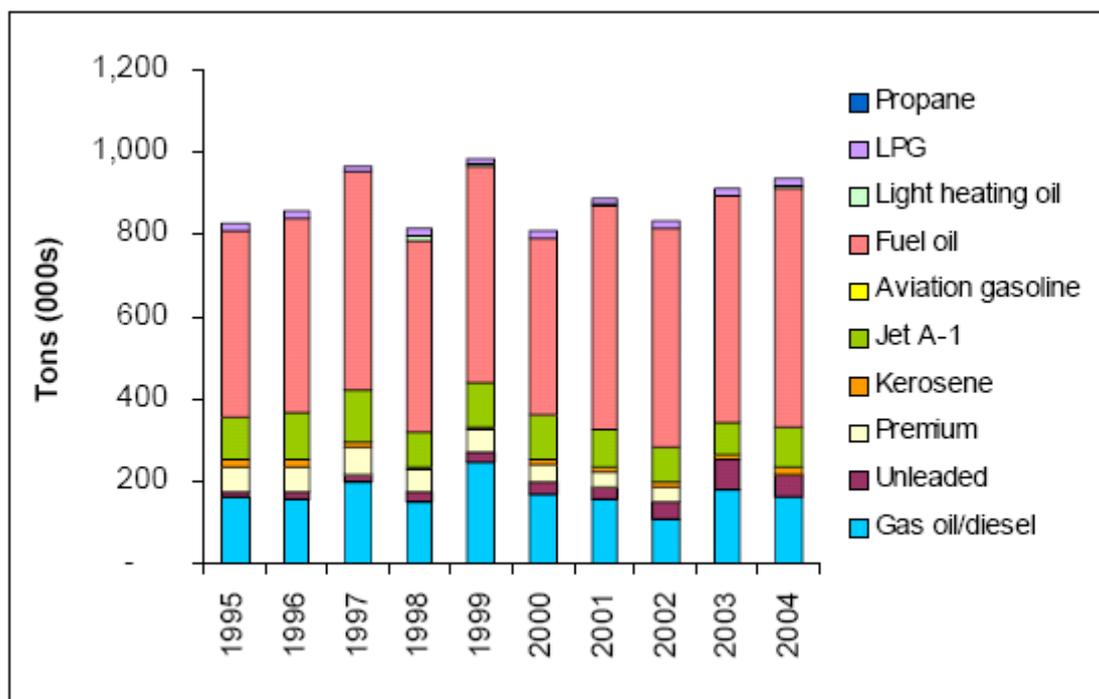
Figure 4.8: Sectoral Electricity Consumption



Source: MEPA, State of the Environment Report 2005, Sub-report I: Driving Forces for Environmental Change, 2005

116. Fuel oil is the most widely used fuel. The consumption of gas oil/diesel has seen fluctuations in use between 1995 and 2004, while LPG use remained fairly constant. As premium petrol was withdrawn from the market in 2003, unleaded petrol (LRP) saw a corresponding increase (see **Figure 4.9**).

³⁵ Malta Resources Authority, 2006, A Proposal for an Energy Policy for Malta

Figure 4.9: Energy Balance

Source: Source: MEPA, State of the Environment Report 2005, Sub-report 1: Driving Forces for Environmental Change, 2005

117. In spite of the abundant prospects for renewable sources because of the Islands' climatic conditions (wind and sun), Malta has made little use of them. In 2002 the Malta Resources Authority prepared a Paper entitled "The Development of a Strategy for the Exploitation of Renewable Resources". However, to date there is no long-term programme for the implementation of the strategy. Currently the major renewable energy use is for domestic solar water heaters.
118. In 2006, the Malta Resources Authority prepared a policy document entitled "A Proposal for an Energy Policy for Malta³⁶". The aim of the policy is to provide Malta with a secure, competitively priced, and environmentally sound energy supply. It addresses five policy areas: energy efficiency, reducing reliance on imported fuels, stability in energy supply, delivering energy efficiently and effectively, and ensuring that the energy sector can deliver.

BIODIVERSITY

119. Malta's natural environment includes habitats such as cliffs, valleys, garrigue and sand dunes; this environment covers only 22 per cent of Malta's surface area. Nonetheless, the islands have a rich biodiversity, which include a large number of native plants and animals³⁷.

³⁶ At the time of writing the draft Proposal was undergoing a public consultation exercise.

³⁷ MEPA, State of the Environment Report 2005, Sub-report 9: Biodiversity, 2005

120. The local vegetation community is mainly characterised by the so-called sclerophyll series, comprising evergreen wood, maquis, garrigue and steppe. Other vegetation communities include coastal cliffs, freshwater and saline wetlands, and sand dunes, together with a variety of marine habitats such as seagrass meadows and habitats based on coralline red algae. The current status of selected groups of species is identified in **Table 4.2**.

Table 4.2: Current status of selected groups of species³⁸

Species group	Status
Plants	A significant reduction in species diversity has been observed since the early 1980s, particularly in sand dunes, freshwater wetlands and saline marshlands. Some species are possibly extinct while others vulnerable or endangered, mainly as a result of habitat loss or modification. On the other hand, an increase in species diversity is being observed in disturbed habitats due to the introduction of alien species, which may be causing a decline in the populations of native flora, some of which are endemic.
Fungi	Many species are confined to a few areas, particularly forest remnants and selected garrigue sites, of which a good number are protected. Nevertheless, the increase in human disturbance in a number of areas has led to a possible decline in mycoflora (moulds). However, only limited population assessments have been carried out on these species.
Invertebrates	Detailed information is available on several groups, both from the terrestrial and aquatic aspect. Studies of a few well-known groups (such as butterflies) indicate a general decline. Molluscs are also declining in particular habitats, especially in respect of water-associated species. In addition some endemic species are threatened due to human-associated disturbance and development.
Fish	Mediterranean dolphin fish stocks appear unaffected by fishing pressures. Stocks of tuna and swordfish are, however, apparently diminishing. Large pelagic species account for over 60 percent of annual value of landings – these are heavily dependent on international management efforts.
Amphibians and Reptiles	Populations overall appear to be stable, although many species are still vulnerable and/or subject to illegal exploitation. Although no detailed assessments have been carried out, the endemic wall lizards populations are apparently stable, with the possible exception of that confined to Selmunett. Some snake populations appear to be increasing, although there are very limited scientific studies. The status of marine turtles needs assessment; a number of turtles that have been accidentally captured or injured are now being rehabilitated and released.
Mammals	Variable trends and information are available. Bats are generally declining. The Algerian hedgehog population seems to be stable, although the impact of vehicles needs a more detailed assessment. Rats (<i>Rattus</i> spp.; <i>Firien</i>) are increasing, particularly in urban areas, disturbed habitats and on the smaller islands, to the detriment of the native flora and fauna. Wild rabbit populations are increasing in some areas, particularly on Comino Island, where its increase and the lack of prey species is negatively affecting the regeneration of native plants and animals. The status of marine mammals is not known, and limited information is available.
Birds	33 bird species breed in Malta, of which some 20 retain constant numbers. Recent increases in breeding pairs for the Tree Sparrow are noted, while Corn Bunting numbers continue to decrease drastically. The Spectacled Warbler is still breeding in very low numbers but seems to be spreading slowly in Gozo. Most breeding is taking place in protected areas (such as Buskett and the Simar bird sanctuary), where Moorhens, Little Ringed Plovers and Reed Warblers increased recently. Reed Warbler breeding records increased from 1 (at Salina) in 1995 to 8 (at Simar) in 2004.

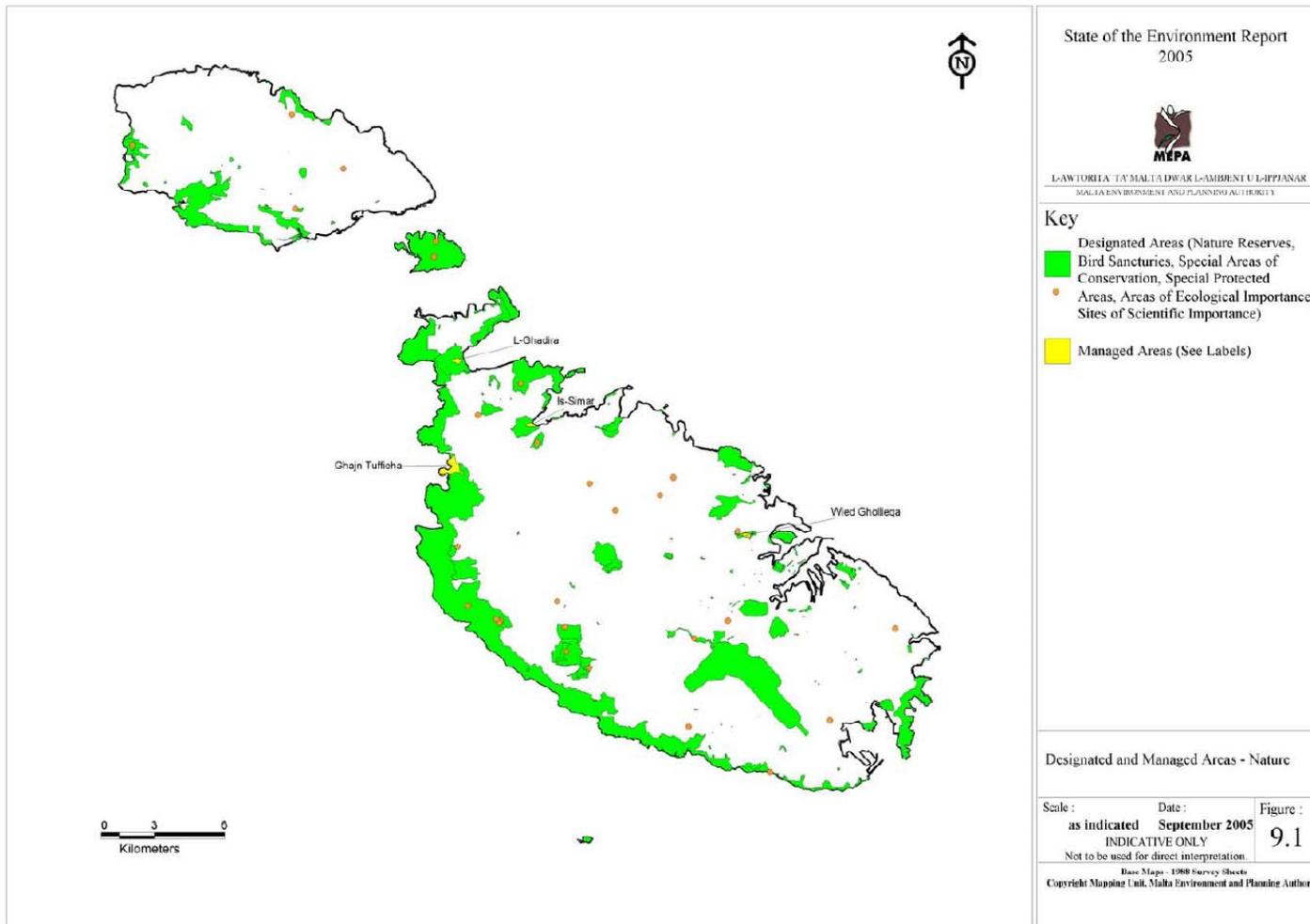
³⁸ MEPA, State of the Environment Report 2005, Sub-report 9: Biodiversity, 2005

Source: MEPA, State of the Environment Report 2005, Sub-report 9: Biodiversity, 2005

- I21. The main threats to local biodiversity are land development in rural and marine areas, the introduction of alien species (including GMOs), and the exploitation of wildlife including illegal collection, hunting and trapping³⁹.
- I22. Biodiversity is safeguarded mainly through the protection and management of sites and areas. Various sites around the Maltese Islands are afforded protection status under national and international designations in order to protect and manage important species and their habitats. Overall, 18 per cent of the Maltese Islands are designated areas (see **Figure 4.10**).

³⁹ MEPA, State of the Environment Report 2005, Sub-report 9: Biodiversity, 2005

Figure 4.10: Designated and managed areas

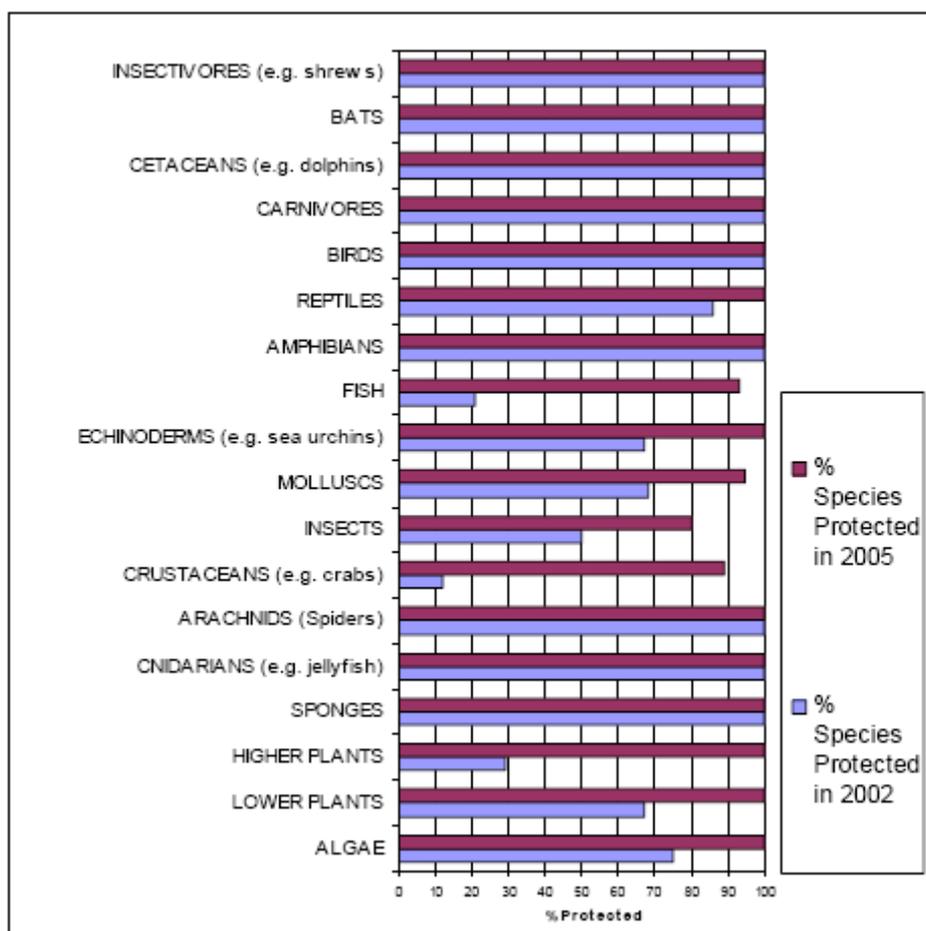


Source: MEPA, State of the Environment Report 2005, Sub-report 9: Biodiversity, 2005

-
123. There are 32 Nature Reserves, 24 Bird Sanctuaries and 14 sites of ecological or scientific importance; some of these designations overlap, such that there is a total of 57 sites covering 12.5 per cent of the land area.
124. Malta has also declared 38 Special Areas of Conservation (SAC): 31 sites are of international importance and 7 are of national importance. 23 of the 31 SACs of international importance have been submitted as candidate Natura 2000 sites. These same sites were submitted to the Council of Europe as candidates for the Emerald Network of Areas of Special Conservation Interest, under the Bern Convention. Malta has also declared six sites as Specially Protected Areas (SPAs) under the EU Birds Directive, two sites as wetlands of international importance under the UN Ramsar Convention, and four sites as SPAs under the Mediterranean level UN Barcelona Convention.
125. The management of such sites helps to ensure that conservation goals are reached. Only four sites are currently managed in Malta, namely Ghajn Tuffieha, is-Simar, Wied Ghollieqa and L-Ghadira, as shown in **Figure 4.10**. These represent only 0.16 per cent of the total land area. A major constraint to area management is related to land ownership issues⁴⁰.
126. In 2005, 183 out of 189 local species of international importance were protected by national legislation; in 2002 only 115 of these species were protected. Since then, protection was significantly increased for fish, crustaceans, and higher plants as shown in **Figure 4.11**.

⁴⁰ MEPA, State of the Environment Report 2005, Sub-report 9: Biodiversity, 2005

Figure 4.11: Percentage protection of local species of international importance: 2002 - 2005



Source: MEPA, State of the Environment Report 2005, Sub-report 9: Biodiversity, 2005

127. The Draft National Sustainable Development Strategy states that the intention of the Maltese Government in the field of biodiversity is to, amongst others, prepare management plans for the Special Areas of Conservation and to develop a national Biodiversity Strategy based on the aims of the Convention of Biological Diversity.

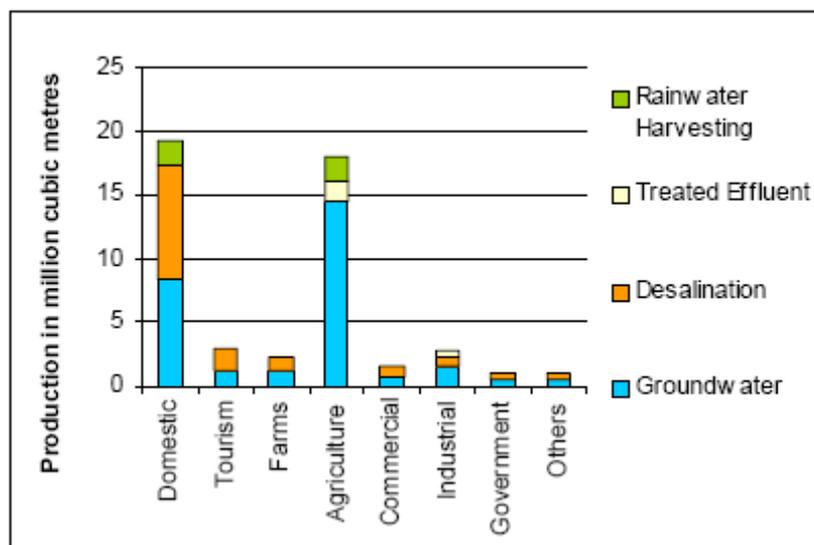
FRESHWATER

128. Freshwater is a limited natural resource in the Maltese Islands. It derives from rainwater percolating through the porous limestone rock accumulating in aquifers from where it either seeps out from fissures in the rock or is extracted for agricultural use or human consumption. Groundwater contributes more than half (57 per cent) of the total local water production. Reverse osmosis plants supply another 32 per cent of freshwater, the rest coming from treated effluent and rainwater harvesting. Reverse osmosis plants consume large amounts of energy and are thus a major indirect source of emissions. In 2005, the three desalination plants

consumed approximately 100,000 MWh (or 8 per cent) of the local electricity consumption.

129. The domestic and agricultural sectors are the largest consumers of the total freshwater produced at 39 per cent and 37 per cent respectively (see **Figure 4.12**). More than half of the ground water extraction is private.

Figure 4.12: Water consumption by sector: 2003

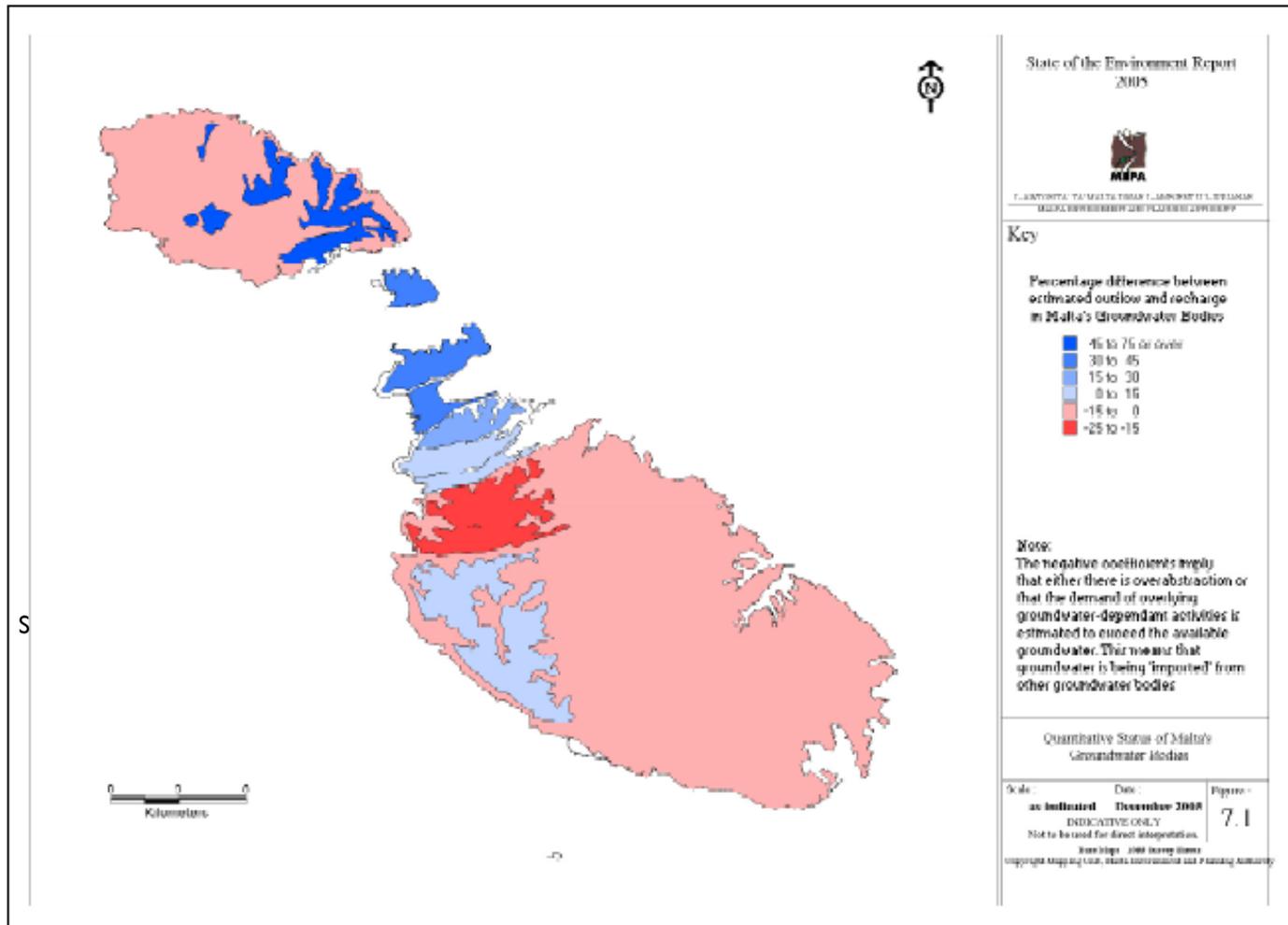


Source: MEPA, State of the Environment Report 2005, Sub-report 7: Waters, 2005

130. The over-abstraction of groundwater is an issue of concern. It results in imbalances in abstraction and recharge of groundwater. In 2004, the Islands' major groundwater bodies were mostly over-abstracted. The Malta main Mean Sea Level Aquifer system and the Mgarr-Wardija perched groundwater body⁴¹ are the most over-abstracted water bodies (see **Figure 4.13**). The decreasing levels of groundwater and spring flows are all signs of over-abstraction.

⁴¹ Groundwater body means a distinct volume of groundwater within an aquifer or aquifers. Perched refers to the type of aquifer; it is that aquifer that forms within the Upper Coralline Limestone (a rock that is fissured and porous); it is perched above the Blue Clay aquiclude formation.

Figure 4.13: Quantitative status of Malta's groundwater bodies: 2004

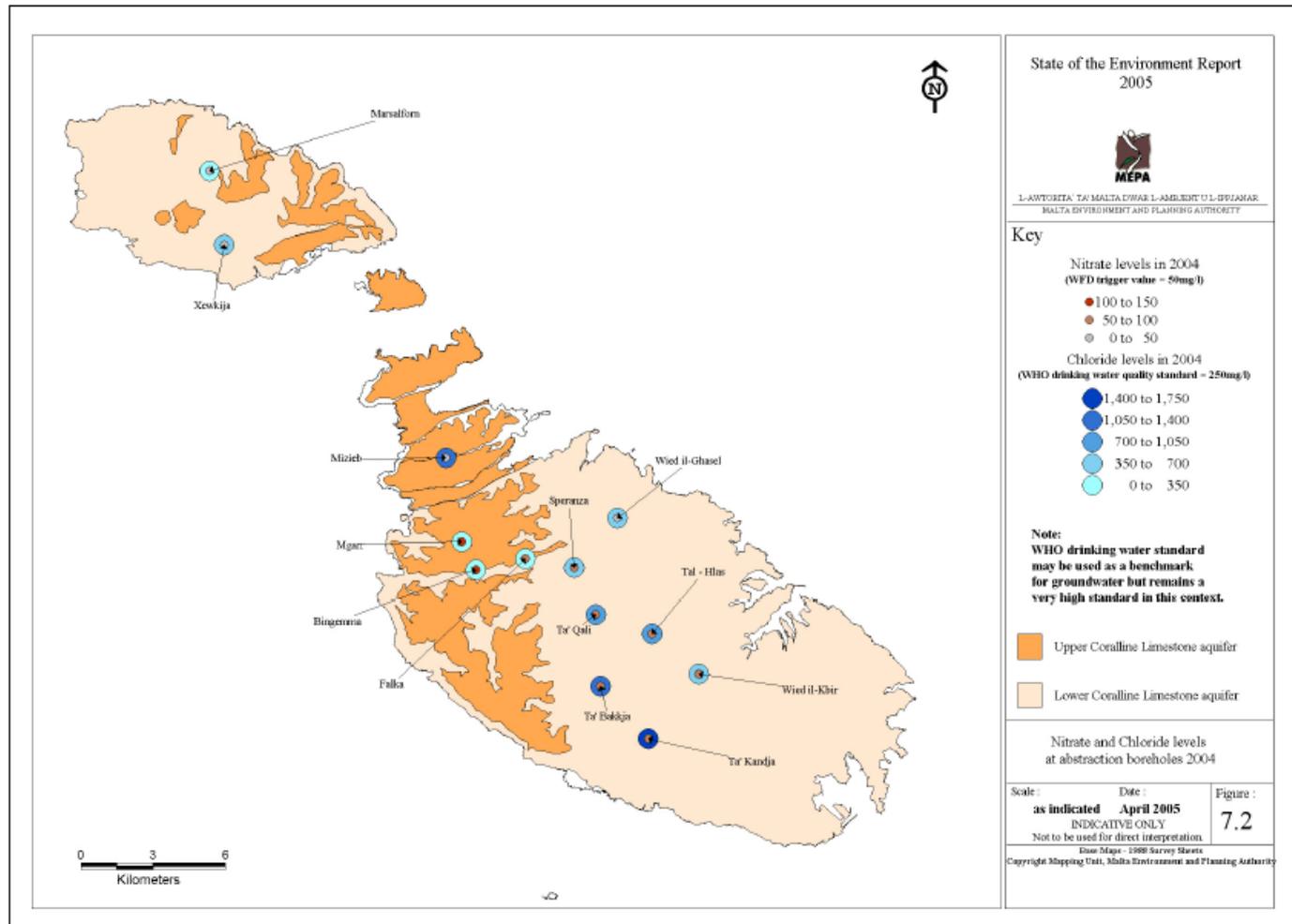


Source: MEPA, State of the Environment Report 2005, Sub-report 7: Waters, 2005

-
131. In 2004, the nitrate levels in two-thirds of the Water Services Corporation-operated boreholes exceeded the Nitrate Directive trigger value of 50 NO₃ mg/l (see **Figure 4.14**). High levels of nitrates recorded in the perched aquifers indicate contamination⁴².
132. The level of chlorides in the mean sea level groundwater body is an indication of the degree of seawater intrusion. All boreholes located in the mean sea level aquifer exceeded the WHO threshold for drinking water (250 Cl mg/l). The highest level was recorded at the Ta' Kandja pumping station (736 Cl mg/l); the lowest was 354 Cl mg/l at Xewkija, Gozo. The perched groundwater bodies also suffer from a degree of salinity, mainly due to sea spray and saline water used for irrigation. The highest value was recorded at the Bingemma pumping station and read 209 Cl mg/l; the lowest was 163 Cl mg/l at Falka, Rabat. However, since 2001, decreases in chloride levels have been recorded in all groundwater bodies.

⁴² Source: MEPA, State of the Environment Report 2005, Sub-report 7: Waters, 2005

Figure 4.14: Levels of Nitrates and Chlorides at abstraction boreholes: 2004



Source: MEPA, State of the Environment Report 2005, Sub-report 7: Waters, 2005

Water Framework Directive

133. The Water Framework Directive (2000/60/EC), transposed into Maltese legislation as Legal Notice 194 of 2004 (Water Policy Framework Regulations, 2004) provides for the long-term sustainable management of water resources on the basis of a high level of protection of the aquatic environment. The Regulations define the Malta Resources Authority as the Competent Authority in Malta for 'inland waters', with the exception of inland surface waters that are under the competency of the Malta Environment and Planning Authority⁴³.
134. The overall objective of the regulations is to harmonise water environmental policy and regulation across Europe. The main aims of the legislation in respect of groundwater are to:
- Prevent deterioration in the status of groundwater bodies;
 - Protect, enhance and restore all groundwater bodies;
 - Achieve good groundwater quality and quantity by 2015;
 - Prevent and limit the input of pollutants into groundwater;
 - Reverse any significant, upward trend of pollutants in groundwater; and
 - Achieve standards and objectives set for protected areas in other National and Community Legislation.
135. Regulation 5 of the regulations requires that an analysis of the characteristics of the Maltese Water Catchment District is carried out. This has been carried out by the Malta Resources Authority.

WASTE

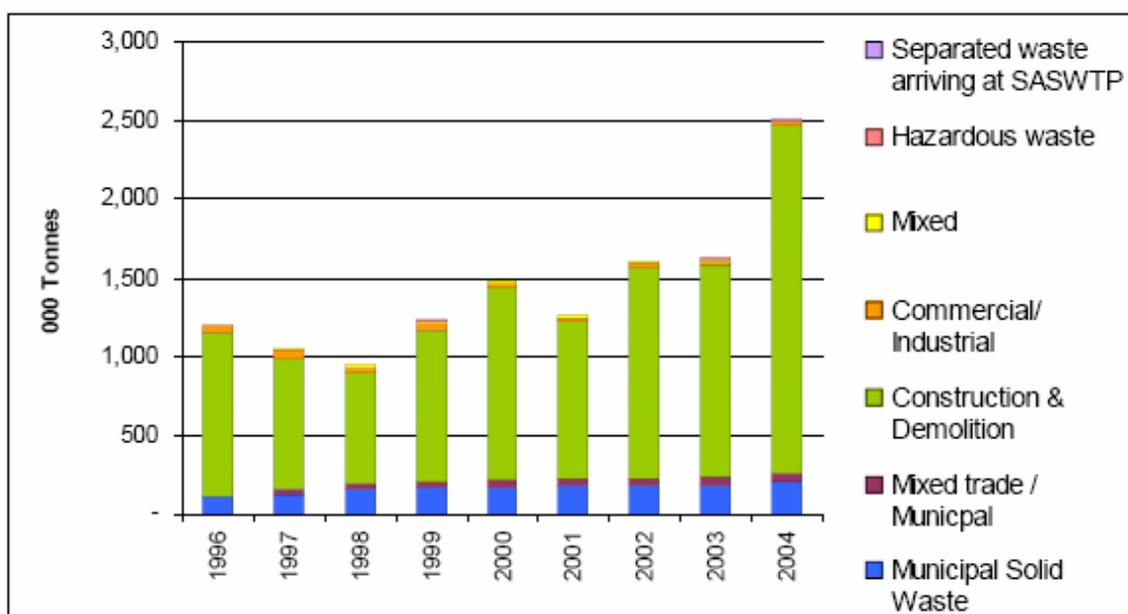
136. It is recognised that the current waste management practices pose a threat to the environment because of Malta's heavy dependency on landfilling; and is exacerbated by the fact that waste generation in Malta is still on the increase. Between 1996 and 2004, the total waste disposed increased by about 50 per cent; this figure excludes illegally dumped waste, which has been estimated at 20,000 tonnes in 2004⁴⁴.
137. The two main waste-generating sectors are the construction and demolition sector which accounted for 88 per cent of waste generated in 2004, and the municipal waste sector, which accounted for 8 per cent of waste generated in 2004 (see **Figure 4.15**). Municipal solid waste generation is estimated at 625kg/capita (in 2003); it is increasing by about 3 per cent every year.
138. In 2004, waste management practices in Malta changed significantly. The two major dumps in Malta and Gozo were closed and a new landfill built. A new system for

⁴³ Malta Resources Authority website: www.mra.org.mt, accessed on 27th June 2006

⁴⁴ MEPA, State of the Environment Report 2005, Sub-report 8: Waste, 2005

inert waste was introduced whereby 98 per cent of this waste was directed to disused quarries⁴⁵. This reduced the amount of waste disposed of in other facilities and prevented its contamination (from mixed waste) and facilitates its recycling in the future. Also, since 2003, hazardous waste was no longer disposed of in the dump site but has been retained at the waste generator or exported. This has reduced substantially the amount of hazardous waste arriving at landfills.

Figure 4.15: Waste arriving at principal waste management facilities by type



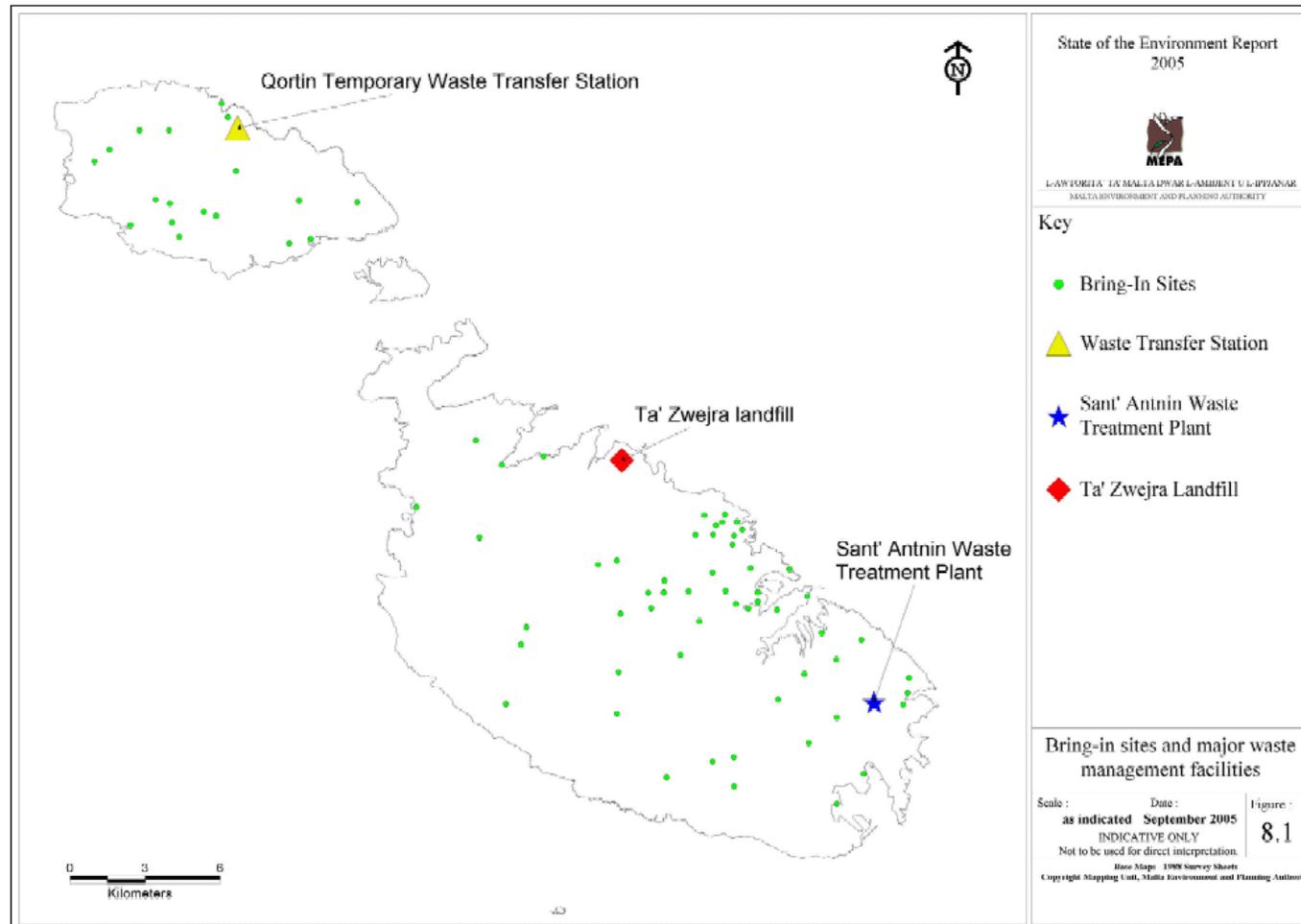
Source: MEPA, State of the Environment Report 2005, Sub-report 8: Waste, 2005

139. Since 2003, bring-in sites⁴⁶ have also been set-up to encourage waste separation, with 75 sites being in place by June 2005, and about 400 expected by 2006, see **Figure 4.16**.

⁴⁵ Prior to 2004 all waste, including inert waste, hazardous waste, and municipal solid waste was dumped at the two main sites in Malta and Gozo: Maghtab and Xaghra.

⁴⁶ Bring-in sites are sites that contain waste separation bins where members of the public can deposit their segregated waste.

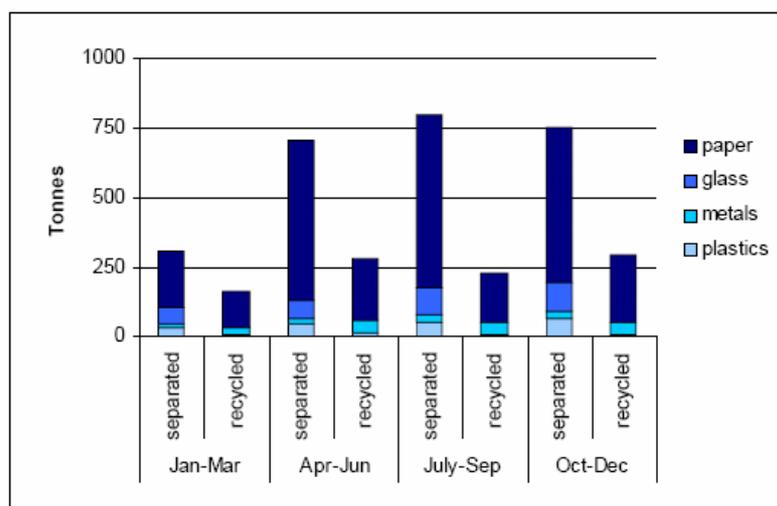
Figure 4.16: Bring-in Sites and major waste management facilities



Source: MEPA, State of the Environment Report 2005, Sub-report 8: Waste, 2005

140. Separated waste (which now includes: glass; metal; paper; batteries; plastics; tyres; green waste; and, electronic equipment) arriving at the Sant'Antnin Solid Waste Treatment Plant has increased substantially: 64 per cent between 2001 and 2005 (see **Figure 4.17**). The separated waste collected is mainly pre-treated in Malta, and then sent abroad for recycling. Cooking oil is also collected for the production of biodiesel, which also reduces emissions when burnt when compared to petroleum diesel currently in use.

Figure 4.17: Waste Separated and Recycled: 2004



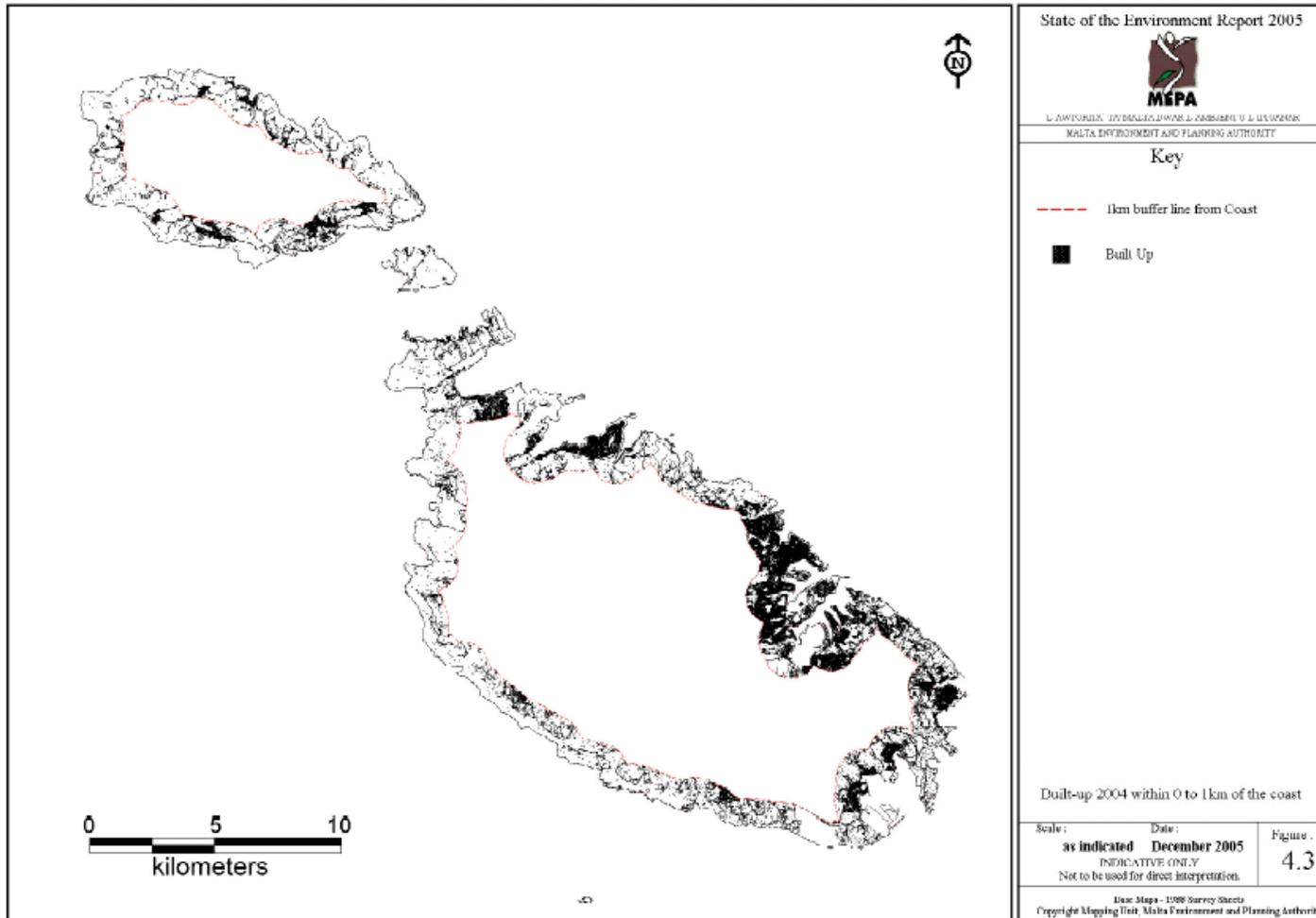
Source: MEPA, State of the Environment Report 2005, Sub-report 8: Waste, 2005

MARINE AND COASTAL ENVIRONMENT

141. The coastal zone in Malta is designated in the Coastal Strategy Topic Paper; it extends approximately 1 km inland and includes twelve nautical miles of sea⁴⁷. Most of the land near the coast is intensively developed: the built up area in the coastal zone (1 km inland from the sea) increased from 5 per cent to 26 per cent between 1990 and 2004. Such developments were mainly aimed at the tourism and recreation sectors, see **Figure 4.18**.

⁴⁷ MEPA, 2002, Draft Coastal Strategy Topic Paper.

Figure 4.18: Built-up Coast: 2004

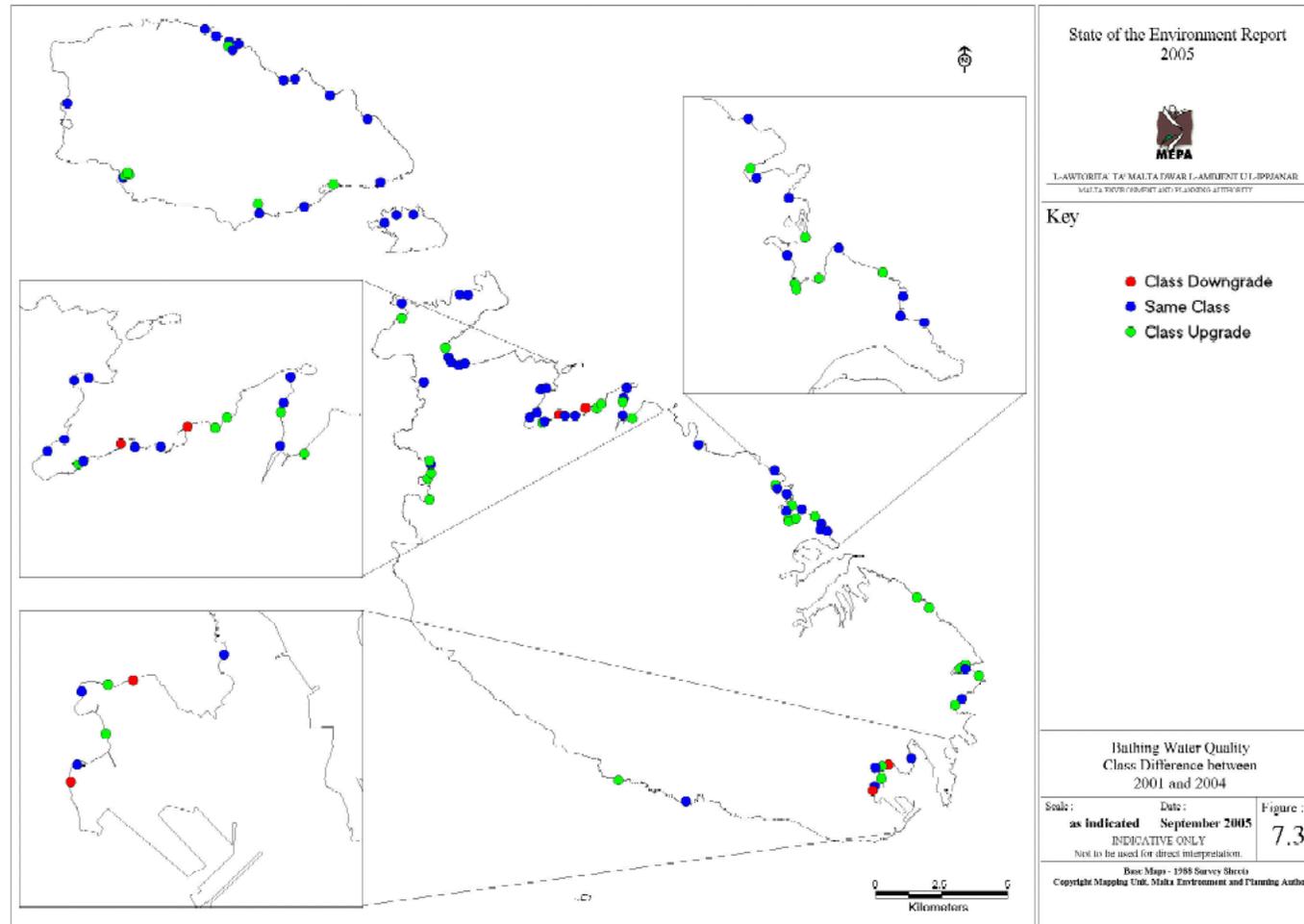


Source: MEPA, State of the Environment Report 2005, Sub-report 4: Land, 2005

-
- I42. Resources in coastal areas are mainly exploited by fisheries, transportation and recreation. The increasing rate of development has also led to conflicts between the various uses in the coastal zone. It is recognised that there exists a gross imbalance between the income generated from exploitation of coastal and marine resources, especially by the tourism industry, and funds allocated to protect such resources.
- I43. Only one marine site has been designated as a marine protected area (the area between Rdum Majjiesa and Ras ir-Raheb).
- I44. Another issue of concern is accessibility to the coast. Some areas are not accessible due to land ownership issues but most are not accessible due to hunting and trapping activities.
- I45. The quality of the marine environment is an important factor for both tourism and recreation. Bathing water quality is monitored at 87 sites. In 2004, 83 per cent of monitored areas were classified as first class⁴⁸ according to the Barcelona Convention standards. This is an improvement over 1996 (where 55 per cent were classified as first class) but a decline compared to 2002 (where 98 per cent of sites classified as first class areas). See **Figure 4.19**.

⁴⁸ First class areas: stations in which faecal coliform counts are less than 100 per 100ml in at least 95% of a minimum of 10 samples collected throughout the whole bathing season.
<http://www.health.gov.mt/dph/ehupdffiles/Bathing%20Water%20Report%202004.pdf> last accessed 27th June 2006

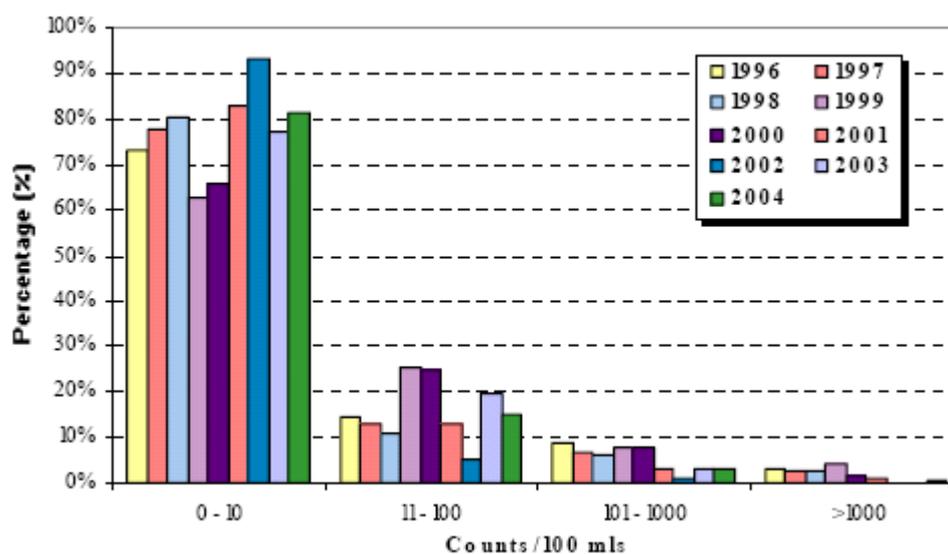
Figure 4.19: Trends in Microbiological Status of Bathing Water: 2001, 2004



Source: MEPA, State of the Environment Report 2005, Sub-report 7: Waters, 2005

146. This improving trend in seawater quality is clearly illustrated in **Figure 4.20**, which illustrates that all tested samples for total coliform counts in 2004 were within the mandatory level, and showed an improvement over the previous years.

Figure 4.20: Percentage of Samples by Faecal Coliform Counts: 1996-2004



Source: Department of Health – Environmental Health Unit

<http://www.health.gov.mt/dph/ehupdf/files/Bathing%20Water%20Report%202004.pdf> last accessed 27th June 2006

147. Bathing water quality is dependent on direct or indirect marine discharges of untreated sewage and industrial effluents. Most local industries discharge their wastewaters into the public sewers under legislative controls. However, the level of compliance with such controls is still low and many pollutants end up in the marine environment.
148. Although it is the Government's intention to stop the discharge of all untreated sewage into the sea in line with EU targets, to date only about 13% of raw sewage is treated prior to its discharge into the sea.
149. As a contracting party to the Barcelona Convention, Malta signed and ratified the revised Land Based Protocol, which covers watersheds on the landward side of the Mediterranean. Further to the Protocol, the Contracting Parties to the Barcelona Convention adopted, and are currently in the process of implementing, a Strategic Action Programme (SAP) to address pollution from land-based activities for the Mediterranean Sea (SAP MED). Within this framework, Malta recently formulated its National Action Plan (NAP) for the reduction and elimination of land-based pollution. Malta's goals under this NAP are to (i) protect human health; (ii) reduce the degradation of the marine environment; (iii) remediate degraded areas; (iv) promote the conservation and sustainable use of coastal and marine resources; and (v) maintain the productive capacity and biodiversity of the marine environment. One key objective for the NAP is to eliminate by the year 2025, discharges of

contaminants from point sources, in conformity with the Land-Based Sources Protocol. The progress in achieving this objective will be assessed in 2010, by which time a 30 to 50 per cent reduction (depending on the targeted contaminant) in the contaminants' releases or emissions is expected to be reached. These reductions are to be achieved through a number of sectoral plans, pollution reduction programmes, emission limit values and environmental quality standards for specific marine pollutants.

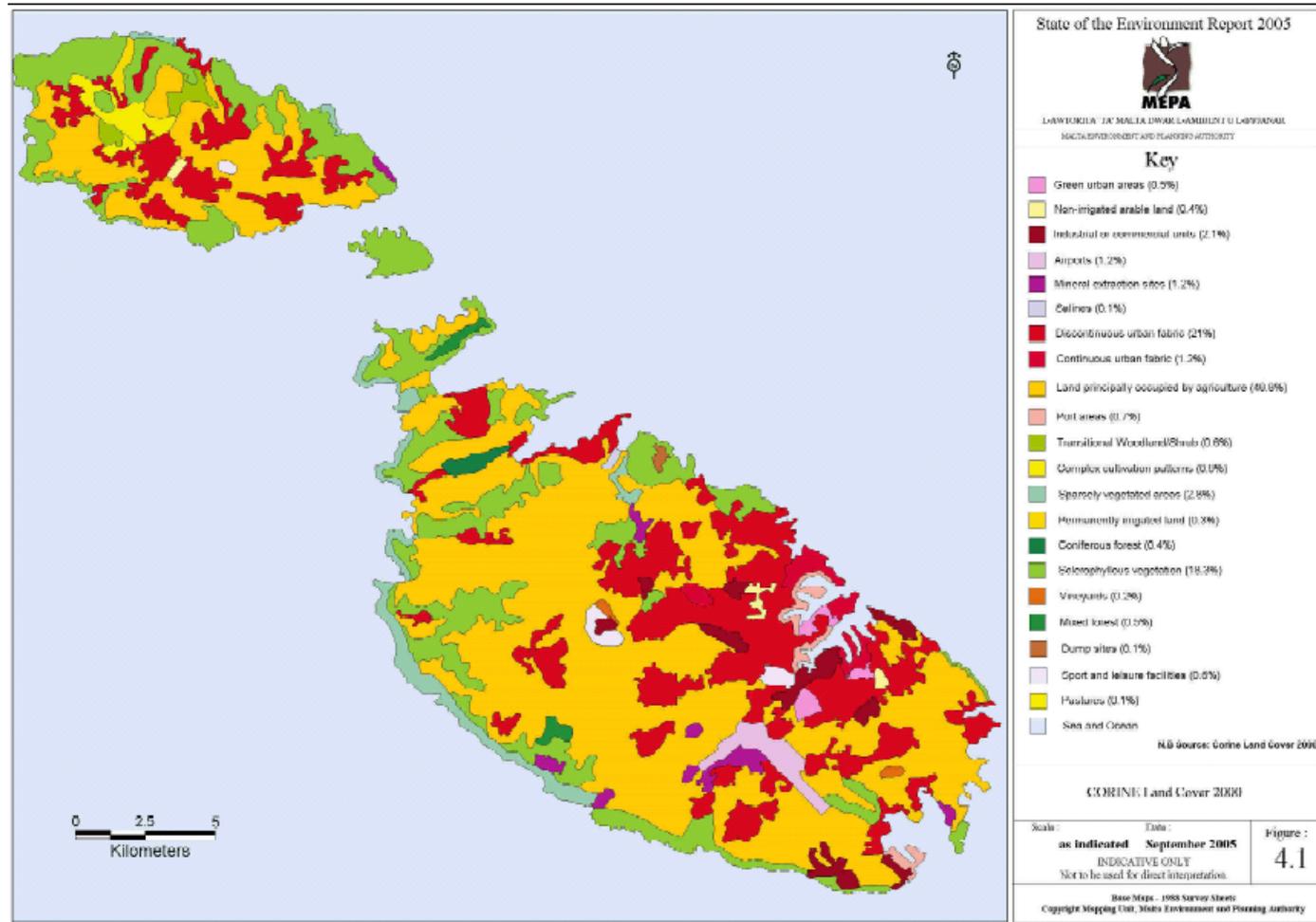
LAND USE

150. Given the Maltese Islands' small size, land is always limited; this is further aggravated by the high population density (approximately 1,200 persons / km²). Over the last 50 years, there has been a shift from agricultural land to land used for buildings.
151. A recent land use survey has indicated that 49 per cent of Malta's land area is used for agriculture; 23 per cent is the urban development, mainly around the Grand Harbour. A significant amount of this land is used for road infrastructure (because of the large increase in private car ownership). Natural vegetation accounts for 22 per cent of the land cover while 2 per cent of land is used for industrial or commercial use (see **Figure 4.21**).
152. MEPA has put in place planning controls to prevent development from occurring outside stipulated development zones. This has resulted in a decrease of 30 per cent (from 70 per cent to 40 per cent) in the development of Greenfield sites⁴⁹, with a corresponding increase (30 per cent to 60 per cent) in the development of Brownfield sites⁵⁰. Nevertheless, it is only from very limited pockets that urban areas are not visible, see **Figure 4.22**.

⁴⁹ Greenfield sites: land that is in a natural state or used for agriculture, which has not been developed - s

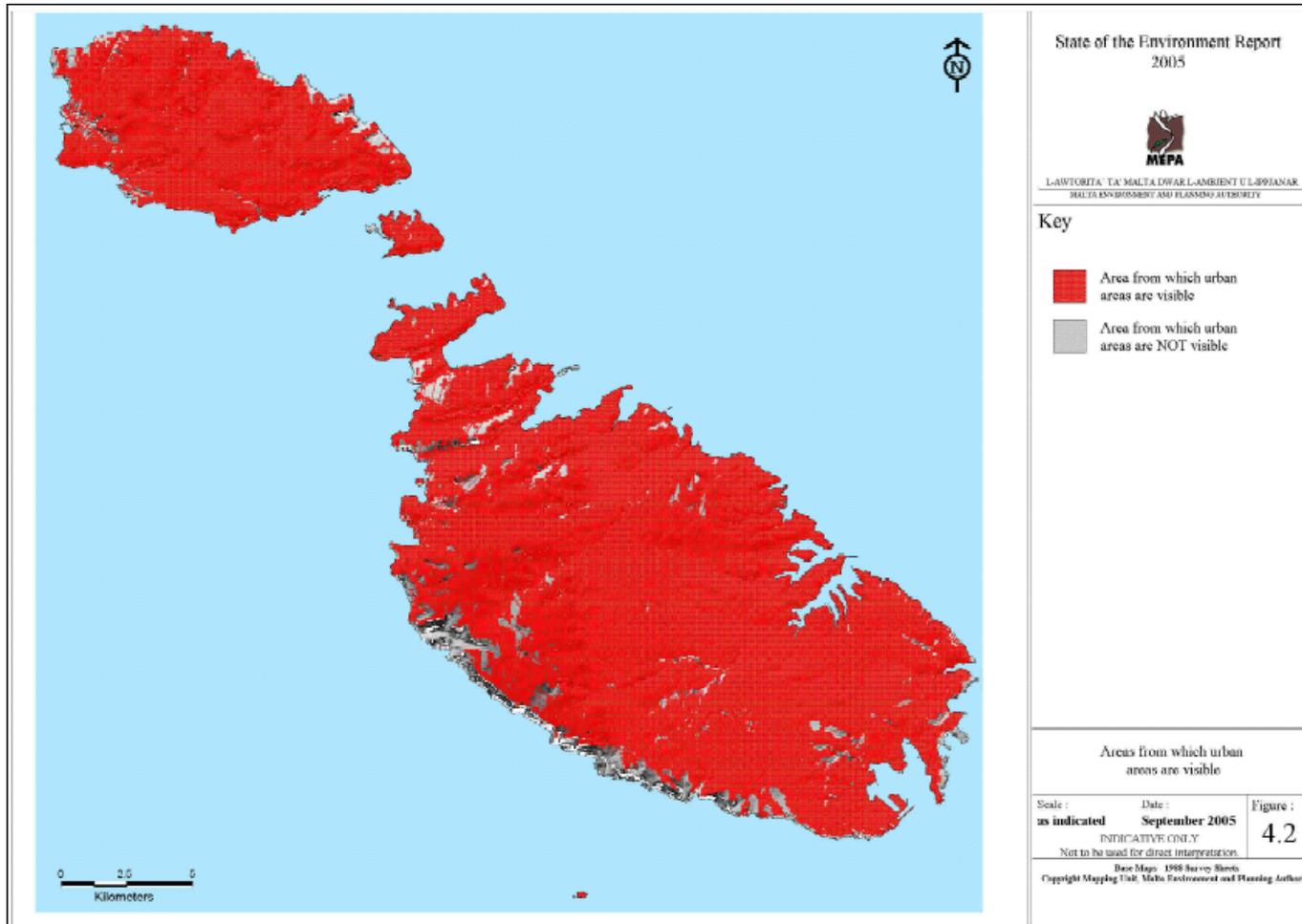
⁵⁰ Brownfield sites: Sites that are built up or are covered by cement or tarmac; they do not include urban parks and gardens

Figure 4.21: Corinne Land Cover 2000



Source: MEPA, State of the Environment Report 2005, Sub-report 4: Land, 2005

Figure 4.22: Areas from which urban areas are visible



Source: MEPA, State of the Environment Report 2005, Sub-report 4: Land, 2005

153. Although in 2003, 92 per cent of residential development applications were for apartments and maisonettes, there are still a large number of vacant properties in Malta. These properties accounted for 23 per cent of the total dwelling stock in 1995; only 36 per cent were holiday homes or second homes. This is indicative of a low level of land use efficiency. A high rate of vacant residential properties is mainly found in historic areas. This problem is further increased due to the high investment potential of land and properties, such that between 2001 and 2004, planning applications for residential developments increased by 38 per cent.

TRANSPORT

154. Private car ownership in Malta is amongst the highest in Europe; in March 2006, 76 per cent of all licensed motor vehicles were privately owned vehicles. This amounts to 207,451 out of a total vehicle stock of 272,848. With a local population of 404,039, this means that on average every two persons own a car. Commercial and motor vehicles make up 16.3 and 4.4 per cent respectively of the total licensed motor vehicle stock.
155. In December 2005 the total road network length was 2,227 km. A comparison of road lengths found in Malta and Gozo is provided in **Table 4.2**.

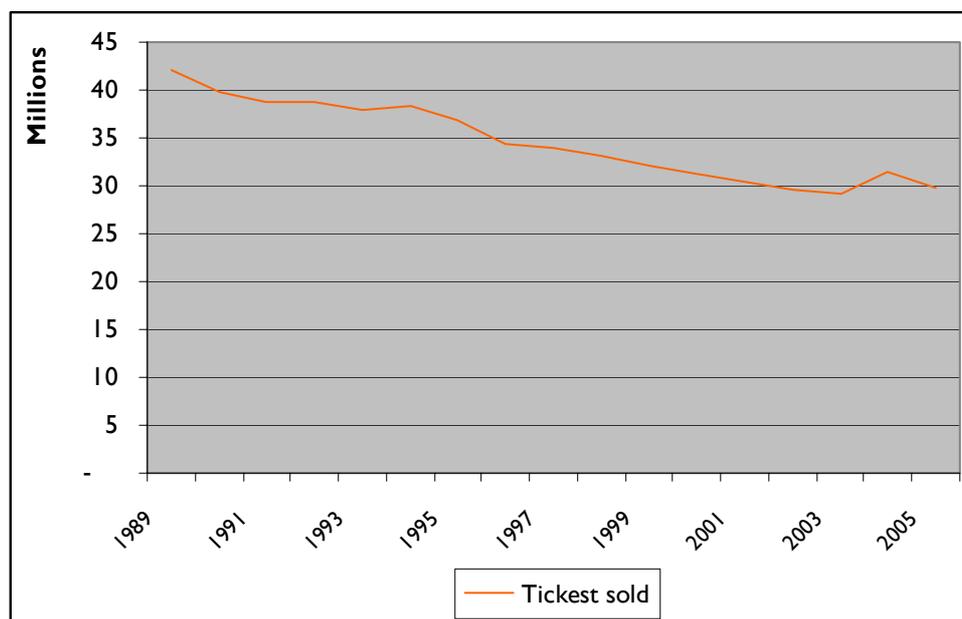
Table 4.2: Road length by category: 2005

Road Category	Length (km)		
	Malta	Gozo	Maltese Islands
Arterial & Distributor	137 (7%)	46.65 (15%)	183.65
Urban & Local Access (surfaced)	1,024 (54%)	141.86 (45%)	1,165.86
Urban unsurfaced (estimated)	208 (11%)	4.82 (1%)	212.82
Non -Urban (surfaced)	542 (28%)	122.68 (39%)	664.68
Total Length (km)	1911 (100%)	316 (100%)	2227

Source: ADT, Road length summary,

<http://www.maltatransport.com/en/tsd/transportstatistics/RoadLengthsSummary.pdf>, Last accessed on 22nd June 2006.

156. The increased dependence on private transport is evident from the yearly decrease in the sale of public transport tickets (see **Figure 4.23**). The fact that both the number of licensed passenger cars and bus ticket costs have increased are often seen as reasons for this continuous decrease. Furthermore, 68 per cent of the population hold a driving licence.

Figure 4.23: Total number of sold public transport tickets: 1989-2005

Sources: ADT, Public Transport,

<http://www.maltatransport.com/en/tsd/transportstatistics/public.shtml>, Last accessed on 22nd June 2006; ADT, Public Transport Ticket Sales for Malta, 1989-2002,

<http://www.maltatransport.com/en/tsd/transportstatistics/public/maltaticketsales.pdf>, Last accessed on 22nd June 2006.

157. The amount of traffic on the road is calculated by estimating the kilometres a vehicle travels per year. Taking into account the local short travelling distances and the March figures for licensed vehicles, it is estimated that motor vehicles on the Maltese Islands will travel almost 2,500 million km in 2006 as illustrated in **Table 4.3**. This represents an increase of 8.5% in vehicle-km since 2000.

Table 4.3: Traffic comparison: Vehicle – km per Annum: 2000, 2006

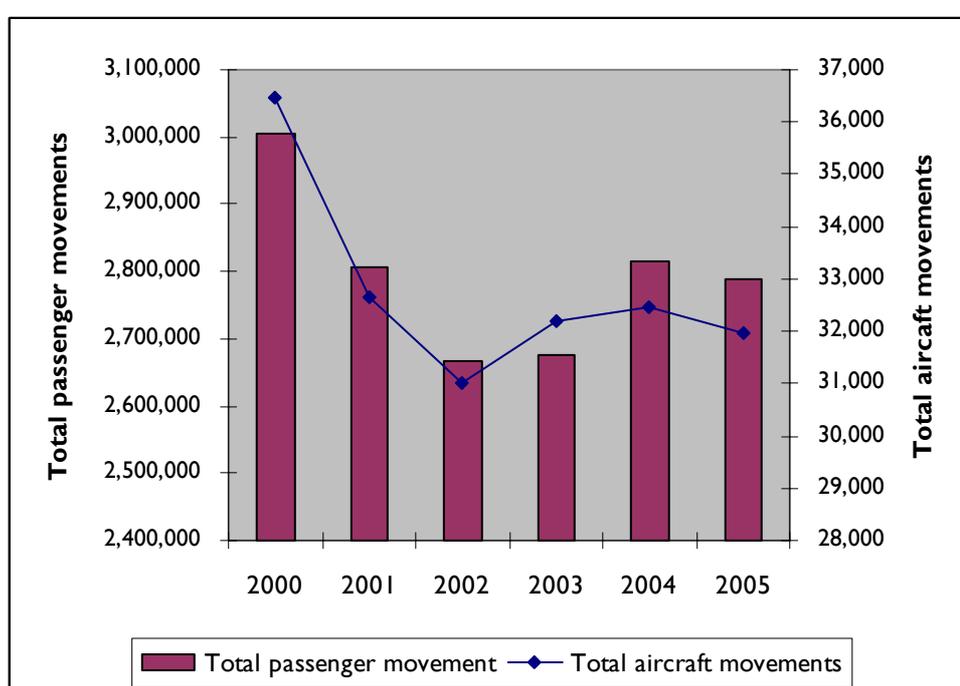
Type of Motor Vehicle	Licensed vehicles (2001)	Licensed vehicles (March 2006)	Average distance traveled per annum (km)	Vehicle - km per annum (million): 2000	Vehicle - km per annum (million): 2006
Motor Cycles	12,402	11,954	7,000	86.8	83.7
Passenger Cars	189,123	207,451	9,000	1,702.1	1,867.1
Buses and Coaches	1,126	1,145	15,000	16.8	17.2
Lorries	41,983	44,693	11,000	461.8	491.6
Road Tractors	1,181	1,277	15,000	17.7	19.1
TOTAL				2,285.2	2,478.7

Sources: ADT, Estimated Vehicle Kilometres,

<http://www.maltatransport.com/en/tsd/transportstatistics/transportusage.shtml>, Last accessed on 27th June 2006; NSO, News Release, Motor Vehicles: January – March 2006, May 2006.

158. Between 2000 and 2002, a total of Lm 30.3 million was invested by the Maltese Government on the road infrastructure. This amounted on average to 0.62 per cent of the GDP or 1.32 per cent of the total government expenditure. 80 per cent (or Lm 24 million) of this sum was invested by the Central Government, the rest by the Local Councils. Between 2004 and 2006, road expenditure was expected to increase significantly with the addition of Lm 24 million EU Structural and Cohesion funds together with funds from the Fifth Italo-Maltese Financial Protocol.
159. Total passenger and aircraft movement has been in decline since 2000, see **Figure 4.24**.

Figure 4.24: Trends in air travel: 2000-2005



Sources: MIA, Annual Statistics Review: 2004, 2005, <http://www.maltairport.com/page.asp?p=5594&l=1>, last accessed on 27th June 2006

NATURAL AND TECHNOLOGICAL RISKS

Oil Spills

160. Malta's position in the Central Mediterranean and heavy tanker traffic crossing just 10 miles north of the Islands make the area susceptible to risks from oil spills⁵¹. During 2005, the Oil Pollution Response Module collected approximately 120 tonnes of oil from the sea (from sea-based as well as land-based sources), see **Table 4.4**.

⁵¹ Alpha Oil Services and Trading Ltd managing director Paul Pisani: <http://business.timesofmalta.com/article.php?id=4150> last accessed on 28th June 2006

Table 4.4: Oil Spills that were dealt with by Oil Pollution Response Module: 2005

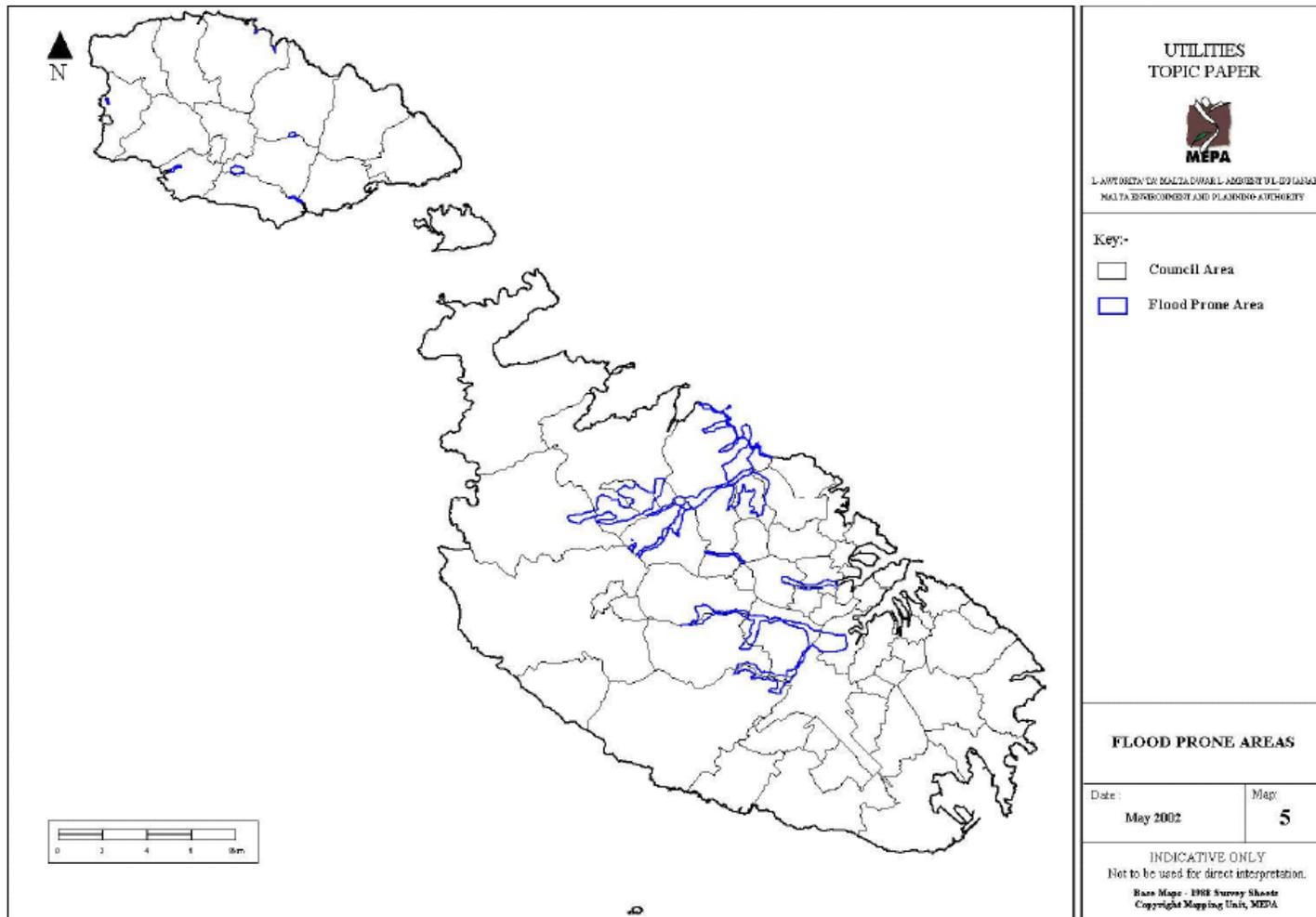
Date	Place	Type	Qty
19.01.05	Timber Wharf	Fuel Oil	10 m ³
04.01.05	San Lucjan	Fuel Oil	200 lts
11.02.05	Menqa Marsa	Fuel Oil	33 m ³
04.03.05	Malta Freeport	Diesel	150 m ²
02.04.05	Xghajra Malta	Drainage	400 m ²
03.04.05	Malta Freeport	Heavy Diesel	100 mts
21.05.05	Jetty B' Bugia	Fuel Oil	½ ton
17.06.05	Valletta Port	Fuel & Diesel Oil	90 mts
24.06.05	North Luqa	Fuel Oil	1 mile x 200 mts
08.08.05	La Battery Wharf	Fuel Oil	300 lts
28.09.05	Flagstone Marsa	Vehicle Burnt Oil	170 lts
29.09.05	Coal Wharf Marsa	Fuel Oil Diesel & Debris	2 tons
03.10.05	Inner Power Station Marsa	Fuel Oil	¾ ton
25.10.05	Malta Freeport	Diesel	250 lts
23.11.05	Deep Water Quay	Vehicle Burnt Oil	10 m ³

Source: Annual Report of Government Departments 2005: Ministry for Tourism and Culture: http://www.tourism.gov.mt/filebank/pdfs/mtac_annual_2005.pdf last accessed on 28th June 2006

Floods

161. Malta, extensive urban development has resulted in an increase in the area of impermeable surfaces resulting in many low-lying areas being prone to flooding (see **Figure 4.25**). This is more common during the autumn and winter when the effects of flooding including erosion, disruption of the transport network, damage to properties, overflowing sewers, and disruption of economic activities are most felt.

Figure 4.25: Flood Prone Areas



Source: MEPA, Utilities Topic paper

LEISURE AND THE ENVIRONMENT⁵²

- I62. Good environmental quality for many people often relates to cleanliness and aesthetics of their immediate surroundings and in the places where they enjoy their leisure. Lack of maintenance and upkeep, dust, and unsightly structures are obvious, visible obstacles that impinge negatively on the enjoyment of the environment⁵³.
- I63. This section considers the following issues in terms of environmental quality and leisure:
- Landscape;
 - Cultural heritage; and
 - Noise, dust and light pollution.

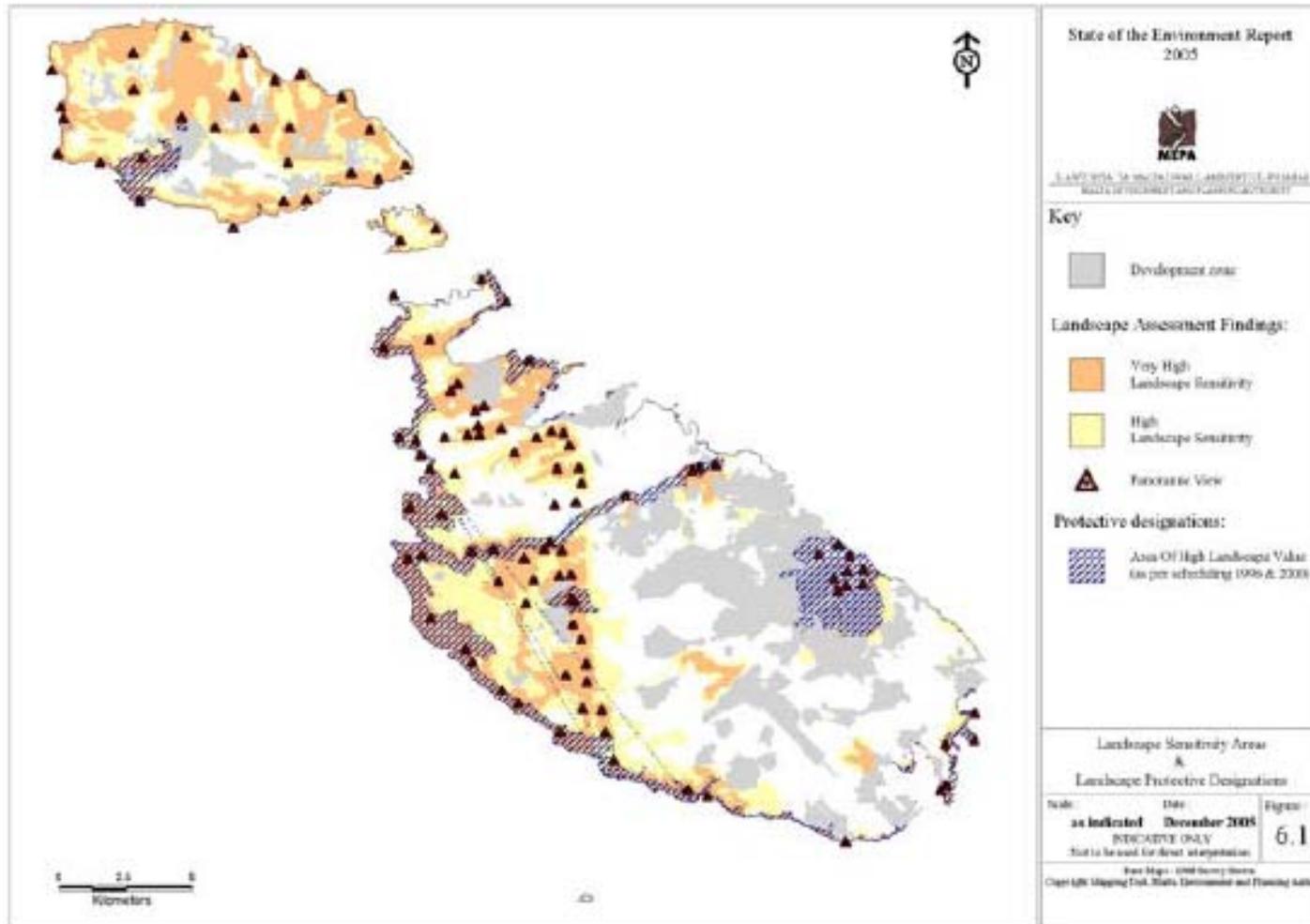
Landscape

- I64. MEPA has recently published a Landscape Assessment Study. This Study shows that between 1990 and 2000 the spread of urban areas has decreased. Also, townscapes have shown improvement as landscaping is being given more importance. However, there has been a decline in the quality of the urban skyline due to the presence of roof top antennae and water tanks. In rural areas, there has been an increase in structures used in modern agricultural practices.
- I65. The Landscape Study concluded that 51 per cent of the landscape is of high or very high sensitivity, see **Figure 4.26**. Areas of High Landscape Value, which cover 12 per cent of the Maltese Islands, were scheduled between 1996 and 2000. .

⁵² Leisure and Environment comprises landscape, cultural heritage, and noise, dust and light pollution because this is how Leisure and Environment is presented in the draft Sustainable Development Strategy for the Maltese Islands 2006 -2016. Since the draft strategy was used to set the baseline environmental parameters for this Environmental Report, the same format was retained.

⁵³ Malta Government, 2006, A Sustainable Development Strategy for the Maltese Islands 2006 -2016, Third draft, National Commission for Sustainable Development

Figure 4.26: Landscape Sensitivity Areas and Landscape Protective Designations



Source: MEPA, State of the Environment Report 2005, Sub-report 6: Landscape, 2005

Cultural Heritage

166. It is acknowledged that although Malta's heritage is varied and rich, it requires immediate attention and significant investment⁵⁴. A Cultural Heritage Strategy and a Tourism Policy are under preparation and are expected to be published in November 2006⁵⁵. However, limited funding hinders the timely and efficient restoration and rehabilitation of the vast inventory of cultural heritage assets.
167. Buildings, monuments and sites are protected through the Cultural Heritage Act and the Development Planning Act. The latter allows MEPA to schedule culturally important buildings and sites. The MEPA Scheduling List contains 1,720 sites and monuments, of which 1,284 are of architectural importance, 263 are of archaeological importance, and 173 are of ecological importance. The Antiquities List compiled in 1946/47 contains 2,000 sites of historical and antiquarian significance from before the 1900's (see **Table 4.5**). In addition, 3 sites, namely the city of Valletta, Hal Saflieni Hypogeum, and the megalithic temples are UNESCO World Heritage Sites.
168. The enjoyment of these sites by locals and tourists is provided in **Table 4.5**.

Table 4.5: Antiquities List

Type	Percentage
Prehistoric	4.0%
Phoenician and Roman	4.5%
Medieval	0.5%
Ecclesiastical	22.0%
Domestic	57.0%
Military	0.5%
Unclassified	11.5%

Source: The Superintendence of Cultural Heritage, State of the Heritage Report, <http://www.gov.mt/frame.asp?l=1&url=http://www.culturalheritage.gov.mt> Last accessed on 28th June 2006

Noise, Dust and Light Pollution

169. In line with the Noise Directive, Malta needs to adopt a policy that safeguards existing low background environmental noise, and to identify and reduce noise levels where they are excessive. To this end the Government must prepare 'strategic noise maps' for major roads, airports and agglomerations. To date noise is regulated on an ad hoc basis through the imposition of planning conditions for new developments. Noise assessments for individual projects are often requested by MEPA.
170. Dust pollution is mostly linked with the construction industry, and mainly with quarrying and mechanically entrained dust. Other dust sources are exhaust emissions and tyre abrasions. Dust pollution is also linked with the power station. The same applies to noise, where most of the noise pollution arises from the construction industry and quarrying.

⁵⁴ Malta Government, 2006, A Sustainable Development Strategy for the Maltese Islands 2006 -2016, Third draft, National Commission for Sustainable Development

⁵⁵ E-mail from Ms Denise Caruana (PPCD) to Ms Rachel Xuereb (Adi Associates) dated 11th August 2006.

171. Urban light pollution threatens street trees, flora in nature reserves, parks and gardens. It has been estimated that 30 per cent of electricity generated for outdoor illumination is wasted.

EVALUATION OF THE CURRENT SITUATION IN THE ABSENCE OF THE OP

172. The SEA Regulations require a description of the relevant aspects of the current state of the environment and the likely evolution thereof without the implementation of the programming document with a particular emphasis on the future developments arising from other relevant plans and programmes. This is a theoretical issue as the development and implementation of the OP 2007 - 2013 is required under the provisions of the EC Regulation.
173. The information collected to date from PPCD and the Government agencies that would be responsible for the implementation of the OP gives no indication of how the current situation would evolve in the absence of the OP. PPCD confirmed that, in light of Malta's international commitments, it is likely that most of the initiatives would still have to be implemented, but without financing from the EU, it would take longer to achieve the objectives⁵⁶.
174. The description of the likely future trends should the OP not be implemented is further constrained by uncertainties including availability of data on future economic development, technological progress or advancements in regulatory frameworks that collectively influence future trends. The following assessment, therefore, includes a list of major uncertainties.
175. Although there are existing funding streams⁵⁷ that support various activities in Malta which offer environmental improvements, the funding of these initiatives is limited. Without the introduction of the OP, it is likely that there would be a slow and steady decline in certain environmental sectors, such as waste management, risk prevention, and freshwater quality.
176. This analysis focuses on the main environmental issues that have been identified and described above. It includes a description of the past and current trends from data available from existing monitoring systems or through expert judgements (in cases where data are lacking). It also outlines the likely evolution of these trends, if the OP was not implemented.
177. It is noted that major projects will be required to undergo Environmental Impact Assessment.

⁵⁶ E-mail from Ms Denise Caruana (PPCD) to Ms Rachel Xuereb (Adi Associates) dated 11th August 2006.

⁵⁷ Funding by the Maltese Government, funding from the Italo-Maltese Protocol, and Funding under other EU initiatives such as the LIFE programme

Air Quality and Climate Change

178. The main contributors to air pollution in Malta are emissions from vehicles and from the two power stations. Trends have shown that emissions from vehicles are still increasing and that energy consumption is also on the rise. In order to reverse these trends significant efforts need to be made to increase public transport use, to reduce reliance on travel by private cars, to improve energy efficiency, and to increase the use of renewable energy resources.
179. The initiatives under Priority Axis 5 are related to improvements in transport systems, energy supply, and liquid waste. The former include initiatives to invest in public transport, to implement “park and ride” systems, to introduce traffic management systems to encourage the use of public transport, to reduce private car use, and to investigate feasibility of alternative mass transit. Initiatives in the energy sector are aimed at ensuring the security and quality of energy supply, competitiveness in energy pricing, compliance with EU regulations, demand management, and efficiency improvement measures in generation, distribution and end-use. Although the exact allocation of the budget is not known, this Priority Axis has a total budget of €145 million. These initiatives will, in parallel, be augmented by Transit Orientated Development under Priority Axis 5. This concept will be applied locally to create a synergy between all the major capital projects in Malta in terms of the land transport issues, whilst revitalising urban and suburban neighbourhoods, communities and the economy of Maltese Islands⁵⁸.
180. Although it is noted that the objectives are very challenging, the successful implementation of the measures in the fields of public transport and energy generation will certainly have positive impacts on both air quality and climate change. The latter impacts are long-term and will only be evident over a period of time and if the measures are sustained. However, it is likely that the successful implementation of the initiatives will positively affect air quality. Without the OP it is unlikely that the Maltese Government or other funding programmes⁵⁹ would fund such extensive initiatives. However Malta is still obliged to meet EU air quality standards and it is therefore likely that some action would be taken to comply with these standards. It is therefore likely that air quality would not improve without the implementation of the OP.

Energy-efficiency and Renewable Energy Resources

181. One of the three Objectives of Priority Axis 5 is “to upgrade Malta’s services of general economic interest notably in those related to traditional and non-traditional energy sources“. A number of initiatives relating to improving energy efficiency and promoting the use of renewable energy sources are also described.

⁵⁸ This will be done through initiatives such as bringing eco-friendly traffic and promoting new technology, providing cycling facilities, providing effective and inviting public transport services and nodes, and promoting higher-density, mixed use development around public transport and urban lifestyle amenities.

⁵⁹ It is noted that the United Nations’ Global Environment Facility has funded the compilation of Malta’s First Communication to the UNFCCC.

182. As described in the preceding paragraphs, although the budgetary allocation is not yet established, the Axis budget of €145 million is certainly significant and it is unlikely that the Government or any other funding initiatives would allocate such resources to improve the efficiency of electricity generation and try to exploit renewable resources. Therefore without the OP, exploitation of renewable resources would not gain momentum and energy generation would continue to show the same inefficiencies and problems.

Biodiversity

183. Although the OP is cognisant of nature protection issues (Section 1.6 of the OP), and some of the Priority Axes make reference to biodiversity⁶⁰, there are no specific funding initiatives related to, for example, the management of protected areas. This is because management of protected areas will be funded under other programmes such as the EAFRD⁶¹. However, environment protection and awareness are areas of intervention under Priority Axis 3. It is noted that actions related to awareness on Natura 2000 sites will be funded under this Priority Axis.

184. Chapter 6 assessed the impact of the Priorities on biodiversity. Most of the initiatives focus on strengthening existing infrastructure; new infrastructure is considered in only a few initiatives. Although the scale of the interventions would determine the impact on biodiversity, it is expected that broadly protected areas will not be negatively affected by the OP.

185. Since the status of protected areas and species is not expected to be impacted by the OP, it is likely that the observed trends in the biodiversity sector would continue. Some improvements may be achieved through environmental awareness and the actions funded under the EAFRD. The status of protected areas would also be affected by MEPA's scheduling process and the implementation of Management Plans for the Special Areas of Conservation. The latter are required by the Habitats Directive.

Freshwater

186. The assessment of the current state of the environment has shown that the quality of groundwater is an area of concern, especially because of over-abstraction and pollution from land sources.

187. Part of the funds allocated under Priority Axis 5 of the OP are intended to fund measures that are of general economic interest; two of which are the water sector and liquid waste⁶². The OP states that: "Malta's strategic direction in this area is to continue to focus on desalination, to improve sea-water desalination efficiency, to

⁶⁰ Priority Axis 3 makes reference to initiatives that encourage the propagation of native woodland, and the protection of other habitats and related fauna in order to complement other niche market initiatives, and offer recreational and educational facilities to the public.

⁶¹ E-mail from Ms Denise Caruana (PPCD) to Ms Rachel Xuereb (Adi Associates) dated 11th August 2006.

⁶² Following meetings with PPCD it emerges that measures that will be funded by the OP include a sewage treatment plant and facilities for stormwater management.

further reduce water leakages from the distribution network and improve drinking water quality to come in line with the relevant EU Directives, whilst seeking and making use of other alternative sources of water such as storm water and/or treated sewage effluent. Further attention will be given to improving the quality of groundwater extraction and its regulatory framework.”

188. The cost of such measures and the extent of funding available for these initiatives are not known. However, as an EU Member State, Malta is obliged to meet certain requirements with regards to the quality of drinking water and the objectives contained in the Water Framework Directive. Given this, it is likely that the situation with regards to groundwater quality would improve even in the absence of the OP. However, other initiatives such as those contemplated under Priority Axis 5 for the reuse of treated sewage effluent for irrigation and Priority Axis 6 relating to the installation of stormwater interception facilities to provide an additional source of fresh water could have a direct impact on groundwater quality through a reduction in demand for groundwater from agriculture.

Waste

189. Solid waste management is addressed in Priority Axis 6. The OP “foresees the continuation of investment in infrastructures for sound waste management practices, including systems for hazardous waste and the rehabilitation of the old landfills. There is a need to minimise the effects of waste on the environment and society, and to fully comply with EU Regulations. Malta’s strategic vision also encompasses the possibility of exploiting waste as a potential energy source for electricity generation”.
190. €136 million are allocated for measures funded under Priority Axis 6⁶³. Waste management infrastructure is very costly, so it is likely that a significant portion of the funds will be allocated to waste management. Reforms in waste management practices in Malta must be undertaken in order for the country to be compliant with European Union legislation. This sector has benefited considerably from EU funds and will continue to do so until 2013, as a result of the OP. Although it is likely that many of the projects contemplated by the OP would be implemented, because of Malta’s obligations, it is doubtful whether they would have been carried out by 2013.

Marine and Coastal Environment

191. One of the main concerns in respect of marine pollution is the discharge of raw sewage into the sea. Although two wastewater treatment plants are under construction, currently 80 % of sewage still reaches the sea untreated in the south of Malta (from Wied Ghammieg, Malta’s largest outfall). Significant investment is required in order to upgrade the sewerage network in the south of Malta. This investment is contemplated by Priority Axis 5. This will have a positive impact on the marine environment as no more raw sewage will be discharged.

⁶³ Following meetings with PPCD held on November 2006 it is likely that rehabilitation of disused landfills and the installation of Biological Treatment Plants will be funded by the OP.

192. Since the urban wastewater treatment Directive requires that no untreated sewage reaches the sea, the Maltese Government is obliged to construct sewage treatment plants. It is likely, therefore, that without the OP, the Malta South sewage treatment plant would still be built and the sea water quality would be improved. It is, however, debateable whether such a capital intensive project would have been completed within the prescribed deadlines (that is by 2007) without EU funds.
193. With regards to coastal development and the various land use conflicts in the coastal zone, these are unlikely to be affected by the OP. Although certain initiatives under Priority Axis 3 concerning tourism aim to improve tourist areas, it is unlikely that these will have a significant effect on the issues governing the coastal zone.

Land Use

194. The main issue of concern, in terms of land use, is the pressure on land for development. Various factors contribute to this including the small size of the Islands and the high population density.
195. Since the actions to be funded under the OP are not established yet, it is difficult to quantify how much new land would be taken up for development. Initiatives that may require uptake of land include those related to the provision of industrial space, construction of new roads, construction of a new taxiway at the airport, development of port facilities, and development of waste and stormwater management infrastructure.
196. Priority Axis 7 seeks to “upgrade the environment and visual appeal of urban cores, revitalise existing town centres, upgrade social housing in core urban areas and promote closer integration of development and land-use planning”. The extent of these initiatives is unknown and the measures to implement them still undefined, consequently the impact on land use is difficult to determine. Whether or not the Government would consider such measures if these were not funded by the OP is also unknown. However, since the initiatives are not required to meet Malta’s legal obligations, it is assumed that Government would not fund them.

Transport

197. Transport is a key sector that is affected by the OP. Priority Axes 4 and 5 make specific reference to initiatives for land, sea and air transport. Of particular relevance are the initiatives: to upgrade the road network (both the TEN-T network and other roads); to upgrade port and airport facilities; and initiatives concerning road safety, increased use of public transport, and reduction in private car use. The implementation of these initiatives would help improve the quality of roads with consequent potential impacts on road safety and traffic congestion. If the initiatives concerning public transport are successful, then it is likely that congestion will be alleviated somewhat and air pollution reduced. It is, however, noted that the success of these long-term impacts also depends on a change in people’s attitudes.

198. The budgets for Priority Axes 4 and 5 are €160 million and €145 million respectively. Although the exact allocation for each of the initiatives is not explained in the OP, the funds are still significant and, if they are properly implemented, positive effects on the road network and on traffic are anticipated. It is unlikely that these projects would be carried out in the absence of the OP; consequently traffic congestion would increase as per current trends.

Natural and Technological Risks

199. Of particular relevance to this sector is Priority Axis 6 that foresees interventions to control flooding, “investment in storm water management systems is a key priority for the country...the installation of effective and efficient storm water catchment facilities will allow this source of fresh water to be utilised for a wide variety of purposes, reducing the strain on the current water infrastructure”. Flooding has always been an issue of concern from an environmental, economic and social point of view. For a number of years Government has been intervening to control the effects of flooding. Whether or not the initiatives under Priority Axis 6 would have been funded by Government or not in the absence of the OP cannot be ascertained.

Leisure and the Environment

200. The OP is expected to impact positively on leisure and the environment as a result of the implementation of initiatives under Priority Axes 3 and 7. One of the aims of Priority Axis 7 is to restore fortifications and to upgrade urban cores including provision of play grounds and cultural centres. Priority Axis 3 aims to upgrade tourism areas including public spaces. The budgets for Priority Axes 3 and 7 are €70 million and €102 million. It is likely that without the OP these positive impacts on the built environment would not occur and the fortifications and urban centres would not benefit.
201. There are no direct measures in the OP that would affect dust, noise and light pollution. Although environmental monitoring is contemplated, it does not signify that with monitoring there would be an improvement in pollution levels. In addition, educational awareness campaigns contemplated under Priority Axis 3 are expected to change people's attitudes. However, since the impact on pollution prevention would depend on the effectiveness of the actions, it is anticipated that as a result of the OP, these factors would at worst remain unchanged and current trends would continue; at best there would be a reduction in pollution.

CHAPTER 5: SEA FRAMEWORK

INTRODUCTION

202. This Chapter describes the identification of the objectives against which the OP will be assessed in the SEA process.
203. Although the SEA Directive does not specifically require the use of objectives or indicators in SEA, they are a recognised way in which environmental effects can be described, analysed and compared. SEA objectives state what is intended. The programme's performance against what is intended (ie the SEA objectives) is generally measured by indicators. The SEA objectives are distinctly different from the OP's objectives, though the two influence each other and may overlap. To fulfil the requirements of the SEA Directive and the SEA Regulations, 2005, the SEA objectives must cover biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage, landscape, and interrelationships between them.
204. In developing appropriate objectives and indicators the following documents have been consulted:
- GRDP's Handbook on SEA for Cohesion Policy 2007- 2013;
 - The Commission's "Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment";
 - A Practical Guide to the Implementation of the SEA Directive, ODPM
 - The SEA Directive 2001/42/EC;
 - SEA Regulations, 2005;
 - The Draft Sustainable Development Strategy for the Maltese Islands, 2006-2013; and
 - Malta's State of the Environment Report, 2005.
205. Although the assessment is largely based on the objectives of the various Priority Axes, certain measures are known (including funding for the TEN-T network, ports, the Malta South sewage treatment plant, and biological waste treatment facilities in Malta and Gozo). Assessment of impacts arising from these major projects is beyond the scope of SEA. The appropriate tool for assessment of impacts arising from projects is EIA; it is noted, that all these projects are either undergoing EIA or will undergo EIA and that the assessment of the site-specific impacts will be formulated through the EIA process.

SEA OBJECTIVES & INDICATORS

206. **Table 5.1** defines the set of objectives relating to the environmental issues identified in Chapter 4, in support of which, relevant assessment criteria and possible data sources have also been identified.
207. The SEA indicators are measurements of trends over time. Changes in the indicators show whether the implementation of the OP would be or has been successful in improving the environment. It is to be noted, however, that changes in the indicators could be the result of factors outside the influence of the OP. Hence, the SEA process is both uncertain and constrained.

Table 5.1: SEA Environmental Objectives & Criteria for Assessing Impacts

Issue	SEA Objective	Criteria Will this priority axis ...	SEA Indicator	Data source
Biodiversity	Maintain or enhance protected areas.	<ul style="list-style-type: none"> Help to maintain or enhance the conservation of designated areas (under both the Development Planning Act and Environment Protection Act)? 	Maintain or increase in percentage of designated areas that are subject to formal management arrangements over time	MEPA, Nature Protection Unit
Fauna & Flora	Maintain / enhance current levels of protected species	<ul style="list-style-type: none"> Negatively affect protected species? 	No increase in threatened/endangered species list over time	MEPA, Nature Protection Unit
Population	Minimize production of waste & increase recycling	<ul style="list-style-type: none"> Help to minimise waste generation? Promote recycling rather than waste disposal of waste to landfill? 	No increase in waste generation by sector over time Increase in % waste recycled over time	MRAE / Wasteserv
Human health	Reduce noise, dust and light pollution.	<ul style="list-style-type: none"> Help to reduce dust generation from construction and waste handling activities? Help to reduce noise from construction and traffic? Help to reduce light pollution from development? 	No national indicators available in Malta. Ad hoc project specific indicators are imposed by MEPA on a case by case basis, depending on the development.	
Soil	Prevent soil erosion	<ul style="list-style-type: none"> Help to maintain soil levels through sound agricultural practices? Help control runoff from rural land? 	Increase in aid given to farmers to protect their fields from erosion over time Increase in numbers of plans / programmes to carry out stormwater management in rural areas?	MRAE MRA
	Improve soil quality	<ul style="list-style-type: none"> Help to improve the quality of soil in agricultural areas? 	Increased crop yields over time	MRAE
Water	Improve drinking water quality and supply	<ul style="list-style-type: none"> Help to maintain the drinking water quality while meeting demand? Promote the maintenance of the existing supply infrastructure 	Improvement in drinking water quality over time Increase in number of plans and	Malta Resources Authority / WSC

Issue	SEA Objective	Criteria Will this priority axis ...	SEA Indicator	Data source
			programmes to maintain the existing supply infrastructure over time	
	Improve coastal water quality	<ul style="list-style-type: none"> Help to improve the quality of the marine environment? 	Improvement in bathing water quality tests over time Improvement in results of discharges to the marine environment over time	Department of Public Health, MEPA & MRA
Air	Improve air quality	<ul style="list-style-type: none"> Help to reduce emissions from non-mobile sources? Help to reduce emissions from mobile sources? 	Reduction in emissions of nitrogen oxides, sulphur dioxide, particulates over time	MEPA air quality monitoring programme
Climate	Increase use of renewable energy sources	<ul style="list-style-type: none"> Reduce Malta's vulnerability to climate change? Help to increase use of renewable energy? 	Increase in % use of renewable resources over time	MRA
	Reduce GHG emissions	<ul style="list-style-type: none"> Contribute towards the reduction of GHGs? 	Reduction in GHG emissions over time	MEPA
Material assets (Infrastructure / built environment)	To manage stormwater away from where it is a hazard to where we are short of it.	<ul style="list-style-type: none"> Help to manage stormwater to the benefit of nation? 	Increase in number of plans / programme of works to carry out stormwater management over time Decrease in number of insurance claims for flood damage over time	MEPA (insurance data being collected as part of the SEA for the new Structure Plan) MRA
	Minimise impacts of environmental disasters	<ul style="list-style-type: none"> Help to mitigate environmental disasters? 	Increase in number of contingency plans over time	Government agencies.
Cultural heritage	Maintain or enhance the conservation status of cultural heritage sites / areas	<ul style="list-style-type: none"> Enhance scheduled / protected areas? Reduce negative impacts on cultural heritage features and sites? 	Increase in number of management plans for protected areas over time	MEPA and Heritage Malta
Landscape	Enhance the landscape value of areas protected	<ul style="list-style-type: none"> Enhance valued landscapes? 	Increase in number of planning permissions for major projects	MEPA

Issue	SEA Objective	Criteria Will this priority axis ...	SEA Indicator	Data source
	for their landscape value		refused in areas scheduled under the Development Planning Act as an Area of High Landscape Value on the basis of the potential impact on the landscape.	
Land	Channel development into existing built up areas	<ul style="list-style-type: none"> • Help to channel development into existing built up areas? 	No increase in area of land built by development type located outside development zone over time	MEPA

Relevance of the SEA Objectives to the Priority Axes

208. The SEA objectives listed in **Table 5.1** above are not relevant to all of the Priority Axes. For example, investing in research and education programmes in the field of ICT will not significantly affect protected areas.
209. The methodology used to derive those SEA objectives that are relevant to the different Priority Axes comprises the following steps. First, the Priority Axes were studied with a view to ascertain potential measures that could be funded under the particular Axis. Since the projects to be funded under the OP are still unknown, certain assumptions had to be made in order to carry out the assessment; these assumptions are listed in **Table 6.2**
210. Once the assumptions were agreed, each SEA Objective was assessed in relation to the potential measures funded under the Priority Axis. For each Priority Axis the criteria related to each of the SEA Objectives (see column entitled “Criteria” in **Table 5.1**) were used to determine whether the particular SEA objective was relevant to the Priority Axis. The rationale for including / excluding SEA Objectives from the Priority Axes is given in subsequent paragraphs.
211. The relevance of each of the SEA Objectives to the Objectives of the eight Priority Axes is described in **Table 5.2** and explained hereunder.

Priority Axis 1

212. This Priority Axis focuses on investment in enterprise support infrastructure that would complement the promotion of RTDi initiatives and strengthen high-value added economic activity through dedicated industrial facilities and educational infrastructure.
213. Most of the SEA Objectives are relevant to the Priority Axis because of the proposed initiatives that target Enterprise Infrastructure. The interventions include upgrading of general industrial space, provision of industrial space suitable for enterprises, and the expansion of the business incubation centre (BIC). These could have impacts on land use, biodiversity, and cultural heritage. It is unlikely, however, that such development could impact water quality, coastal waters, management of disasters unless they were poorly located, and are not likely to affect efforts to minimise waste and increase recycling,

Priority Axis 2

214. This Axis again focuses on strengthening enterprise through grants to industry and tourism related services. The main aims are to enhance innovative capacities, create a knowledge-based economy, improve the tourism product, and encourage sustainable use of resources. The focus is, therefore, not on land development, but rather on services and initiatives within industry. Land use related SEA Objectives such as those related to biodiversity, cultural heritage, and waste management, are therefore not relevant. Depending on the interventions, however, improvement of the tourism product could have secondary effects such as improving the landscape,

reducing emissions from transport etc. The aid schemes contemplated under this Priority Axis will assist enterprises in their transition towards environmental compliance. This could result in a reduction in air, land and water pollution.

Priority Axis 3

215. Although the initiatives under this Axis are aimed at upgrading the tourism product, they are also aimed at enhancing the assets of the Maltese Islands including beaches and cultural heritage sites. Another area of intervention is environmental protection and awareness, particularly with respect to actions related to the management of Natura 2000 sites. It is likely that the initiatives would have a positive impact on the land use related SEA objectives such as those concerning biodiversity, cultural heritage, and landscape. They may have a secondary effect on waste management, but would be unlikely to affect pollution, renewable energy, disaster management and stormwater management.

Priority Axis 4

216. Road improvement (TEN-T network) is the main initiative funded under this Axis. Although Environmental Assessments have been carried out for parts of the network, the construction of the roads and their subsequent use could have negative environmental impacts. This means that the land use related SEA Objectives would be relevant to this Axis. A secondary effect of road construction could be an increase in solid waste. However, it is not envisaged that this Priority Axis would affect waste management, renewable energy, drinking water and coastal water quality.

Priority Axis 5

217. Priority Axis 5 focuses on upgrading the transport network (roads outside the TEN-T network) on improving e-accessibility, and treating liquid waste. This Axis will also fund projects aimed at improving the electricity supply. Of particular interest to the SEA objectives are those initiatives concerning electricity supply and works done on roads such as the air pollution, GHG emission, landscape, and noise and light pollution objectives. An improvement in coastal and drinking water quality could be a secondary effect as sewage contamination of the marine environment is removed.

Priority Axis 6

218. This Priority Axis is aimed at upgrading Malta's environmental infrastructure, in respect of solid waste and storm water management. Most of the SEA Objectives are expected to be impacted positively by the initiatives funded under this Axis; objectives related to energy efficiency are unlikely to be affected.

Priority Axis 7

219. The focus of this Priority Axis is on urban centres and their regeneration, health infrastructure, transit orientated development initiatives, and environmental monitoring. Positive impacts on cultural heritage and landscape are anticipated through the implementation of the urban regeneration initiatives. Positive impacts on

air and water quality are likely to result from the environmental monitoring initiatives, and a reduction in air pollution is likely if the initiative on transit orientated development is implemented. SEA Objectives related to waste management, stormwater management, soil erosion, disaster management, and renewable energy will not be affected by any of these initiatives.

Priority Axis 8

220. **Table 5.2** shows that none of the SEA Objectives are relevant to the initiatives proposed under Priority Axis 8. The latter aims to ensure the smooth and efficient implementation of the OP. Although the implementation of the OP will affect the SEA objectives, this initiative is not considered to have a significant impact on the environment and hence on the SEA Objectives. This Priority Axis is therefore scoped out of any further considerations.

Table 5.2: Direct relevance of the SEA Objectives to the Priority Axes

SEA Objectives / Priority Axes Objectives	Maintain protected areas	Maintain protected species	Minimise waste / increase recycling	Reduce noise, dust light pollution	Prevent soil erosion	Improve soil quality	Improve drinking water quality & supply	Improve coastal water quality	Improve air quality	Increase use of renewable energy sources	Reduce GHG emissions	Manage stormwater	Minimise impacts of environmental disasters	Conservation of cultural heritage sites / areas	Enhance the landscape value	Channel development into existing built up areas
Priority Axis 1: To undertake investment in state-of-the-art enterprise support infrastructure that would complement the promotion of RTDi initiatives and strengthen high-value added economic activity through dedicated industrial facilities and educational infrastructure	Y	Y	Y	Y	N	N	Y	N	Y	Y	Y	N	N	Y	Y	Y
Priority Axis 2: To support enterprise competitiveness and to promote the further development of those economic activities that can add most value both economically and socially	N	N	Y	Y	N	N	Y	N	Y	Y	Y	N	N	N	Y	N
Priority Axis 3: To promote a sustainable & competitive tourism industry able to achieve its potential for growth and re-affirm its central role in Malta's economic activity.	Y	Y	N	Y	N	N	N	Y	N	N	N	N	N	Y	Y	Y

SEA Objectives / Priority Axes Objectives	Maintain protected areas	Maintain protected species	Minimise waste / increase recycling	Reduce noise, dust light pollution	Prevent soil erosion	Improve soil quality	Improve drinking water quality & supply	Improve coastal water quality	Improve air quality	Increase use of renewable energy sources	Reduce GHG emissions	Manage stormwater	Minimise impacts of environmental disasters	Conservation of cultural heritage sites / areas	Enhance the landscape value	Channel development into existing built up areas
Priority Axis 4: To invest in the upgrading of transport links within the context of the TEN-T network	Y	Y	Y	Y	N	N	N	N	Y	N	Y	Y	Y	Y	Y	N
Priority Axis 5: To improve accessibility and those services of general economic interest.	N	N	N	Y	N	N	Y	Y	Y	Y	Y	N	N	N	N	N
Priority Axis 6: To continue with the upgrading process of the country's environment infrastructures, in respect of solid waste, liquid waste, and storm water management.	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Priority Axis 7: To safeguard and valorise the country's urban heritage, undertake urban regeneration initiatives for local development and promote a better quality of life	Y	Y	N	Y	N	N	N	Y	Y	N	N	N	N	Y	Y	Y
Priority Axis 8: to reinforce the administrative capacity for implementing the 2007-2013 programme.	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Key: Y – YES: The SEA Objective is relevant to the assessment of the Priority Axis
 N – NO: The SEA Objective is not relevant to the assessment of the Priority Axis

CHAPTER 6: IMPACT ASSESSMENT

INTRODUCTION

221. As discussed in Chapter 3, the nature of the OP is such that it is not possible to predict the exact location, nature and impact of the actions or, at this stage, the delivery mechanisms for the strategy. This SEA, therefore, does not predict the precise environmental impacts of the programme, rather it provides an indication of that impact and suggests ways that negative impacts may be mitigated.
222. This Chapter describes the assessment process followed in the strategic environmental assessment, and describes the results of the assessment and mitigation measures recommended to minimise or negate the impacts.

ASSESSING SIGNIFICANCE

223. Significance is assessed in accordance with the criteria listed in Schedule 4 of the SEA Regulations, 2005. It is already well established in Environmental Impact Assessment (EIA) literature: significance is a function of impact magnitude and the sensitivity of receptors. Significance may be determined in a number of ways, including expert judgements, the use of thresholds, reference to legislation, and consultation with stakeholders. Although this SEA draws on each of these methods, expert judgement and consultation predominate.
224. The assessment of significance is based on the probability of the impact occurring, on the scale of the impact, its duration, reversibility, whether it has transboundary impacts, and the certainty of the impact. **Table 6.1** describes the assessment framework and the symbols used to denote the various types of impact.
225. The relevant SEA objectives identified in **Chapter 5** are used to assess the seven Priority Axes⁶⁴ in accordance with the significance criteria described below.

Table 6.1: Assessment legend

Impact character	Symbol	Description of Impact
Probability	VP	Impact very likely to occur
	P	Impact likely to occur
Scale	++	Large positive impact
	+	Positive impact
	0	No impact
	-	Negative impact
	--	Large negative impact
Frequency / duration	LT	Long term
	ST	Short term
Reversibility	IR	Impact is irreversible
	R	Impact is reversible
Transboundary dimension	TR	Possible transboundary effect

⁶⁴ Priority Axis 8 was scoped out of the assessment in Chapter 5.

Uncertainty	?	Impact uncertain
-------------	---	------------------

ASSUMPTIONS MADE DURING THE ASSESSMENT

226. The OP comprises broadly scoped objectives and illustrative initiatives, the latter being representative of the type of project that would be considered for implementation through the OP. The effect of this is that the objectives *per se* are too broad to enable the identification of specific impacts and the initiatives are too uncertain and lacking in spatial details to permit same. This dictates that the approach adopted in the SEA assessment focuses on the objectives drawing on the initiatives to illustrate how the objectives might be realised.
227. The assumptions made during the assessment are described in detail below for each Priority Axis. Where no details are given, the worst case scenarios with respect to potential environmental impacts were considered and assessed, and recommendations for potential mitigation measures or alternative actions proposed.
228. The assumptions for each of the initiatives are listed in **Table 6.2**.
229. It is noted that the programme proponent is in agreement with these assumptions.

Table 6.2: Assumptions made in the assessment for each of the Priority Axes

Initiative	Assumption/s
Priority Axis I: Investing in an enterprise support infrastructure	
Set up a Public Research Centre to research ICT, water, environment, alternative energy and bio-sciences (this is simply an example).	The research centre will be located within the existing Government infrastructure and on land already appropriately zoned
Establish links between business and University to provide an intellectual property framework and manage technology transfer facilities	No hard infrastructure required, and no changes of land use zoning required
Test the application of renewable energy research and other research projects in Gozo and export the technology / knowledge to the Euro-Mediterranean region	Small scale pilot project involving wind and / or solar energy on land: this however, could not be confirmed by PPCD.
Use Gozo as an international show-case for the micro social and economic society.	Use of existing infrastructure and land use zones.
Support and attract businesses that present high potential for economic growth: ICT, health care (including pharmaceuticals), maritime and aviation operations, tourism operations, and financial services	Change of land use required but scale of project is below that which would qualify it for an EIA. No change of land use outside development zones.
Brand Malta for key economic sectors	None
Government will upgrade general industrial space in industrial estates, making them more energy efficient and providing supporting facilities such as child care	No new land will be taken up as the initiative focuses on upgrading of industrial space
Government will: <ul style="list-style-type: none"> • create industrial space suitable for pharmaceutical, and medical FDI; • create business parks for targeted service industries such as ICT, Software, Back Office, Shared Services & Call Centres; 	None of these initiatives will involve development of industrial space outside designated industrial estates, including the proposed SME estates. Although the OP states that “the current supply of factory space may not necessarily meet the requirements of high value-added industries”, it is assumed that the land supply is

Initiative	Assumption/s
<ul style="list-style-type: none"> provide technology and commercial centres; expand the business incubation centre (BIC); upgrade public amenities for the new crafts centre. 	already zoned.
Expansion of schools, university and vocational training institutes	It cannot be assumed that expansion will take place on land already appropriately zoned.
New educational facilities and material to support ongoing and life-long training needs	It cannot be assumed that new facilities will be located on land already appropriately zoned.
Schools used for learning centres and child-care	
Provide facilities, such as childcare centres, to increase female workforce	It cannot be assumed that such facilities will be provided within existing buildings.
Priority Axis 2: Supporting a competitive enterprise	
<p>To introduce grant schemes in line with the Lisbon Agenda for the creation of jobs and growth, focusing on:</p> <ul style="list-style-type: none"> Innovation; RTDi; Enterprise collaboration to upgrade product / service value; Knowledge base enhancement and transfer; Environmental factors; Financing of innovative enterprises that are or would have a high growth potential; Supporting innovative knowledge based enterprises in setting up and expanding their operations; and Supporting enterprises in benefiting from the internal market and the development of new market initiatives. 	No hard infrastructure or take up of land will result from the grant schemes as the latter focus on innovation, research, knowledge transfer and environmental enhancements.
To develop schemes to support the competitiveness of tourism enterprises, promote entrepreneurship and innovation, facilitate the effective use of ICT and encourage environmental practices by encouraging the sustainable use of resources and strengthening the synergies between environmental protection and growth.	No hard infrastructure or take up of land will result from this initiative as the latter focuses on innovation, technology, sustainable use of resources, marketing and environmental upgrading.
Assistance to enterprises to meet challenges of environmental regulations and undertake environmental enhancements	No hard infrastructure or take up of land will result from the grant schemes
Assistance to enterprises promote environmental excellence and eco-innovation	No hard infrastructure or take up of land will result from the grant schemes
Priority Axis 3: Promoting Sustainable Tourism	
To further the promotion of key tourism niche segments, primarily those related to culture and heritage	Uptake of land may be required.
To invest in the physical infrastructure that is central to tourism product development	No major constructions with significant land take up; construction within tourism zones.
To contribute to the ongoing branding exercise of Malta as a prime and diverse tourist destination	None.
To foster further environment protection and awareness	None
Target 7 niche tourism segments: i) leisure and tour	Mainly a marketing initiative

Initiative	Assumption/s
operator business; ii) cultural tourism; iii) meetings, incentives, conferences and exhibitions (MICE); iv) language learning segment; v) sports and in particular diving tourism; vi) Gozo-based tourism; and vii) other growth niche markets (including health tourism, film production, cruise and stay, short breaks and vacation ownership)	
Promote regional and sub-regional based travel programmes for niche market developments	Mainly a marketing initiative
Improve interpretation and investment in facilities	No major constructions with significant land take up; construction within tourism zones and established sites
Foster and undertake the development of new tourist amenities	Uptake of land may be required.
Promote environmental awareness (clean environment)	None
Foster and organise regular events that promote Malta as a worthwhile experience rather than just another destination	None
Malta will be branded on the basis of the three core values of heritage, diversity and hospitality. The branding exercise will be complemented by further investments in these areas	None
Encourage the propagation of native woodland, and the protection of other habitats and related fauna in order to complement other niche market initiatives, and offer recreational and educational facilities to the public	None
Foster the participation of NGOs in the environment protection awareness sector	None
Priority Axis 4: Developing the TEN-T infrastructure	
To upgrade the road infrastructure that is part of the TEN-T network	This could involve construction of new roads and may affect sensitive areas. Some of the projects would require an EIA
To invest in sea and air ports in a bid to meet European transport network requirements and Malta's economic development requirements	This would involve expansion of the airport; the OP States "The TINA (2002) study has identified that the airport infrastructure requires upgrading in terms of the resurfacing of the main aircraft parking area, the runway pavement and the construction of a new taxiway. It is expected that with a new taxiway the airport capacity at peak times will be doubled". Some of the projects would require an EIA
The main arterial and distributor road network needs to be supported by the appropriate road network infrastructure to provide the traffic linkages to population centres, areas of employment, and tourism and industrial areas; <ul style="list-style-type: none"> continuing improvement of the backbone road with particular priority being given to alleviating bottlenecks in key areas, improving safety, reduce operation and transport costs; and bring the whole road network up to the required standards 	New roads may be developed.
Upgrade and further develop the sea port	This could involve development of land based facilities

Initiative	Assumption/s
infrastructure to enhance merchandise trade capacity and stimulate additional economic competitiveness	in addition to the existing port facilities. None of the projects would qualify for an EIA
Upgrading of port infrastructure such as breakwaters and quays in the Valletta and Marsaxlokk harbours and to carry out further development of the Mgarr harbour to cater for improved accessibility to reduce the island's insularity and further economic activity	This would involve construction of hard infrastructure on land and at sea.
Enable the expansion of operational capacity, upgrade the current aerodrome infrastructure, and invest in air traffic control facilities in line with the airport's operational developments	This would involve expansion of the airport; the OP States "The TINA (2002) study has identified that the airport infrastructure requires upgrading in terms of the resurfacing of the main aircraft parking area, the runway pavement and the construction of a new taxiway. It is expected that with a new taxiway the airport capacity at peak times will be doubled". Some of the projects would require an EIA
Priority Axis 5: Improving accessibility and services of general economic interest	
To complement the investment in the TEN-T network with the development of a comprehensive and effective road network that connects these TEN-T network with the hinterland	New roads may be built.
To complement the upgrading with reforms and investments in public transport so that it can become truly modern, attractive and sustainable	None
Implement "park and ride" systems to reduce traffic congestion in city centres, and introduce traffic management systems to encourage the use of public transport	No new construction of car parks; use of existing car parks or developed sites.
Improve road safety	New roads may be built
Reduce private car use	Initiatives to reduce car use
Investigate feasibility of alternative mass transit systems that will support the projected modal shift	None
To improve the quality and efficiency of the Gozo-Malta inter-island connections and ensure adequate port capacity	Might require new infrastructure in port facilities
<ul style="list-style-type: none"> An ICT Consolidation programme including the setting up of an Active-Active data centre for the central provision of ICT services to Public Sector and Public Service. An eHealth strategy aiming at providing a setup giving citizens access to health services from their home on a 24x7 basis. A GIS strategy aiming at consolidating the provision of services to increase efficiency of services delivered, to migrate to a common platform and to increase a wider dissemination of GIS related services within the Public Sector and Public Service. An eGovernment Contact Centre aiming at providing citizens and businesses with a unified way of accessing eGovernment services via multiple communication channels, bridging all varying public demands for services, all media used to interact with the public sector and all segments of the public sector engaged in 	None

Initiative	Assumption/s
<p>providing the services. Integration will allow for the provision of various public services to an individual proving his or her identity using new Electronic Identity Cards that would 'smarten' existing national ID Cards. A homogenous infrastructure would also allow private operators to provide services over the eID Card kick-starting the concept of eWallets and eTicketing for transport, loyalty schemes and other services requiring proof of identity. The eWork framework aims to provide guidelines and required setup to Government for the provision to teleworking facilities to public employees.</p>	
<p>To maintain the momentum in E-accessibility with the focus put on providing the technology as well as the integration of ICT within the teaching profession / methods. Steps will also be taken to deploy a national e-learning platform</p>	None
<p>Ensuring the security and quality of energy supply, competitiveness in energy pricing, compliance with EU regulations, demand management and efficiency improvement measures in generation, distribution and end-use by:</p> <ul style="list-style-type: none"> • The replacement of ageing plant with new, more efficient plant employing best available techniques to reduce emission of pollutants; • Rendering, where cost-effective, existing generation plant/s at both power stations compliant with current and proposed EU environmental legislation; • Pursuing interconnectivity with the European energy networks for gas supply and/or as a cost-effective alternative to the local generation of electricity; • Upgrading and developing further the distribution network; • Installing necessary infrastructure for the implementation of demand side measures; • Research, testing and development of energy efficiency measures tailored for local conditions; and • Ensuring adequate and compliant fuel storage and transferring facilities. 	<p>Hard infrastructure required. May involve the translocation of emission to air Some of the projects would require an EIA.</p>
<p>To remove existing barriers (cost) to the eventual take up of renewable energy source generation and energy efficiency measures by households, architects and building developers, and energy services providers.</p>	None
<p>To improve upon the schemes introduced in the national budget for private households and also consider the installation of renewable energy sources and energy efficiency measures in public buildings and</p>	None

Initiative	Assumption/s
in the planning process.	
To investigate electricity generation from waste	None
To focus on desalination, to improve sea-water desalination efficiency, to further reduce water leakages from the distribution network and improve drinking water quality to come in line with the relevant EU Directives	Hard infrastructure may be required; will be located within existing desalination plants.
To improve the quality of groundwater and the regulatory framework governing its extraction and protection	Hard infrastructure may be required; will be located within existing desalination plants
To manage waste effluent within the parameters mandated by environmental principles	Hard infrastructure will be built. Some of the projects would require an EIA.
To assess the use of waste effluent for rural, woodland or agricultural purposes	None
Priority Axis 6: Upgrading environment infrastructure	
To continue to invest in infrastructures for sound waste management practices, including systems for hazardous waste and the rehabilitation of the old landfills	Construction of waste management facilities. Some of the projects would require an EIA
To minimise the effects of waste on the environment and society and to fully comply with EU Regulations	Interventions in the fields of solid and liquid waste management systems as well as the regeneration of landfills.
To investigate the potential for exploiting waste as a potential energy source for electricity generation	None
To install effective and efficient storm water catchment facilities to harvest the water, and store it for a wide variety of purposes	Could involve the construction of hard structures Outside Development Zone. Some of the projects would require an EIA
Priority Axis 7: Urban Regeneration and Improving the Quality of Life	
To restore and preserve the fortifications and develop uses for them that respect their character and which contribute to employment and growth, particularly in the tourism industry	None of the projects would require an EIA
To upgrade the environment and visual appeal of urban cores, revitalise existing town centres, upgrade social housing in core urban areas and promote closer integration of development and land-use planning.	Interventions in urban areas.
To strengthen the development of local communities	No hard infrastructure
To encourage local councils and the non profit sector to participate in development initiatives	Local development initiatives will be undertaken to enhance the general environment in localities as well as other projects of social and public interest.
The development of strategic plans, the setting up of monitoring and information and data compilation mechanisms, the carrying out of feasibility studies, coordinated environmental education through an established body as well as the implementation of awareness and education campaigns, and the stimulation of research and development to stimulate more environment friendly processes and procedures by economic operators	None
Monitoring to focus particularly on environmental areas including industrial pollution control, environmentally friendly construction, air quality and climate change, water quality, biodiversity, and noise	None
The adaptation of the Transit Orientated	None

Initiative	Assumption/s
<p>Development concept, applied locally is sought to create a synergy between all the major capital projects in Malta the land transport issues, whilst revitalising urban and suburban neighbourhoods, communities and the economy of Maltese Islands. This will be delivered through the following systems;</p> <ul style="list-style-type: none"> • Bring eco-friendly traffic and promote new technology; • Encourage travel behaviour change • Provide cycling facilities; • Provide effective and inviting public transport services; • Provide direct and inviting links to public transport nodes; • Enhance connectivity between different travel modes; • Give public transport a high public profile; and • Promote higher-density, mixed use development around public transport and urban lifestyle amenities. 	
To enhance the quality of life of Maltese citizens by ensuring the availability of quality health and care services	No hard infrastructure; initiative refers to service infrastructure
To continue to improve the delivery of health services and ensure the sustainability of the sector	None
To reform primary health care, to develop community services, and promote the better integration of the local health centres, and to upgrade smaller specialised hospitals and the existing rehabilitation	None

230. It is recognised that the initiatives listed in **Table 6.2** are only examples of the type of projects that could be funded under each of the Priority Axes. However, in the absence of more detailed knowledge of the measures, it was considered that using these initiatives to assess the potential impacts of each of the Priority Axes provided the most realistic approach for the SEA.

231. It is also noted that the assessment is based on the Operational Programme dated 2nd June 2006. PPCD carried out a public consultation exercise on the OP; this commenced on 22nd June and will close on 14th August 2006. The SEA was not complete at the time of the launch of the public consultation exercise.

IMPACT ASSESSMENT

232. Based on the methodology described above each of the Priority Axes was assessed against the relevant SEA objectives (see Chapter 5 for assessment of relevance). The results are presented in **Table 6.3**.

Table 6.3: Policy Assessment framework

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
Priority Axis I: To undertake investment in state-of-the-art enterprise support infrastructure that would complement the promotion of RTDi initiatives and strengthen high-value added economic activity through dedicated industrial facilities and educational infrastructure						
Maintain or enhance protected areas.	Help to maintain or enhance the conservation of designated areas (under both the Development Planning Act and Environment Protection Act)?	Maintain or increase in percentage of designated areas that are subject to formal management arrangements over time	The initiatives relevant to this Objective are those that concern the development of land	0	It is assumed that development will not be channelled in protected areas, hence there is no impact on protected areas.	Development of industrial facilities must take place within areas designated for development and not affect protected areas.
Maintain / enhance current levels of protected species	Negatively affect protected species?	No increase in threatened/ endangered species list over time	The initiatives relevant to this Objective are those that concern the development of land	P - LT IR	Development of infrastructure could take place in areas that contain protected species, especially if the sites comprise disturbed or abandoned agricultural land or garrigue.	Channel development to brownfield sites; survey areas for protected species; avoid development where protected species are recorded.
Minimise production of waste & increase recycling	Help to minimise waste generation? Promote recycling rather than waste disposal of waste to landfill?	No increase in waste generation by sector over time Increase in % waste recycled over time	The initiatives relevant to this Objective are those that concern the development of land	P - ST-LT IR	The overall aim of this Priority Axis is to attract business and industry to Malta. This could result in an increase in waste production during both the construction (short-term impact) and operational phases (long-term impact). The significance of the impact depends on the location, number, size and type of new establishments built as a result of the funds.	Appropriate conditions in development and environmental permits include recycling of construction waste, and waste separation.
Reduce noise, dust and light	Help to reduce dust generation from	No national indicators available in	The initiatives relevant to this	P -	Although most of the initiatives contemplated under this Priority Axis	Appropriate conditions in

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
pollution	construction and waste handling activities? Help to reduce noise from construction, operations and traffic? Help to reduce light pollution from development?	Malta. Ad hoc project specific indicators are imposed by MEPA on a case by case basis, depending on the development.	Objective are those that concern the development of land	ST- LT IR	are not likely to increase noise, dust and light pollution, the attraction of industry and the consequent need to provide industrial space may result in localised impacts on noise, dust and light pollution during construction and operational phases. The significance of the impact depends on the location, number, size and type of new establishments built as a result of the funds.	development and environmental permits
Improve drinking water quality and supply	Help to maintain the drinking water quality while meeting demand? Promote the maintenance of the existing supply infrastructure	Improvement in drinking water quality over time Increase in number of plans and programmes to maintain the existing supply infrastructure over time	RTDi initiatives will include research to maximise the potential of desalination plants.	P + R LT	The impacts on drinking water quality and supply are expected to be positive because one of the initiatives is aimed at researching ways in which desalination plants could operate efficiently.	Consider the use of alternative energy sources for desalination plants. Consider reducing dependency on desalination plants. Consideration should also be given to linking this initiative to those on stormwater management and include an initiative to harvest rainwater.
Improve air quality	Help to reduce emissions from non-mobile sources? Help to reduce emissions from mobile sources?	Reduction in emissions of nitrogen oxides, sulphur dioxide, particulates over time	Of particular relevance are emissions from mobile sources, particularly if	P - ST IR	Vehicular emissions could negatively impact localised air quality if the scale and / or location of the industrial development is such that it substantially increases vehicle journeys.	Mitigation measures could be implemented at the planning stage as permit conditions for any new

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
			the initiatives generate substantial traffic			development requiring development or environmental permission.
Increase use of renewable energy sources	Reduce Malta's vulnerability to climate change? Help to increase use of renewable energy?	Increase in % use of renewable resources over time	New industry is potentially energy-hungry	P - ST IR	New high tech industry and RTDI is often energy efficient but at the same time energy hungry, resulting in additional draw down from the national grid.	Appropriate conditions in development and environmental permits include renewable energy production units and energy efficient buildings / processes
Reduce GHG emissions	Contribute towards the reduction of GHGs?	Reduction in GHG emissions over time	New industry is potentially energy-hungry	P - ST IR	New high tech industry and RTDI is often energy efficient but at the same time energy hungry, resulting in additional draw down from the national grid and therefore increased indirect impacts on GHG emissions	Appropriate conditions in development and environmental permits include renewable energy production units and energy efficient buildings / processes
Maintain or enhance the conservation status of cultural heritage sites / areas	Enhance scheduled / protected areas? Reduce negative impacts on cultural heritage features and sites?	Increase in number of management plans for protected areas over time	The initiatives relevant to this Objective are those that concern the development of land	?	The impact is uncertain because the location of the development of industrial space / educational facility is not known. Although it is assumed that appropriately zoned land will be used, it cannot be assumed that such land is free from cultural heritage features.	Appropriate conditions in development permits include cultural heritage protection. Compliance with the Cultural Heritage Act.
Enhance the	Enhance valued	Increase in number	The initiatives	?	The impact is uncertain because the	Appropriate

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
landscape value of areas protected for their landscape value	landscapes?	of planning permissions for major projects refused in areas scheduled under the Development Planning Act as an Area of High Landscape Value on the basis of the potential impact on the landscape.	relevant to this Objective are those that concern the development of land		location of the development of industrial space is not known. Although it is assumed that land zoned for industrial use will be developed, it cannot be assumed that the development will not affect landscape.	conditions in development permits include protection of landscape.
Channel development into existing built up areas	Help to channel development into existing built up areas?	No increase in area of land built by development type located outside development zone over time	The initiatives relevant to this Objective are those that concern the development of land	?	The impact is uncertain because it is unclear whether the development will be channelled to land zoned for industrial use or not.	It is recommended that development of industrial facilities takes place within areas zoned for industrial development.
Priority Axis 2: To support enterprise competitiveness and to promote the further development of those economic activities that can add most value both economically and socially						
Minimise production of waste & increase recycling	Help to minimise waste generation? Promote recycling rather than waste disposal of waste to landfill?	No increase in waste generation by sector over time Increase in % waste recycled over time	Some of the tourism initiatives under this Priority Axis relate to investment in environment. This will focus on the Eco-Management and Audit	P + ST-LT R	A minor positive impact is predicted – some of the initiatives in this Priority Axis focus on environmental management for the tourism sector. It is anticipated that waste management would be one of the key areas in the implementation of the tourism schemes.	Grants for tourism schemes should favour those applications that include proposals for waste reduction / management

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
			scheme (EMAS), Eco-certification, waste and water management systems, pollution prevention (air and noise pollution) and investment in energy efficiency and renewable energy systems.			
Reduce noise, dust and light pollution	Help to reduce dust generation from construction and waste handling activities? Help to reduce noise from construction, operations and traffic? Help to reduce light pollution from development?	No national indicators available in Malta. Ad hoc project specific indicators are imposed by MEPA on a case by case basis, depending on the development.	The initiatives relevant to this Objective are those that concern environmental management schemes to be developed by MEPA for the control of pollution including dust and noise pollution	P + LT IR	A minor positive impact is predicted – some of the initiatives in this Priority Axis focus on environmentally- sensitive technologies and systems. It is anticipated that such systems would also impact on noise, dust and light pollution.	Assistance for environmentally sensitive technologies and systems should be favoured that aim to reduce pollution.
Improve air quality	Help to reduce emissions from non-	Reduction in emissions of nitrogen	This Axis focuses on	P +	The significance of the impact depends on how the grants are	Grants to industry that are focused on

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
	mobile sources? Help to reduce emissions from mobile sources?	oxides, sulphur dioxide, particulates over time	strengthening enterprise through grants to industry and tourism related services to improve their environmental performance, amongst other grants.	ST IR	allocated; however there is a commitment within the OP to help enterprise and tourism improve their environmental performance. There is also specific reference to reduction of emissions.	environmental improvements should be given priority.
Increase use of renewable energy sources	Reduce Malta's vulnerability to climate change? Help to increase use of renewable energy?	Increase in % use of renewable resources over time	Grants to industry and tourism related services to improve their environmental performance could include those that specifically focus on energy efficiency	P + ST IR	The significance of the impact depends on how the grants are allocated; however there is a commitment within the OP to help enterprise and tourism improve their environmental performance, which may include energy efficiency.	Grants to industry that are focused on environmental improvements should be given priority.
Reduce GHG emissions	Contribute towards the reduction of GHGs?	Reduction in GHG emissions over time	Improved environmental performance through grants could reduce GHG emissions.	P + ST IR	The OP makes reference to improved environmental regulation and to reduction of emissions. The significance of the impacts will obviously depend on the scale of the grants to enterprise and how these grants are used.	Grants to industry that are focused on environmental improvements should be given priority.

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
Enhance the landscape value of areas protected for their landscape value	Enhance valued landscapes?	Increase in number of planning permissions for major projects refused in areas scheduled under the Development Planning Act as an Area of High Landscape Value on the basis of the potential impact on the landscape.	Depending on the interventions, improvement of the tourism product could have secondary effects such as improving the landscape.	P + ST IR	The significance impact depends on the extent of works done to improve the tourism product and whether such works will benefit the landscape. However, given the focus of the Axis on cultural heritage and product improvements, benefits to landscape are anticipated.	Grants to industry that are focused on environmental improvements should be given priority.
Priority Axis 3: To promote a sustainable & competitive tourism industry able to achieve its potential for growth and re-affirm its central role in Malta's economic activity.						
Maintain or enhance protected areas.	Help to maintain or enhance the conservation of designated areas (under both the Development Planning Act and Environment Protection Act)?	Maintain or increase in percentage of designated areas that are subject to formal management arrangements over time	One of the initiatives of this Axis is to encourage the propagation of native woodland, and the protection of other habitats and related fauna in order to complement other niche market initiatives, and offer recreational and	P + ST-LT R	Although the impact is assessed to be positive the scale of the impact depends on how successful the initiatives are and how many / extent of those undertaken. Although the focus of the Axis is on culture and other forms of niche tourism, the fact that the local product is being upgraded could also positively affect protected areas.	Initiatives that contribute towards environmental enhancement should be favoured over those that do not. Visitor management in protected areas should be considered to ensure that disturbance to the sites is controlled.

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
			educational facilities to the public.			
Maintain / enhance current levels of protected species	Negatively affect protected species?	No increase in threatened/endangered species list over time	One of the initiatives of this Axis is to encourage the propagation of native woodland, and the protection of other habitats and related fauna in order to complement other niche market initiatives, and offer recreational and educational facilities to the public.	P + ST-LT R	Although the impact is assessed to be positive the scale of the impact depends on how successful the initiatives are and how many / extent of those undertaken. Although the focus of the Axis is on culture and other forms of niche tourism, the fact that the local product is being upgraded could also positively affect protected species.	Initiatives that contribute towards environmental enhancement should be favoured over those that do not. Visitor management in protected areas should be considered to ensure that disturbance to the sites is controlled.
Reduce noise, dust and light pollution.	Help to reduce dust generation from construction and waste handling activities? Help to reduce noise from construction and traffic? Help to reduce light pollution from	No national indicators available in Malta. Ad hoc project specific indicators are imposed by MEPA on a case by case basis, depending on the development.	Improving the tourism product could indirectly affect pollution, through enforcement of regulations	P + R ST-LT	A positive impact in terms of dust, noise, and light pollution is anticipated as an indirect effect of the measures to be funded under this initiative – upgrading the tourism product in important tourism areas is likely to reduce emissions.	Impacts of dust and noise from construction should be mentioned specifically in the OP as this is one of the areas that would benefit the sector.

Relevant SEA Objective	Criteria: Will the Priority Axis..... development?	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
			in tourism zones.			
Improve coastal water quality	Help to improve the quality of the marine environment?	Improvement in bathing water quality tests over time Improvement in results of discharges to the marine environment over time	Improving the tourism product could indirectly affect marine pollution, through enforcement of regulations in tourism zones.	P + R ST-LT	This is an indirect impact of the efforts made under this Priority Axis. Significance depends on the successful implementation of the measures and how many of the measures focus on the coastal zone.	The OP should make specific reference to the marine environment quality especially since one of the areas of focus is diving tourism.
Maintain or enhance the conservation status of cultural heritage sites / areas	Enhance scheduled / protected areas? Reduce negative impacts on cultural heritage features and sites?	Increase in number of management plans for protected areas over time	One of the main objectives of this Axis is to enhance cultural tourism	P ++ LT IR	Impact expected to be very positive because the focus of the Axis is related to improving the cultural tourism product.	None required.
Enhance the landscape value of areas protected for their landscape value	Enhance valued landscapes?	Increase in number of planning permissions for major projects refused in areas scheduled under the Development Planning Act as an Area of High Landscape Value on the basis of the potential impact on the landscape.	One of the initiatives of this Axis is to encourage the propagation of native woodland, and the protection of other habitats and related fauna in order to complement	P + ST-LT IR	Upgrading the tourism product and encouraging conservation of woodlands and biodiversity, could have a positive impact on the landscape.	Initiatives that contribute towards environmental enhancement should be favoured over those that do not.

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
			other niche market initiatives, and offer recreational and educational facilities to the public.			
Channel development into existing built up areas	Help to channel development into existing built up areas?	No increase in area of land built by development type located outside development zone over time	No development outside designated zones is anticipated in the OP.	P + IR LT	The impact on this Objective is positive because the OP focuses on upgrading the tourism product especially for niche markets rather than development <i>per se</i> .	<p>Initiatives that involve intensive development should not be pursued.</p> <p>By the nature of the OP itself, activities funded under it must first and foremost contribute to the overall strategy and objectives of the OP, be financially viable and have sound financial management. In addition and where possible, preference should be given to those activities that involve the upgrading of existing infrastructure.</p>

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
						All new development projects will follow MEPA's development control procedures (including environmental requirements).
Priority Axis 4: To invest in the upgrading of transport links within the context of the TEN-T network						
Maintain or enhance protected areas.	Help to maintain or enhance the conservation of designated areas (under both the Development Planning Act and Environment Protection Act)?	Maintain or increase in percentage of designated areas that are subject to formal management arrangements over time	Development of new roads may affect protected areas.	P - IR LT	The assessment assumes the worse case scenario – that is, new roads are built in protected areas. The scale of the impact depends on the number / length of new roads to be built. It is anticipated that most works will be carried out on the existing network; the impact is therefore not expected to be major. It is further noted that those projects that qualify for an EIA are specifically excluded from the OP.	New roads and road extensions avoid protected areas; environmental considerations are considered during the planning process.
Maintain / enhance current levels of protected species	Negatively affect protected species?	No increase in threatened/endangered species list over time	Development of new roads may affect protected areas.	P - IR LT	The assessment assumes the worse case scenario – that is, new roads are built in areas rich in protected species. The scale of the impact depends on the number / length of new roads to be built. It is anticipated that most works will be carried out on the existing network; the impact is therefore not expected to be major.	New roads and road extensions avoid protected species; environmental considerations are considered during the planning process.
Minimize production of	Help to minimise waste generation?	No increase in waste generation by sector	Development of new roads	P -	It is likely that road works will generate waste. It is unlikely that	Recycling of waste should be actively

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
waste & increase recycling	Promote recycling rather than waste disposal of waste to landfill?	over time Increase in % waste recycled over time	may result in waste generation.	R ST	much of this waste will be recycled; hence the impact is negative.	considered during road works; the measures emerging from the OP should seriously consider imposing conditions regarding recycling of materials used in road works.
Reduce noise, dust and light pollution.	Help to reduce dust generation from construction and waste handling activities? Help to reduce noise from construction and traffic? Help to reduce light pollution from development?	No national indicators available in Malta. Ad hoc project specific indicators are imposed by MEPA on a case by case basis, depending on the development.	Road works could result in increased levels of noise and dust pollution; new roads could increase noise and light pollution in previously undisturbed areas.	P - R ST	Road works are likely to generate noise and dust pollution, although for a short time. New roads in previously undisturbed areas may result in longer term noise impacts; however, it is not anticipated that there will be a large amount of new roads since the network will be upgraded. This impact would therefore not be significant. Furthermore, it is noted that those projects that qualify for an EIA are specifically excluded from the OP.	Incorporate noise / light abatement measures in conditions of permit.
Improve air quality	Help to reduce emissions from non-mobile sources? Help to reduce emissions from mobile sources?	Reduction in emissions of nitrogen oxides, sulphur dioxide, particulates over time	None.	P + LT R	One of the aims of the Priority Axis is to improve the road network to alleviate bottlenecks in key areas. This should improve air quality if transport flows are improved and bottle necks reduced.	Priority should be given to those projects that have the dual objectives of reducing congestion and facilitating better public transport provision and efficiency.
Reduce GHG	Contribute towards	Reduction in GHG	None.	P	Improving the road network and	

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
emissions	the reduction of GHGs?	emissions over time		+ / - LT R	consequent reduction in traffic problems could reduce emissions – the significance of the improvement of the road network on reducing vehicular emissions is not likely to be major. The introduction of the additional taxiway could provide a means to increase aircraft movements, resulting in a commensurate increase in emissions both at the airport and in the skies over Malta	Adopt procedures that minimise fuel consumption at take off / landing and when manoeuvring on the taxiways.
To manage stormwater away from where it is a hazard to where we are short of it.	Help to manage stormwater to the benefit of nation?	Increase in number of plans / programme of works to carry out stormwater management over time Decrease in number of insurance claims for flood damage over time	None.	P + LT IR	This priority Axis is considered to have, on balance, positive impacts on stormwater management as road improvements take into account stormwater management issues.	Stormwater management considerations should be included in the OP when improvements to the network are to be funded.
Minimise impacts of environmental disasters	Help to mitigate environmental disasters?	Increase in number of contingency plans over time	None.	P + LT IR	Construction of new roads should take into account flooding of roads and should be designed to avert such disasters. It is therefore likely that the new roads and upgrading of the network would help alleviate some of the problems associated with stormwater management.	Stormwater management considerations should be included in the OP when improvements to the network are to be funded.
Maintain or	Enhance scheduled /	Increase in number	None.	P	The development of new roads,	Ensure that the

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
enhance the conservation status of cultural heritage sites / areas	protected areas? Reduce negative impacts on cultural heritage features and sites?	of management plans for protected areas over time		- LT IR	maritime and air transport facilities could negatively affect cultural heritage artefacts and buildings.	projects implemented under the OP meet the requirements of the Cultural Heritage Act.
Enhance the landscape value of areas protected for their landscape value	Enhance valued landscapes?	Increase in number of planning permissions for major projects refused in areas scheduled under the Development Planning Act as an Area of High Landscape Value on the basis of the potential impact on the landscape.	None.	P - LT IR	New development especially in port areas and the airport could affect Areas of High Landscape Value. Such impacts would be long term and irreversible.	Such development would most likely qualify for an EIA.
Priority Axis 5: To improve accessibility and those services of general economic interest.						
Reduce noise, dust and light pollution.	Help to reduce dust generation from construction and waste handling activities? Help to reduce noise from construction and traffic? Help to reduce light pollution from development?	No national indicators available in Malta. Ad hoc project specific indicators are imposed by MEPA on a case by case basis, depending on the development.	None.	P + LT R	The transport initiatives are aimed at improving roads but also to reduce private car transport and increase public transport. This could reduce noise pollution from traffic; the impacts to be long term and only significant if use of public transport is significant.	Considerable effort needs to be made to change people's attitudes towards public transport. These efforts need to be sustained throughout the funding period.
Improve drinking water quality and	Help to maintain the drinking water quality while meeting demand?	Improvement in drinking water quality over time	The initiatives are to focus on improving	P ++ R	The impacts on drinking water quality and supply are expected to be very positive because this is one of the	Consider the use of alternative energy sources for

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
supply	Promote the maintenance of the existing supply infrastructure	Increase in number of plans and programmes to maintain the existing supply infrastructure over time	sea-water desalination efficiency, to reduce water leakages from the distribution network and improve drinking water quality, to improve the quality of groundwater and the regulatory framework governing its extraction and protection.	LT	main aims of the Priority Axis.	desalination plants. Consider reducing dependency on desalination plants. Consideration should also be given to linking this initiative to those on stormwater management and include an initiative to harvest rainwater.
Improve coastal water quality	Help to improve the quality of the marine environment?	Improvement in bathing water quality tests over time Improvement in results of discharges to the marine environment over time	One of the main objectives of this Priority Axis is “to increase sewage treatment capacity so as to eliminate raw sewage discharges to the sea”.	VP ++ LT IR	A major positive impact is anticipated as a result of the measures implemented under this Priority Axis that will ensure that no raw sewage reaches the sea untreated.	None required.

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
Improve air quality	Help to reduce emissions from non-mobile sources? Help to reduce emissions from mobile sources?	Reduction in emissions of nitrogen oxides, sulphur dioxide, particulates over time	The initiatives contemplate reforms and investments in public transport so that it can become truly modern, attractive and sustainable; implementation of the “park and ride” systems to reduce traffic congestion in city centres, and introduce traffic management systems to encourage the use of public transport; Improve road safety; Reduce private car use Investigate feasibility of alternative mass transit systems that	P + LT R	The transport initiatives are aimed at improving roads but also to reduce private car transport and increase public transport. This could reduce air noise pollution from traffic; the impacts to be long term and only significant if use of public transport is significant.	Considerable effort needs to be made to change people's attitudes towards public transport. These efforts need to be sustained throughout the funding period. Priority should be given to those projects that have the dual objectives of reducing congestion and facilitating better public transport provision and efficiency.

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
			will support the projected modal shift.			
Increase use of renewable energy sources	Reduce Malta's vulnerability to climate change? Help to increase use of renewable energy?	Increase in % use of renewable resources over time	Use of renewable energy and conversion of waste to energy are among the key initiatives contemplated under this Priority.	P ++ R LT	The initiatives proposed under this Axis make specific reference to renewable energy and seek to actively promote use of such energy in households. The effects of this Axis are long term and likely to be significant if the studies are taken forward and implemented in practice.	Studies taken forward i.e. not number of studies prepared but number of households / jobs in enterprises with renewable energy should be measured.
Reduce GHG emissions	Contribute towards the reduction of GHGs?	Reduction in GHG emissions over time	The initiatives contemplate reforms and investments in public transport so that it can become truly modern, attractive and sustainable; implementation of the "park and ride" systems to reduce traffic congestion in city centres, and introduce	P + LT R	The transport initiatives are aimed at improving roads but also to reduce private car transport and increase public transport. This could reduce emissions from vehicles; the impacts would be long term and only significant if use of public transport is significant.	Considerable effort needs to be made to change people's attitudes towards public transport. These efforts need to be sustained throughout the funding period.

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
			traffic management systems to encourage the use of public transport; Improve road safety; Reduce private car use Investigate feasibility of alternative mass transit systems that will support the projected modal shift.			
Priority Axis 6: To continue with the upgrading process of the country's environment infrastructures, in respect of solid waste, liquid waste, and storm water management.						
Maintain or enhance protected areas.	Help to maintain or enhance the conservation of designated areas (under both the Development Planning Act and Environment Protection Act)?	Maintain or increase in percentage of designated areas that are subject to formal management arrangements over time	The waste management and stormwater management initiatives may involve new infrastructure built in sensitive areas	?	The construction of new infrastructure may impact protected areas, however since the measures are not known at this stage, it is impossible to predict whether such impacts would arise.	Development avoids protected areas; environmental considerations are considered during the planning process.
Maintain / enhance current	Negatively affect protected species?	No increase in threatened/endanger	The waste management	?	The construction of new infrastructure may impact protected	Development avoids protected areas;

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
levels of protected species.		ed species list over time	and stormwater management initiatives may involve new infrastructure built in sensitive areas		species, however since the measures are not known at this stage, it is impossible to predict whether such impacts would arise.	environmental considerations are considered during the planning process.
Minimize production of waste & increase recycling	Help to minimise waste generation? Promote recycling rather than waste disposal of waste to landfill?	No increase in waste generation by sector over time Increase in % waste recycled over time	One of the main aims of the Axis is to promote sustainable waste management practices	VP ++ IR LT	The impact is judged to be very positive because one of the main objectives of the Priority Axis is “to minimise landfilling of waste and to rehabilitate disused landfills, as well as increase the capacity for waste treatment for energy recovery and recycling purposes.”	Considerable effort is required to change people’s attitudes towards waste management. These efforts need to be sustained throughout the funding period to ensure that the impact remains positive.
Reduce noise, dust and light pollution.	Help to reduce dust generation from construction and waste handling activities? Help to reduce noise from construction and traffic? Help to reduce light pollution from development?	No national indicators available in Malta. Ad hoc project specific indicators are imposed by MEPA on a case by case basis, depending on the development.	Impacts depend on extent of construction of infrastructure.	?	The impact on noise, light, and dust pollution is uncertain because the impact depends on the extent of works undertaken as a result of the implementation of the measures under Priority Axis 6. The measures are unknown and therefore the extent of the potential impacts cannot be estimated.	Uncertain.
Prevent soil erosion	Help to maintain soils levels through sound agricultural practices?	Increase in aid given to farmers to protect their fields	None.	P + LT	The construction of stormwater infrastructure in areas sensitive to flooding would positively affect this	Attention should be given to sensitive rural areas as well

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
	Help control runoff from rural land?	from erosion over time Increase in numbers of plans / programmes to carry out stormwater management in rural areas?		R	SEA Objective as the infrastructure would help control runoff from agricultural areas. The extent of the impact would depend on how many projects are implemented in rural areas.	as to urban areas.
Improve soil quality	Help to improve the quality of soil in agricultural areas?	Increased crop yields over time	None.	P + R LT	The availability of a new source of water for agriculture from recycled waste water may improve agricultural produce especially in areas that lack freshwater. The recycled waste water will, however, need to be suitably treated to remove nitrates, chloride etc that could detrimentally affect the soils and / or the underlying aquifer.	None required if water quality is adequate.
Improve drinking water quality and supply	Help to maintain the drinking water quality while meeting demand? Promote the maintenance of the existing supply infrastructure	Improvement in drinking water quality over time Increase in number of plans and programmes to maintain the existing supply infrastructure over time	None.	P + R LT	An indirect positive impact is expected on the quality of groundwater as a result of the implementation of those measures aimed at reusing waste effluent for rural, woodland or agricultural purposes. If such projects are successful there may be less pressure on groundwater from agriculture, resulting in better quality drinking water. However, see above. Indirect environmental costs would include those described above regarding desalination plants.	For this SEA Objective to be realised measures should ensure that farmers that are supplied with recycled water do not use groundwater.

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
Improve coastal water quality	Help to improve the quality of the marine environment?	Improvement in bathing water quality tests over time Improvement in results of discharges to the marine environment over time	One of the main objectives of this Priority Axis is to “develop infrastructure to minimise the effects of storm water and reduce the incidence of flash flooding as well as develop storm water catchment and re-use facilities”.	P + LT R	A r positive impact is anticipated as a result of the measures implemented under this Priority Axis because stormwater management could effectively reduce the amount of contaminated stormwater runoff reaching the sea.	None required.
Improve air quality	Help to reduce emissions from non-mobile sources? Help to reduce emissions from mobile sources?	Reduction in emissions of nitrogen oxides, sulphur dioxide, particulates over time	One of the main objectives of this Priority Axis is to “rehabilitate disused landfills”.	P + LT IR	There is a positive impact on air quality because emissions from the landfills are expected to be reduced as a result of projects undertaken under this Priority Axis.	None required.
Reduce GHG emissions	Contribute towards the reduction of GHGs?	Reduction in GHG emissions over time	One of the main objectives of this Priority Axis is to “rehabilitate disused	P + LT IR	GHG emissions are expected to be reduced as a result of projects undertaken to control emissions from disused landfills.	None required. See above re desalination plants.

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
			landfills”.			
To manage stormwater away from where it is a hazard to where we are short of it.	Help to manage stormwater to the benefit of nation?	Increase in number of plans / programme of works to carry out stormwater management over time Decrease in number of insurance claims for flood damage over time	One of the main objectives of this Priority Axis is to “develop infrastructure to minimise the effects of storm water and reduce the incidence of flash flooding as well as develop storm water catchment and re-use facilities”.	VP ++ LT IR	The impact is judged to be very positive and likely to occur because stormwater management is one of the three main objectives of this Priority Axis.	None required.
Minimise impacts of environmental disasters	Help to mitigate environmental disasters?	Increase in number of contingency plans over time	The Priority Axis aims to reduce emissions for disused landfills and to alleviate flooding problems	P ++ LT IR	The development of infrastructure to alleviate flooding problems and to control potentially harmful emissions from disused landscape is expected to have a very positive impact on this Objective.	None required.
Maintain or enhance the conservation status of	Enhance scheduled / protected areas? Reduce negative impacts on cultural	Increase in number of management plans for protected areas over time	Development of new infrastructure may affect	?	The construction of new infrastructure may impact cultural heritage sites / areas, however since the measures are not known at this	Development avoids protected areas; cultural heritage considerations are

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
cultural heritage sites / areas	heritage features and sites?		cultural heritage sites and areas.		stage, it is impossible to predict whether such impacts would arise.	considered during the planning process.
Enhance the landscape value of areas protected for their landscape value	Enhance valued landscapes?	Increase in number of planning permissions for major projects refused in areas scheduled under the Development Planning Act as an Area of High Landscape Value on the basis of the potential impact on the landscape.	Development of new infrastructure may affect landscape.	?	The construction of new infrastructure may impact landscape, however since the measures are not known at this stage, it is impossible to predict whether such impacts would arise.	Development avoids protected areas; environmental considerations are considered during the planning process.
Channel development into existing built up areas	Help to channel development into existing built up areas?	No increase in area of land built by development type located outside development zone over time	Development of new infrastructure could be ODZ.	?	The construction of new infrastructure may result in new development outside existing built up areas, however since the measures are not known at this stage, it is impossible to predict whether such impacts would arise.	Development should be channelled into built up areas, where possible.
Priority Axis 7: To safeguard and valorise the country's urban heritage, undertake urban regeneration initiatives for local development and promote a better quality of life						
Maintain or enhance protected areas.	Help to maintain or enhance the conservation of designated areas (under both the Development Planning Act and Environment Protection Act)?	Maintain or increase in percentage of designated areas that are subject to formal management arrangements over time	One of the objectives of the Axis is to strengthen environmental monitoring in various fields including	P 0/+ LT R	The significance of the impact depends on the effectiveness of the monitoring regime, that is, if results are negative will anything be done to further protect biodiversity? monitoring alone will not enhance protected areas.	The OP should include indicators that not only document amount of equipment purchased but also, equipment utilised, results obtained,

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
			biodiversity.			and actions taken in case of negative results.
Maintain / enhance current levels of protected species	Negatively affect protected species?	No increase in threatened/endangered species list over time	One of the objectives of the Axis is to strengthen environmental monitoring in various fields including biodiversity.	P 0/+ LT R	The significance of the impact depends on the effectiveness of the monitoring regime: that is if results are negative will anything be done to further protect biodiversity? Monitoring alone will not enhance protected species.	The OP should include indicators that not only document amount of equipment purchased but also, equipment utilised, results obtained, and actions taken in case of negative results.
Reduce noise, dust and light pollution.	Help to reduce dust generation from construction and waste handling activities? Help to reduce noise from construction and traffic? Help to reduce light pollution from development?	No national indicators available in Malta. Ad hoc project specific indicators are imposed by MEPA on a case by case basis, depending on the development.	One of the objectives of the Axis is to strengthen environmental monitoring in various fields including industrial pollution control, environmentally friendly construction, air quality, and noise.	P 0/+ LT R	The significance of the impact depends on the effectiveness of the monitoring regime: that is if results are negative what action will be taken? Monitoring alone will not reduce pollution.	The OP should include indicators that not only document amount of equipment purchased but also, equipment utilised, results obtained, and actions taken in case of negative results.
Improve coastal water quality	Help to improve the quality of the marine	Improvement in bathing water quality	One of the objectives of	P 0/+	The significance of the impact depends on the effectiveness of the	The OP should include indicators

Relevant SEA Objective	Criteria: Will the Priority Axis..... environment?	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
		tests over time Improvement in results of discharges to the marine environment over time	the Axis is to strengthen environmental monitoring in various fields including industrial pollution control and water quality.	LT R	monitoring regime: that is if results are negative what action will be taken? Monitoring alone will not improve water quality.	that not only document amount of equipment purchased but also, equipment utilised, results obtained, and actions taken in case of negative results.
Improve air quality	Help to reduce emissions from non-mobile sources? Help to reduce emissions from mobile sources?	Reduction in emissions of nitrogen oxides, sulphur dioxide, particulates over time	One of the objectives of the Axis is to strengthen environmental monitoring in various fields including industrial pollution control, climate change, air quality, and environmentally friendly construction practices.	P 0/+ LT R	The significance of the impact depends on the effectiveness of the monitoring regime: that is if results are negative what action will be taken? Monitoring alone will not improve air quality.	The OP should include indicators that not only document amount of equipment purchased but also, equipment utilised, results obtained, and actions taken in case of negative results.
Maintain or enhance the conservation status of cultural heritage sites / areas	Enhance scheduled / protected areas? Reduce negative impacts on cultural heritage features and sites?	Increase in number of management plans for protected areas over time	One of the objectives of the Axis is to upgrade the physical environment	VP ++ R LT	A very positive impact is expected because one of the initiatives under this Priority Axis is to restore several kilometres of fortification walls. Other initiatives that are also beneficial in terms of cultural heritage are the upgrading of village cores and	None required.

Relevant SEA Objective	Criteria: Will the Priority Axis.....	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
			and visual appeal of urban cores (including restoration of fortifications)		urban centres.	
Enhance the landscape value of areas protected for their landscape value	Enhance valued landscapes?	Increase in number of planning permissions for major projects refused in areas scheduled under the Development Planning Act as an Area of High Landscape Value on the basis of the potential impact on the landscape.	Government's strategic objectives focus on the regeneration, restoration and rehabilitation of the urban centres fortification regeneration.	VP ++ R LT	Fortifications form part of valued landscapes: their restoration can only have positive effects on the landscape.	None required.
Channel development into existing built up areas	Help to channel development into existing built up areas?	No increase in area of land built by development type located outside development zone over time	The Priority Axis focuses on regeneration and rehabilitation of the historic fabric; no new development is contemplated	VP ++ IR LT	The Priority Axis focuses on regeneration and restoration of existing structures and buildings. Development in urban centres includes playing fields and cultural centres. Development outside built up areas is not contemplated.	Development outside built up areas should not be funded under this Axis.

Summary of the Assessment

233. The SEA identified certain initiatives within some of the Priority Axes that could have potentially negative impacts on the environment and some that could have positive impacts. Although none of the Axes was considered to have potentially *major* negative impacts, a number of the initiatives thereunder were nonetheless considered to have some negative impacts.
234. It is noted that many of potential impacts are theoretical and arise as a result of considering the potentially worst case scenario for each priority (see section on Assumptions). The actual impacts, to be observed following the implementation of the programme, will depend on site specific issues as well as the proposed design and the approach taken for individual activities and projects implemented under the OP. Although these may be controlled through planning and/or other regimes as part of the permitting process, the identification of potential impacts and associated mitigation through the SEA will help guide the final OP and will enable decisions relating to funding of particular activities at a later date to be determined in light of potential impacts.
235. **Table 6.3** shows that few of the Priority Axes have negative impacts; Axes 2 and 3 were assessed to have no negative impact on the environment. This is because the initiatives considered under these Axes are either focused on research, or are aimed at helping industry and tourism establishments comply with environmental regulation. Despite the worse case scenario being assumed during the assessment process, a number of positive environmental impacts were identified for all the Priority Axes.
236. Negative impacts usually resulted from those initiatives that involve development or the construction of new roads (Axis 4), structures (Axes 1) and/or infrastructure (Axes 6). The SEA cannot recommend that certain initiatives should not be permitted and more 'environmentally friendly' actions implemented under the Priority Axes because it is premature to identify specific projects under the initiatives and, therefore, the impacts remain indicative.
237. **Table 6.4** below shows the number of potentially negative impacts identified under the 7 Priority Axes, and the number of neutral impacts and positive/major positive impacts identified; the number of impacts that could not be determined is also listed. The numbers in the table indicate how many negative, positive, neutral, and unknown impacts there are for each of the SEA Objectives. These numbers are derived from the column labelled "symbols" in **Table 6.3**.
238. It clearly shows that the number of positive impacts outweighs the number of negative impacts. It is noted that since the impacts are not weighted, it cannot be concluded that the benefits of the OP outweigh the environmental costs. It does, however, show that the OP has taken into account environmental issues and that the environment stands to benefit from the implementation of the OP.

Table 6.4: Summary of potential impacts of the OP

Sea Objectives	Number of “- /--” impacts	Number of “0” impacts	Number of “+/++” impacts	Number of “?” impacts
Maintain or enhance protected areas	1	2	2	1
Maintain / enhance current levels of protected species	2	1	2	1
Minimize production of waste & increase recycling	2	0	2	0
Reduce noise, dust and light pollution	2	0	5	2
Prevent soil erosion	0	0	1	0
Improve soil quality	0	0	1	0
Improve drinking water quality and supply	0	0	3	0
Improve coastal water quality	1	1	4	0
Improve air quality	1	0	4	0
Increase use of renewable energy sources	1	0	2	0
Reduce GHG emissions	2	0	4	0
To manage stormwater away from where it is a hazard to areas of deficit.		0	2	0
Minimise impacts of environmental disasters	0	0	2	0
Maintain or enhance the conservation status of cultural heritage sites / areas	1	2	2	0
Enhance the landscape value of areas protected for their landscape value	0	0	3	2
Channel development into existing built up areas	0	0	2	2
TOTAL	13	6	37	8

Note: - means negative impact

-- means very negative impact

0 means no impact / neutral impact

+ means positive impact

++ means very positive impact

? means impact unknown

Cumulative & Synergistic Impacts

239. Cumulative effects are those effects that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the proposal. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.
240. Synergistic effects interact to produce a total effect that is greater than the sum of the individual effects.
241. Given the strategic level at which the Objectives of the OP are formulated it is inherently difficult to give explicit details of the cumulative effects of the OP, and accordingly **Table 6.5** provides a general overview of the key issues identified for each environmental topic considered within the assessment process.

Table 6.5: Summary of cumulative environmental effects of the OP

Environmental Receptor	Key impacts of the OP
Biodiversity	Biodiversity could be negatively affected if the measures emerging from some of the Priority Axes involve the development of sensitive areas. Since the measures and the projects to be funded by the OP are unknown it is difficult to assess the cumulative impacts. Moreover, as the impact would be largely site specific, more detailed analysis would be required at the project level.
Population	The OP would be beneficial in terms of providing waste management infrastructure and opportunities for reducing and recycling waste. However, the implementation of certain major projects and infrastructure (such as roads) could generate additional waste and, therefore, have a negative impact on waste generation. Individual assessments at the project level would be required to ensure that waste generated is limited and the waste hierarchy implemented.
Human health	The inclusion of objectives to promote modal shift towards sustainable modes of transport could have the potential to pose an overall positive impact on human health through improved air quality and increased road safety. However, those objectives that could fund major development projects could adversely affect human health through dust and noise pollution. These effects are, however, likely to be localised.
Soil	Soil erosion and soil quality are likely to be affected by Priority Axis 6 only; no cumulative effects can be predicted at this stage.
Water	Impacts on both sea water and drinking water quality are expected to be positive because of the initiatives contemplated under a number of Priority Axes, including sewage treatment, and improvements in the production and extraction of drinking water.
Air quality	<p>The inclusion of objectives to effect a reduction in overall traffic volumes could positively assist in reducing air pollution or at the very least not make it any worse. Emphasis on modal shift towards sustainable travel and associated reduction in reliance on private car and levels of congestion could be particularly beneficial. Initiatives to promote renewable energy would also have positive impacts.</p> <p>Activities associated with the construction of new infrastructure, including the extraction of materials and energy use, would need to be fully assessed at the project level.</p>
Climatic factors	The OP could potentially assist in reducing climate change effects through the inclusion of objectives to promote sustainable travel, increase use of renewable energy, and reduce emissions from disused landfills. The SEA recognises that some initiatives could attract more vehicles to specific areas and may, therefore, increase traffic levels in local areas and encourage people to make journeys they may have previously not contemplated.
Material assets	<p>The cumulative impact on material assets is expected to be positive because of the initiatives that focus on stormwater management. Construction of new roads could also alleviate problems of flooding.</p> <p>The links between Priority Axis 4 (upgrade of road infrastructure), Priority Axis 5 (investment in utility infrastructure), and Priority Axis 6 (storm water management) is noted. There could be environmental risks if these measures are implemented simultaneously and without co-ordination, with the overall effect being much greater than the sum of parts. These risks should be taken into account during the project planning stage.</p>
Cultural heritage	There is the potential for the OP to negatively impact cultural heritage features or the

	cultural landscape if major developments were to be located in sensitive areas. In view of the site-specific nature of historic buildings, archaeological sites, and other culturally important sites/features, individual scheme assessment would be required at project level. Positive impacts on the cultural environment would result from the implementation of those measures that are concerned with regeneration and rehabilitation.
Landscape	There is the potential for the OP to negatively impact the landscape if major developments were to be located in sensitive areas. With the impact being largely site specific, further exploration is necessitated at project level where appropriate. However, the OP could also positively impact on the landscape of the urban environment through initiatives to restore fortifications and urban cores.
Land	The cumulative impact of the OP on land is dependent on the number of projects funded under the OP that require land. It is also dependent on where these are located – whether within the development zone or outside it. At this stage, it is premature to identify the specific projects and, therefore, the cumulative impact cannot be assessed.

MITIGATION MEASURES

242. When considering the need for mitigation, a hierarchy of mitigation measures was considered:
- Avoiding the implementation (funding) of the Priority Axis / initiative (either completely or in specific areas that are considered to be most sensitive to the action);
 - Reducing the funding allocated to the Priority Axis;
 - Remedying or compensating for the negative impacts of the Priority Axis by incorporating mitigation measures into the Axes / initiatives (as a condition of the funding being granted) to prevent or minimise the impacts; and
 - Enhancing positive impacts.
243. Since the impact assessment showed that there are no major negative impacts, mitigation measures relating to selectively discriminating against of potentially harmful Priority Axes and reducing funding to such Axes were not considered further.
244. Potential mitigation measures for each of the Axis are listed in **Table 6.3**. For all Axes, the majority of the impacts are inter-related and consequently individual mitigation measures and strategies could minimise and/or negate a number these impacts. Potential mitigation measures deriving from the inter-relation between the impacts (considering both reduction and remedy/compensation measures) are discussed below under each of the actions for which impacts were identified. In addition, there is a number of issues that are relevant to all Axes and these are discussed before action specific measures are identified.

Provision of Advice to Applicants

245. Information relating to the potential environmental impacts, including statutory obligations, legislation and guidance relating to the various actions for which funding will be granted under the scheme should be provided to applicants to enable them to make informed decisions relating to the types of actions they wish to implement. This information could be provided through information packs that could accompany application forms for grant funding under the OP 2007 - 2013. Alternatively, more detailed guidance packs could be provided to those officers providing advice and to those assessing the applications for funding to ensure that they are well-equipped to provide the best and most appropriate advice. The information packs could include information relating to funding parameters as well as the relevant environmental information. This second approach would provide a more holistic approach to the delivery of the OP.

Provision of Checklists for Funding Application Assessors

246. In order to ensure that all environmental issues are considered when applications for grant funding are received, the use of a checklist containing a series of questions relating environmental issues should be considered. It is likely that an environmental assessment of the proposal would be required and such a checklist would enable potential issues to be highlighted at the application stage, and mitigation measures to be incorporated into the proposals. Furthermore, proposals submitted for funding that already incorporate environmental measures such as harvesting of stormwater runoff and use of renewable energy should be selected over those that do not.

Project Planning

247. Considering that the OP covers a wide range of projects, some of which are interlinked, it is important that the various Government agencies that are responsible for implementing projects coordinate their efforts. This is especially important for projects such as upgrading of roads and constructing stormwater management projects. It is essential that the Malta Resources Authority, Water Services Corporation, and the Transport Authority cooperate to ensure that projects that are linked are planned accordingly.

Staff Training

248. In order to achieve the environmental objectives set out in this Report, it is important to ensure that funded projects are managed by trained personnel that have expertise in planning, implementing and monitoring projects and that pay attention to environmental considerations. Government should consider training project managers for them to gain an understanding of environmental issues. Alternatively, the Green Leaders within organisations should be involved in project implementation. MEPA could also have a role in advising on environmental issues.

Biodiversity Issues

249. When considering development applications, MEPA has an obligation to consider the implications of any decisions they make on biodiversity in both its wider context and in relation to specific impacts on priority species and habitats in order to comply with the Habitats Directive (LN 257 of 2003).
250. The implementation of certain initiatives, such as the take up of land for industrial development (Axis 1), construction of roads (Axis 4), and infrastructure for stormwater management (Axis 6) could result in the loss of biodiversity, priority habitats and species, and the further fragmentation of habitats if insufficient consideration is given to the locations wherein these actions are planned. The conversion of Natura 2000 sites, scheduled areas, and priority habitats to other land uses would have a considerable negative impact on biodiversity and must be avoided.
251. In addition, any actions within the OP that could significantly impact a Natura 2000 site, scheduled area, or protected species will have to be evaluated; a formal Appropriate Assessment will be required in accordance with the obligations arising under the Birds and Habitats Directives (See Article 13 of LN 257 of 2003). This is normally requested by MEPA during the assessment of planning applications within or adjacent to such sites.
252. It is further recommended that, where possible, due regard should be given to projects that are carried out in protected or environmentally sensitive / important areas. Preference should be given to those projects that improve and enhance areas of environmental importance.

Waste Management

253. Waste arising from the construction of major developments such as roads is a potential impact arising from the implementation of the OP. Appropriate conditions in development and environmental permits addressing matters such as the recycling of construction waste and waste separation should be imposed by MEPA where appropriate. Serious consideration must also be given to recycling, including the recycling of materials arising from road works. It is the responsibility of implementing agencies such as ADT (Transport Authority) to ensure that such practices are adopted by their contractors.

Noise, Dust, and Light Pollution

254. Mitigation of the impacts of dust, noise, and light from developments funded by the OP can only be required through project-specific conditions that are imposed by MEPA. Projects that adopt such measures should be given priority for funding.

Climate Change

255. Some of the initiatives under Priority Axis I may result in increased vehicle movements that could lead to negative impacts upon climate change. This could be minimised by improvements to the transport infrastructure and promotion of

sustainable transport modes. During the evaluation of projects for funding, those projects that take into account energy conservation, energy efficiency, reduction of GHG emissions, and use of renewable energy should be given priority over those that do not promote environmental improvements.

256. Appropriate conditions in development and environmental permits should also address renewable energy and energy efficient buildings / processes. For those funded projects that involve studies, the success of the project should be measured not by the number of studies prepared but by, for example, the number of households / organisations with renewable energy installations.
257. The use of alternative energy sources for desalination plants should also be considered.

Cultural Heritage

258. Some of the potential impacts of the OP on cultural heritage are largely unknown because impacts are usually location specific; the OP gives no indication of the location of projects. Notwithstanding this, it is recommended that appropriate conditions in development and environmental permits include cultural heritage protection measures; compliance with the Cultural Heritage Act is also required.

Land

259. One of the significant impacts on land is the take up of land that is not zoned for the particular use. It is recommended, therefore, that where possible, developments funded by the OP are located within the Development Zone. Those developments that are located outside Development Zone should be vetted more thoroughly to ensure that all impacts have been assessed and appropriate mitigation measures implemented. Additionally, preference should be given to those projects that involve the upgrading of existing land use operations rather than those that require further land uptake.

CHAPTER 7: MONITORING

INTRODUCTION

260. Monitoring the environmental performance of a plan should make it possible to identify corrective actions and establish how well the plan complies with SEA objectives.
261. The European Commission Guidance suggests that SEA monitoring activities and reporting can be integrated into the regular planning cycle, or may coincide with the regular revision of a plan. Other SEA guidance⁶⁵ indicates that the existing monitoring arrangements of the plan and that undertaken for other plans can be used to obtain the required information.
262. This Chapter describes the monitoring arrangements proposed for the OP and the difficulties associated with setting up a monitoring regime.

DIFFICULTIES ENCOUNTERED

263. It is noted that although the whole of the Maltese Islands are covered by the OP, the programme will not be implemented in all parts of Malta but only in those areas where funding is applied for and granted. As a result, it is not possible to identify, at the start of the programme, those specific areas that will be affected by projects funded under the OP. This poses a challenge for the design of the monitoring plan and the selection of indicators to be used in the assessment of the effectiveness of the OP in meeting the objectives identified during the undertaking of the SEA. This is further compounded by the fact that the indicators must be directly related to the specific activities funded under the programme alone and not activities that could be funded by other means and which generate similar impacts. Whatever monitoring is proposed must ensure that the indicator measures the effects of the OP project alone.
264. The OP is so strategic in nature and the range of projects that can be funded under it are so vast that establishing indicators that are not project- and site- specific would give very little indication of the impact of the programme. It would be extremely cumbersome and outside the scope of the SEA to formulate indicators for each and every type of project to be funded, the possible projects and their performance characteristics cannot be reliably foreseen.
265. Another difficulty in implementing a monitoring regime arises from the management structure of the OP itself. Although the OP is being collated by PPCD (the Managing Authority), the implementing agencies are those Government entities that will benefit from and administer the funds. Hence, the responsibility for monitoring would be widely distributed - there is no one central agency that is responsible. It is also noted that most of the implementing agencies do not have the capacity nor the skills to

⁶⁵ A Practical Guide to the Strategic Environmental Assessment Directive, ODPM Sept. 2005

monitor environmental impacts. The latter is carried out on a national level by MEPA and MRA, mainly. Project monitoring is undertaken for major developments that undergo an Environmental Impact Assessment.

266. Notwithstanding, the above, there is a need to ensure that the monitoring requirements to assess the effectiveness of the OP in meeting the objectives of the SEA are sufficient to provide a solid and defensible audit trail, and to enable the Government of Malta to meet its statutory obligations.

MONITORING PROPOSALS

267. The monitoring proposals discussed below must be seen in light of the very strategic nature of the OP. There are no location specific projects and the initiatives listed in the OP are conceptual: they are only examples of the type of actions that could be funded. This SEA recommends, therefore, that existing environmental indicators (see **Chapter 5**) are used to monitor the impact of the OP. These data are collected by a number of agencies on a regular basis as part of their statutory obligations. For example, MEPA collects data on air quality, biodiversity, waste, etc. and MRA collects data on drinking water quality. It should be noted that this data are not collected for the purpose of monitoring the OP.
268. It is acknowledged that the data alone needs to be interpreted and in some way related to the implementation of the OP. This presents a number of challenges, the main one being that environmental data are influenced by factors outside the OP, including other plans and programmes, legislation, and Government and private sector initiatives, and in some cases trans-boundary effects.
269. In order to establish a link between the environmental indicators and the implementation of the OP, it is recommended that an “Environmental Committee” comprising key stakeholders and technical experts is established. The role of the Committee would be to assess the trends in the indicators and establish whether the projects funded under the OP could have had an impact on the trends. The Committee should meet at least once a year. It would be responsible for: a) collating the data for the SEA indicators; and b) gathering information on the funded projects for that year. The Committee would subsequently take a view as to whether the projects could have affected the indicators. Any remedial action would also be discussed and agreed by the Committee.
270. It is further recommended that the Committee identifies major projects that could potentially have a negative impact on the environment and request that these are monitored for their significant impacts. A monitoring report would be submitted to the Committee by the applicant over a timeframe to be specified. In the case where EIAs are carried out the monitoring carried out as a requirement of the EIA would be made available to the Committee.
271. This monitoring scheme should be seen in conjunction with the proposed mitigation measures, especially those related to providing a checklist to applicants to identify the potential impacts of the project/s to be funded.

CONSIDERATION OF THE FINAL CONTENT OF THE OP

272. At the time of writing the SEA, the draft OP was undergoing a public consultation exercise. The information contained in this SEA has identified the 'green thread' for the OP and provides guidance and direction relating to the priorities (with recommended mitigation as required). A list of indicative initiatives, their potential impacts, and recommended mitigation measures would be beneficial to and could be used to support the work of the advisors responsible for processing funding applications.
273. In summary, the assessment has identified that none of the Priority Axes have potentially significant impacts and no negative impacts for Axes 2 and 3 were identified. Although, Priority Axes 1, 4, and 5 have potentially negative impacts, they also have a similar number of potentially positive impacts. The uncertainties in the assessment of impacts are related mainly to the lack of information on the location of projects to be funded by the OP. Mitigation measures to minimise or negate the negative impacts, and enhance the positive benefits have also been identified.
274. There will be a need for an assessment to be undertaken when considering each application or each block of applications for funding, to ensure that there is no imbalance between the measures to be funded within a particular area such that environmental impacts accumulate e.g. a mass expansion in hard infrastructure development in an inappropriate or non-designated site.

REFERENCES

- ADT (2005) *Road lengths by Category*. [from website]
<http://www.maltatransport.com/en/tsd/transportstatistics/RoadLengthsSummary.pdf>
(accessed on 22nd June 2006).
- ADT *Estimated Vehicle Kilometres* [from website]
<http://www.maltatransport.com/en/tsd/transportstatistics/transportusage.shtml>
(accessed on 27th June 2006)
- ADT *Public Transport* [from website]
<http://www.maltatransport.com/en/tsd/transportstatistics/public.shtml> (accessed on 22nd June 2006)
- ADT *Public Transport Ticket Sales for Malta, 1989-2002* [from website]
<http://www.maltatransport.com/en/tsd/transportstatistics/public/maltaticketsales.pdf>
(accessed on 22nd June 2006)
- Aquilina, J.W. (2005) *National Reform Programme – Malta's Strategy for Jobs and Growth*, Ministry for Competitiveness and Communications, Malta
- Department of Public Health (2005) *Bathing Water Quality Annual Report 2004* [from website]
<http://www.health.gov.mt/dph/ehupdffiles/Bathing%20Water%20Report%202004.pdf>
(accessed on 27th June 2006)
- Development Planning Act of 1992, Cap 356 (Malta)
- Dusik J., Jurkeviciute A. & McGuinn J. (2006) “*Handbook on SEA for Cohesion Policy 2007-2013*”, Greening Regional Development Programmes, UK.
- Environment Protection Act of 2001, Cap 435 (Malta)
- Environment Protection Act, Legal Notice 116 of 2005 *Freedom of Access to Information on the Environment Regulations*, 2005 (Malta)
- Environment Protection Act, Legal Notice 168 of 2002 *Waste Management (Landfill) Regulations*, 2002
- Environment Protection Act, Legal Notice 194 of 2004, *Water Policy Framework Regulations*, 2004 (Malta)
- Environment Protection Act, Legal Notice 204 of 2001, *Environmental Impact Assessment Regulations*, 2001 (Malta).
- Environment Protection Act, Legal Notice 23 of 2004, *Quality of Water Intended for Human Consumption Regulations*, 2004
- Environment Protection Act, Legal Notice 257 of 2003, *Flora, Fauna and Natural Habitats Protection Regulations*, 2003 (Malta)

-
- Environment Protection Act, Legal Notice 337 of 2001, *Waste Management (Permit & Control) Regulations, 2001*
- Environment Protection Act, Legal Notice 343 of 2001 - *Protection of Waters against Pollution Caused by Nitrates from Agricultural Sources Regulations, 2001 (Malta)*
- Environment Protection Act, Legal Notice 380 of 2003, *Quality of Bathing Water Regulations, 2003 (Malta)*
- Environment Protection Act, Legal Notice 418 of 2005, *Strategic Environmental Assessment Regulations, 2005 (Malta)*
- Environment Protection Division (1999) *State of the Environment Report 1998*, Planning Authority, Malta.
- European Commission *Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment*
- European Parliament (2001) Directive 2001/42/EC (EU)
- Government of Malta (2002) *Malta National Report Submitted by the Government of Malta to the World Summit on Sustainable Development* [from website]
http://home.um.edu.mt/islands/Malta_WSSD.pdf (accessed on 28th June 2006)
- Government of Malta (2002) *Transport Infrastructure Needs Assessment (TINA) Study*, Government of Malta, Malta
- Government of Malta (2006) *Operational Programme I, Cohesion Policy 2007-2013, Investing in Competitiveness for a Better Quality of Life, DRAFT dated 02.06.06*. Planning & Priorities Coordination Division, Malta.
- Government of Malta (2006) *National Strategic Reference Framework Malta 2001-2013*, Government of Malta, Malta.
- Malta Environment and Planning Authority (2002) *Coastal Strategy Topic Paper Draft*. Malta Environment and Planning Authority, Malta.
- Malta Environment and Planning Authority (2002) *National Report on the Strategic Action Plan for the Conservation of Maltese Coastal and Marine Biodiversity*, Malta Environment and Planning Authority, Malta.
- Malta Environment and Planning Authority (2003) *State of the Environment Report 2002*. Malta Environment and Planning Authority, Malta.
- Malta Environment and Planning Authority (2006) *State of the Environment Report 2005*, Malta Environment and Planning Authority, Malta.
- Malta Environment and Planning Authority *Utilities Topic paper Final Draft* [from website]
http://www.mepa.org.mt/index.htm?spr/topics_utilities.htm&l (accessed on 27th June 2006)

-
- Malta International Airport *Annual Statistics Review: 2004, 2005* [from website]
<http://www.maltairport.com/page.asp?p=5594&l=1> (accessed on 27th June 2006)
- Malta Resources Authority (2006) *A Proposal for an Energy Policy for Malta, Public Consultation Draft* [from website] www.mra.org.mt (accessed on 27th July 2006)
- Micallef, A. Sammut, C.V. (Eds) (2004) *The First Communication of Malta to the United Nations Framework Convention on Climate Change (UNFCCC)*, Ministry for Rural Affairs and the Environment, Malta.
- Ministry for Rural Affairs and the Environment (2002) *The Rural Development Plan (RDP) for Malta 2004-2006*, Ministry for Rural Affairs and the Environment, Malta
- Ministry for the Environment (1990) *Sewerage Master Plan*, Ministry for the Environment, Malta.
- Ministry for the Environment (2001) *A Solid Waste Management Strategy for the Maltese Islands*, Ministry for the Environment, Malta.
- Ministry for Tourism and Culture (2005) *Annual Report of Government Departments 2005: Ministry for Tourism and Culture* [from website]
http://www.tourism.gov.mt/filebank/pdfs/mtac_annual_2005.pdf (accessed on 28th June 2006)
- National Commission for Sustainable Development (2006) *A Sustainable Development Strategy for the Maltese Islands 2006 -2016, Third Draft*.
- National Statistics Organisation (2006) *News Release, Motor Vehicles: January – March 2006*
- Office of the Deputy Prime Minister (2005) *A Practical Guide to the Implementation of the SEA Directive*. UK
- Planning & Priorities Coordination Division (2005) *Cohesion Fund: Reference Framework Document, 2004-2006* [from website] <http://www.ppcd.gov.mt/english/main.htm> (accessed on 12-July 2006)
- Planning Authority (1990) *Structure Plan for the Maltese Islands*, Planning Authority, Malta
- Planning Authority (2001) *Space for Waste: the Waste Management Subject Plan*, Planning Authority, Malta.
- Scicluna, C., *Joint Venture to Open Oil Spill Response Centre*, Business Times of Malta [from website] <http://business.timesofmalta.com/article.php?id=4150> (accessed on 28th June 2006)
- Superintendence of Cultural Heritage *State of the Heritage Report* [from website]
<http://www.gov.mt/frame.asp?l=1&url=http://www.culturalheritage.gov.mt> (accessed on 28th June 2006).
-

APPENDIX I

Programme Description Statement prepared by PPCD

PROGRAMME DESCRIPTION STATEMENT

PROGRAMME DESCRIPTION STATEMENT OPERATIONAL PROGRAMME I & II COHESION POLICY 2007-2013

I. TITLE OF THE PROGRAMME

The title of the programme is the following:

**OPERATIONAL PROGRAMME I
COHESION POLICY 2007-2013
INVESTING IN COMPETITIVENESS FOR A BETTER QUALITY OF LIFE**

**OPERATIONAL PROGRAMME II
COHESION POLICY 2007-2013
DEVELOPMENT OF HUMAN CAPITAL**

2. DETAILS OF THE PROPONENT

The Government of Malta is responsible for the drafting of Malta's Operational Programmes under the Cohesion Policy 2007-2013. This task has been delegated to the Planning and Priorities Coordination Division within the Office of the Prime Minister, which acts as a Managing Authority for Structural Funds and the Cohesion Fund.

3. A BRIEF DESCRIPTION OF THE MATTERS TO BE COVERED BY THE PROGRAMME

OP I

This OP will be co-financed by the European Regional Development Fund (ERDF) and the Cohesion Fund (CF). It will primarily support investments in enterprises and enterprise support infrastructure, development of R&D, upgrading education and training infrastructure, information society, investment in tourism-related infrastructure, development of the TEN-T infrastructure, environment infrastructure (including energy) and urban regeneration. The whole territory of the country will be eligible for interventions under this OP.

OP II

This OP will be co-funded by the European Social Fund (ESF). It will primarily support investments in education, training and employment, social inclusion and strengthening of administrative capacity. The whole territory will be eligible to participate in this OP.

4. A DESCRIPTION OF THE GENERAL STRATEGY TO BE EMPLOYED, AND ANY ALTERNATIVE METHODS CONSIDERED, IN REACHING THE SOCIAL, ENVIRONMENTAL AND ECONOMIC OBJECTIVES OF THE PLAN OR PROGRAMME

Malta's strategic objectives for the period 2007-2013 are based on present and future policies of public investment undertaken by the Government of Malta and co-financed by the national budget and European funds.⁶⁶ Malta's national development strategy is geared to meet the three strategic pillars of:

- economic competitiveness;
- the need to safeguard and improve the environment;
- the resolve to invest and facilitate the development of human capital.

The country's needs and challenges can be summarized in the following categories:

- I The need to improve Malta's international competitiveness in its key economic sectors (the promotion of indigenous investment and facilitating the attraction and consolidation of foreign direct investment, to enable the diversification of tourism industry market segments, as well as to facilitate the development of the knowledge intensive economic activity in existing and new economic sectors);
- II The urgent need to address existing deficiencies in Malta's physical infrastructure particularly those related to the environment, energy, transport and ICT;
- III The need to ensure quality education and training for all and provide a knowledge and skill development environment which targets the responsive identification of future labour market requirements;
- IV The need to raise the employment rate;
- V The need to address Gozo's regional distinctiveness, bolster economic activity and address the negative impact of the island's double insularity on its socio-economic development.

It is important to note that the OPs have been drafted in an intensive dialogue process and an extensive assessment of the country's needs and challenges and strategic objectives for

⁶⁶ These include:

- a) the socio-economic challenges that Malta will face during the intervention period as identified in the National Strategic Reference Framework (NSRF);
- b) the SWOT analysis of the current situation in Malta following an examination of the different sectors;
- c) priorities emanating from national strategies, including:
 - "A Better Quality of Life" 2006-2010 pre-budget document;
 - The National Reform Programme 2005-2008.
- d) the experiences gained in implementing EU funded programmes and projects during the period 2004-2006;
- e) the capacity of the Maltese administration to implement initiatives and to absorb the available funds;
- f) the Community Strategic Guidelines for programming in the period 2007-2013 and the relevant legislative package for the Cohesion Policy 2007-2013;
- g) the indicative financial resources available for this Operational Programme in the period 2007-2013.

development in the medium and long term. This framework encouraged the consideration of various methods in reaching the social, environmental and economic objectives of the OPs. Moreover, the SEA will be expected to identify actions likely to impact negatively on the environment and suggest reasonable alternatives pursuant to a thorough assessment of the OPs.

5. AN INDICATION OF THE PROPOSED TIMING OF THE PLAN/PROGRAMME AND WHY THIS TIMING IS PREFERRED

The OPs described above represent the policy mix that Malta has identified and chosen as the main areas of focus for Cohesion Policy support during the period 2007-2013.

6. AN INDICATION OF THE ENVIRONMENTAL IMPLICATIONS OF THE PLAN/PROGRAMME

One of the priority axis of OP I relates to the upgrading of environmental infrastructures. The specific objectives of this Priority Axis are:

In the **waste management** sector, waste minimization is a critical strategic objective. The overall aim is that of reducing the amount of waste as much as possible and to divert the remaining residues for recycling, recovery of resources and the efficient utilization for energy production. The key national objectives in this field, for the 2007-2013 planning period are the pursuance in developing infrastructures for sound waste management practices. These include systems for hazardous waste, the rehabilitation of the old landfills and the possibility of exploiting waste as a potential energy source for electricity generation, which will be further analysed to determine a tangible strategic road map for its implementation.

In terms of **sewage**, efforts are being directed so as to mitigate and possibly eliminate discharges that harm the coastal environment. The latter, in the light of the critical importance to the tourism industry and the quality of life of Maltese residents. The possibility of utilizing waste effluent for rural, woodland and agricultural purposes will also be addressed.

Storm water management is also a priority. In this regard, the formulation of a proactive approach to this problem, particularly the development of infrastructural solutions to address the incidence of high storm water volumes, constitutes a major concern. At the same time, storm water presents an additional source of fresh water that is currently not utilized to its full potential. The installation of effective and efficient storm water catchment facilities will allow this source of fresh water to be utilized for a wide variety of purposes, reducing the strain on the current water infrastructure.

With regards to **nature protection**, the relevant Ministry informs that a national biodiversity strategy is in preparation. This will guide investments required in actively managing the protected areas and monitoring impacts arising from human activity and development.

Efforts to explore **alternative energy sources** are currently ongoing and work is also underway on the development of a national energy plan. During the programming period 2007-2013, government is planning to set up a facility that will convert methane into green electricity.

Moreover, **environment monitoring**, particularly the enforcement of legal compliance obligations is one of the main targets for this programming period. This comprises the development of strategic plans, the setting up of monitoring and information and data compilation mechanisms, the carrying out of feasibility studies, coordinated environmental education through an established body as well as the implementation of awareness and educational campaigns and the stimulation of research and development to fuel more environment-friendly processes and procedures by economic operators. These initiatives will focus particularly on environmental areas including industrial pollution control, environmentally friendly construction, air quality and climate change, water quality, biodiversification and noise.

Besides, the environment is a crosscutting theme and efforts will be made to include an environmental dimension within the projects across all priority axes. The SEA experts will be making an invaluable contribution, in this regard.

7. THE BOUNDARIES OF THE PLAN/PROGRAMME

The OPs analyse and propose development interventions within the Maltese archipelago during the period 2007-2013.

8. LINKS WITH OTHER PLANS/PROGRAMMES, EXISTING OR PROPOSED

SPD 2004-2006

In relation to the 2004-2006 programming period, the paramount importance of environmental issues justified that actions intended to improve the overall environmental situation amount to nearly one third of the total SPD budget. Moreover, the integration of the environment across the SPD underlines the commitment of the Government of Malta to promote environmental sustainability and to ensure that environmental protection is substantial and that only quality projects are supported.

Malta's programming for the 2007-2013 period aims to build on and consolidate the objectives and priorities of the strategy outlined under the Single Programming Document (2004-2006) whilst setting new and additional targets, in order to achieve the vision that the Government has set out to secure a future of excellence for its citizens.

Cohesion Fund 2004-2006 60% of the Cohesion Fund (2004-2006) budget was dedicated to the environment (waste management). A proposed facility of waste treatment and composting, co-financed by the 2004-2006 Cohesion Fund will treat dry-recyclables and biodegradable waste with a view to recycle waste and reduce the amount of biodegradable waste deposited in landfills. The upgrade/improvement of the Sant'Antnin Waste Treatment Plant will be sufficient to fulfil the first target of the Landfill Directive (99/31/EC) in 2010.

Cohesion Fund aid is also co-financing technical assistance to explore the possibility of additional treating capacity, as also, the “waste-to-energy” potential of Malta.

Complementarity with European Agricultural Fund for Rural Development (EAFRD) and the European Fisheries Fund (EFF)

The EAFRD and EFF programming documents are currently being drafted by the Rural Development Department and the Fisheries Conservation and Control Division, respectively.⁶⁷ Both Structural Fund OPs will include a chapter on coordination mechanisms between Cohesion Policy programmes and the EAFRD/EFF programming documents in order to ensure coherence, complementarity and the avoidance of duplication.

9. APPLICABILITY OF OTHER RELEVANT LEGISLATION, EG LN 257 OF 2003

Malta has transposed the EU Environmental Acquis through the upgrading of environmental legislation and the introduction of specific legislation. By 2005, approximately 135 pieces of legislation under the 2001 Environmental Protection Act had been drawn up. Correspondingly, Malta has to abide to a myriad of new obligations relating to environmental issues. The Environmental Priority Axis within OP I is largely concerned with meeting parameters specified under a number of current and proposed EU environmental legislation.

10. A LIST OF IDENTIFIED STAKEHOLDERS

The SEA will be managed by PPCD acting as the designated MA for the OPs. The results of the SEA will be used by PPCD and other Structural Funds stakeholders, including:

- MEPA;
- Final Beneficiaries (public sector bodies and local government, the private sector and NGOs).

11. AN OPINION OF WHETHER THE PLAN/PROGRAMME WILL HAVE TRANSBOUNDARY EFFECTS

The transboundary effects resulting from economic development intervention, are likely to be marginal. This is due to Malta’s southern peripheral location and insularity. Should the SEA team feel that an operation is likely to negatively impact cross-border states, then the MA will notify the potentially affected country and engage in consultations with other member states, prior to the submission of the OPs to the legislative procedure.

12. AN OPINION ON WHETHER A STRATEGIC ENVIRONMENTAL ASSESSMENT OF THE PLAN/PROGRAMME IS REQUIRED

Article 4(2) of the Environment Protection Act stipulates that a SEA must be carried out for all plans and programmes referred to in Schedule 5 to the Regulations. Hence, the MA opines that a SEA will be required exclusively for **OP I**, relating to **Investing in Competitiveness for a Better Quality of Life**, since the latter OP covers the following sectors:

⁶⁷ These documents are not available, to date.

- energy (including renewable energy sources);
- enterprise-related investments including R&D and training;
- transport;
- waste management;
- water management;
- information society;
- tourism;
- urban regeneration;
- environment protection and monitoring.

APPENDIX 2
Scoping Report

Planning & Priorities Coordination Division
Office of the Prime Minister

STRATEGIC ENVIRONMENTAL ASSESSMENT ON MALTA'S OPERATIONAL PROGRAMMES 2007-2013

REPORT 2:

SCOPING REPORT

VERSION 5: 17 JULY 2006

adi
ASSOCIATES
ENVIRONMENTAL
CONSULTANTS

**Strategic Environmental
Assessment (SEA) of Malta's
Operational Programmes 2007-2013**

Report 2: Scoping Report

**Prepared for the Planning and
Priorities Coordination Division
within the Office of the Prime
Minister
by**

**Adi Associates
Environmental Consultants Ltd**

July 2006

Adi Associates Environmental Consultants Ltd
2nd Floor, BSL Centre
B'kara Road
San Gwann SGN 08

Tel / Fax: 2137 8172 – 21378177 - 21378180
Email: info@adi-associates.com

Web: <http://www.adi-associates.com>

QUALITY ASSURANCE

SEA of Malta's Operational Programmes Report 2: Scoping Report

Version : 4

Report for:

Planning & Priorities Coordination Division
Office of the Prime Minister
Castille Palace
Valletta



.....
Professor Brian Clark
Consultant



.....
Rachel Xuereb
Director, Adi Associates

July 2006

CONTENTS

Glossary	iiiv
INTRODUCTION.....	1
Strategic Environmental Assessment.....	1
Malta's Operational Programmes 2007-2013	2
THE SEA PROCESS	3
Link to other Assessments	4
RELATION OF OP I TO OTHER NATIONAL DOCUMENTS & LEGISLATION	4
BASELINE DATA	17
EVALUATION OF THE CURRENT SITUATION IN THE ABSENCE OF THE OP.....	19
SEA OBJECTIVES.....	20
LIKELY SIGNIFICANT EFFECTS AND CONSTRAINTS	27
Cumulative & Synergistic Impacts.....	29
ALTERNATIVES	29
MONITORING	31
ASSESSMENT METHODOLOGY	31
THE ENVIRONMENTAL REPORT	32

TABLES

Table 1 Analysis of Related Plans, Programmes, and Legislation.....	6
Table 2: Environmental baseline	18
Table 3: SEA Environmental Objectives & Criteria for Assessing Impacts	22
Table 4: Relevance of the SEA Objectives to the Priority Axes	24
Table 5: Assessment legend.....	27
Table 6: Example Policy Assessment framework and format for environmental report.....	28
Table 7: Structure of the Environment Report.....	32

APPENDICES

Appendix I: Minutes of the SEA Scoping meeting

GLOSSARY

CF	Cohesion Fund
CO ₂	Carbon Dioxide
EAFRD	European Agricultural Fund for Rural Development
EFF	European Fisheries Fund
EIA	Environmental Impact Assessment
ERDF	European Regional Development Fund
ESF	European Social Fund
EU	European Union
GDP	Gross Domestic Product
GHG	Green House Gases
GRDP	Greening Regional Development Programme
ICT	Information and Communications Technologies
LN	Legal Notice
MDGs	Millennium Development Goals
MEPA	Malta Environment and Planning Authority
MRA	Malta Resources Authority
MRAE	Ministry for Rural Affairs and the Environment
NAP	National Allocation Plan
NRP	National Reform Programme
NSRF	National Strategic Reference Framework
ODPM	Office of the Deputy Prime Minister (UK)
OP	Operational Programme
OPM	Office of the Prime Minister
PDS	Programme Description Statement
PPCD	Planning and Priorities Coordination Division
R&D	Research and Development
RDP	Rural Development Plan
RTDi	Research and Technological Development and Innovation
SEA	Strategic Environmental Assessment
SWOT	Strengths, Weaknesses, Opportunities, Threats
TEN-T	Trans-European Network for Transport
TINA	Transport Infrastructure Needs Assessment
UK	United Kingdom
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
WSC	Water Services Corporation

SCOPING REPORT

INTRODUCTION

275. This is the Scoping Report for the Strategic Environmental Assessment (SEA) of Malta Operational Programme I (OP) 2007-2013 covering the entire territory of the Maltese Islands. The aim of the Report is to set out the framework for the SEA including setting the context of the SEA, establishing the baseline, setting the SEA objectives and indicators for the assessment, and identifying any potential significant impacts of the OP. The Report will also discuss the proposed contents of the Environmental Report and the next stages in the SEA process.

Strategic Environmental Assessment

276. European Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment requires that a SEA of a wide range of plans and programmes is carried out prior to the implementation of the plan or programme. The objective of the "SEA Directive" is to provide a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans with a view to promoting sustainable development. SEA comprises:

- Preparing an Environmental Report on the likely significant effects of the draft plan;
- Consulting on the draft plan and the accompanying Environmental Report;
- Taking into account the Environmental Report and the results of consultation in decision making; and
- A discussion of how the results of the environmental assessment would be taken into account in the Plan or Programme.

277. The information to be included in the Environmental Report includes:

- A description of the baseline environment;
- Links between the plan and other relevant policies, plans, programmes and environmental objectives;
- An identification of existing environmental problems affecting the plan;
- The plan's likely significant effects on the environment, including issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climate, material assets, cultural heritage, landscape, and the interrelationship between such factors;

- The mitigation measures envisaged;
 - A description of the alternatives considered and discarded in favour selected action(s);
 - Monitoring measures envisaged; and
 - A non-technical summary.
278. The SEA Directive has been transposed into national legislation by the SEA Regulations, 2005 (Legal Notice 418 of 2005). Although there are many similarities between the Directive and the SEA Regulations, the latter require that:
- A Plan / Programme Description Statement (PDS) is submitted to the Competent Authority when a proponent intends to prepare plan that is likely to require a SEA;
 - A Scoping Report is produced and submitted to the Competent Authority and that consultation is carried out on the PDS and the Scoping Report; and
 - Consultations on the Scoping Report and the Environmental Report are carried out in accordance with the time frames set out in the Regulations.
279. Draft guidance on SEA for Malta has not yet been published. The Scoping Report therefore draws on other European Guidance namely, the GRDP's (2006) "*Handbook on SEA for Cohesion Policy 2007- 2013*", the Commission's "*Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment*" and the UK's (2005) "*A Practical Guide to the Implementation of the SEA Directive*".

Malta's Operational Programmes 2007-2013

280. Operational Programmes set out the framework indicating how funds under the Cohesion Policy are spent over the next seven years. In Malta, there are two Operational Programmes that have been guided by the priorities contained in the National Strategic Reference Framework (NSRF). The latter document describes Malta's strategic objectives for Cohesion Policy 2007-2013.
281. The priorities under the two Operational Programmes represent the main focus areas for Cohesion Policy support during the period 2007-2013. They take into account the needs and priorities emanating from the NSRF, the National Reform Programme exercises, the strong link between Cohesion Policy and the achievement of the Lisbon objectives, and the regulatory restrictions of the Funds. The OPs constitute a plan of action for the period 2007-2013, whereby investment in the various sectors is not seen as an end in itself, but as a means of contributing to the realisation of the vision and the attainment of the underlying strategic objectives. The two operational programmes do not include other measures that are best funded through national funds and/or other Community / International financial instruments, including the programmes under the European Agricultural Fund for Rural

Development (EAFRD) and the European Fisheries Fund (EFF) and the Territorial Objective in which Malta will participate.⁶⁸

282. Operational Programme I will be co-financed by the European Regional Development Fund (ERDF) and the Cohesion Fund (CF). It aims to address the infrastructural needs of the country. This Operational Programme is complemented by Operational Programme II, which will be co-funded by the European Social Fund (ESF) proposed to focus on the development of human resources and employment. Both Operational Programmes foresee direct support to the private sector in the form of aid schemes.
283. This Scoping Report focuses on the issues that are relevant to OP I only.

Operational Programme I

284. Operational Programme I comprises a description of the eight priority areas to be funded under the ERDF and Cohesion Funds. The priorities are:
- Priority Axis 1 - Investing in an enterprise-support infrastructure;
 - Priority Axis 2 - Supporting a competitive enterprise;
 - Priority Axis 3 - Promoting sustainable tourism;
 - Priority Axis 4 - Developing the TEN-T infrastructure;
 - Priority Axis 5 - Improving accessibility and services of general economic services;
 - Priority Axis 6 - Upgrading environment infrastructures;
 - Priority Axis 7 - Urban regeneration and improving the quality of life; and
 - Priority Axis 8 - Technical assistance.
285. Although project details are not available in the OP, the latter does give an indication of the types of projects to be funded. For example, under Priority Axis 1 initiatives such as the establishment of a Public Research Centre focusing on sectors such as ICT (Information and Communications Technologies), water, environment, alternative energy and bio-sciences, and upgrading of general industrial space with amenities such as childcare and energy efficiency facilities are foreseen.
286. The draft OP will be described in more detail in the Environmental Report.

THE SEA PROCESS

287. The first stage of the SEA process is scoping. This sets out the context for the assessment and defines its scope. It is one of the most important stages in the process as it identifies the issues for consideration in the Environmental Report. The

⁶⁸ The Territorial Objective Programmes are the new Interreg Programmes for 2007-2013.

Scoping Report is being undertaken by Adi Associates Environmental Consultants Ltd and Professor Brian Clark (the “SEA Team”). The Team is working closely with the Planning & Priorities Coordinating Division within the Office of the Prime Minister, the entity responsible for the overall coordination of the OP. Consultation meetings have been held with the stakeholders: (a) the Malta Environment & Planning Authority’s (MEPA) Environmental Assessment Team and (b) the representatives of the Department of Public Health; and (c) other stakeholders including programme beneficiaries and EU fund managers from various Government agencies. A meeting with the SEA Audit Team (the Competent Authority for SEA) was also held to discuss procedural aspects.

288. Public consultation on the draft scoping report is being addressed by the Planning & Priorities Coordinating Division within the Office of the Prime Minister.
289. Although various guidance documents (see above) recommend that the SEA process should start at the same time as the preparation of the OP, it is noted that the preparation of the draft OP is undergoing a public consultation exercise. Nonetheless, it is understood that it is still subject to change.

Link to other Assessments

290. The SEA will only take into account environmental issues⁶⁹ in accordance with Schedule I of the SEA Regulations, 2005. Economic and social issues are being considered in a separate assessment – the ex-ante Evaluation currently being carried out by other Consultants – Price Waterhouse Coopers.

RELATION OF OP I TO OTHER NATIONAL DOCUMENTS & LEGISLATION

291. Schedule 3 of the SEA Regulations requires a discussion of the "relation [of the plan] with existing legislation, policies, and other plans and programmes and their objectives, with information on potential synergies or conflicts". **Table I** provides a list of the policies, plans, and programmes relevant to the OP, which have been analysed.
292. The analysis has been subdivided into four main categories:
- (v) **International Commitments:** this category covers the highest-level environment and sustainability policy framework within which Malta must work. It includes a selection of global commitments, such as those arising from the Millennium Development Goals (MDGs) as well as some international conventions. Since European Directives have been transposed into national legislation, the Directives *per se* will not be discussed; the section on national legislation is described below;
 - (vi) **National Environmental & Planning Documents** including the Structure Plan for the Maltese Islands, the draft National Sustainable Development

⁶⁹ This includes cultural heritage, material assets, population, and human health.

Strategy, and the National Reform Programme. The review provided herein summarises the key issues raised; further information can be obtained from the original documents;

- (vii) **Sectoral Policies and Strategies:** this section covers highest-level policy and strategy documents published by the Government, such as the Transport Infrastructure Needs Assessment (TINA) Study. Rather than summarise entire documents this review seeks to emphasis the key sustainability objectives and priorities;
- (viii) **National legislation:** no attempt will be made to assess the individual regulations, as in done at the project level EIA (Environmental Impact Assessment). However, the main areas of concern for the OP will be highlighted. Given the scale (and evolutionary nature of this field) this review is not exhaustive and represents a current (May 2006) snapshot.

Table I Analysis of Related Plans, Programmes, and Legislation

Plan, Programme, Legislation	Description	Implications for OP
I. International Commitments		
Malta Statement by Dr. Lawrence Gonzi Deputy Prime Minister and Minister of Social Policy of Malta at the World Summit on Sustainable Development Johannesburg, South Africa 3 September 2002	During the World Summit on Sustainable Development, the Maltese Government made commitments for action in the following areas: (a) The rehabilitation of Valletta (b) Coastal zone management; (c) Transport; and (d) Waste management. The Government is also committed to building capacity for Overseas Development Assistance.	These are national commitments and the OP must play a role in their realisation.
The UN Millennium Declaration and Millennium Development Goals (MDGs)	The United Nations Millennium Declaration arose from the meeting of UN Heads of State in New York, September 2000. The Declaration was aimed at revitalising international efforts to tackle critical development issues, and led to agreement on, and adoption of, the eight Millennium Development Goals (MDG). Of relevance to the SEA is the seventh MDG: ensure environmental sustainability .	This is a national commitment and the OP must play a role in its realisation.
UN Framework Convention on Climate Change	The ultimate objective of this Convention, and any related legal instruments that the Conference of the Parties may adopt, is to achieve stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a timeframe sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner. Malta is not an Annex I country, which means that it does not have to meet quantified targets for a reduction in greenhouse emissions. It does, however, support efforts to reduce greenhouse gas emissions and is bound by EU legislation.	The OP is a key national document that can play an important role in assisting Malta in stepping up its climate change efforts. The OP should be aware of this and seek to include and encourage efforts to reduce emissions.
Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)	Malta is a party to the Bern Convention. The Convention aims to ensure conservation of wild flora and fauna species and their habitats. Special attention is given to endangered and vulnerable species, including endangered and vulnerable migratory species specified in appendices. The Parties to the Convention must undertake to take all appropriate measures to ensure the conservation of the habitats of the wild flora and fauna species. Such measures should be included in the Parties' planning and development policies and pollution control, with particular attention to the conservation of wild flora and fauna. They should also undertake to promote education and disseminate general information concerning the need to conserve species of wild flora and fauna and their habitats.	The OP should be aware of the endangered and vulnerable species of flora and fauna in Malta and ensure that the Programme is not in conflict with protection and conservation of them and their habitats. Issues associated with hunting and trapping should also be actively considered in the

Plan, Programme, Legislation	Description	Implications for OP
		OP.
2. National Environmental & Planning Documents		
<p>A Draft Sustainable Strategy for the Maltese Islands 2006-2016</p>	<p>The Sustainable Strategy is centred on four main themes:</p> <ul style="list-style-type: none"> • Managing the environment and resources; • Promoting sustainable economic development; • Fostering sustainable communities; • Cross-cutting strategic issues. <p>Within these sectors the following priorities are identified:</p> <p>The Environment</p> <ol style="list-style-type: none"> 1. Climate Change: take steps to reduce greenhouse gas emissions through transport and energy policies that seeks to promote environmental protection, competitiveness and security of supplies and, as a result decouple the rate of growth of Green House Gases (GHG) emissions from economic growth. 2. Air Quality: take remedial action to control emissions of air pollutants and achieve compliance with European standards; 3. Nature and Biodiversity: halt loss of biodiversity by 2010, and achieve management of protected areas by 2008; 4. Groundwater: adopt a policy that safeguards the quality of ground water resources to protect human health, and satisfy the requirements for human use and achieve good quantitative status by 2015; 5. Seawater: sustain compliance with Bathing Water Directive and achieve compliance with Barcelona Convention standards; 6. Waste: prevent and minimise waste by achieving EU waste-related objectives and targets, reviewing Malta's Waste Management Strategy by 2007; 7. Land use: protect, maintain and improve the urban and rural environment and through the planning system protect the open countryside from uses, particularly residences, which can be more appropriately located in urban areas; 8. Transport: reduce car ownership rates to the EU average by 2014. Attain 1995 bus patronage levels by 2014 (40 million passengers); <p>The Economy</p>	<p>Sustainable development principles must be included in the OP.</p> <p>The OP should reflect all the sustainable development challenges contained in the Draft Strategy.</p> <p>The OP should be responsive to the actions proposed in the Strategy.</p>

Plan, Programme, Legislation	Description	Implications for OP
	<p>9. Economic Growth: adopt policy measures so that the growth of GDP (Gross Domestic Product)per capita in real terms grows at a rate that will enable the Maltese economy to converge towards the EU average.</p> <p>10. Employment: create employment opportunities to generate income and improve the quality of life of the population, taking into consideration environmental and social impacts, and adopt policy measures so that the ratio of total employment to the working age population in Malta converges with the EU average and reaches at least 57% by 2010;</p> <p>11. Labour productivity: adopt policy measures to increase average labour productivity at a rate of 1% per annum over the EU average by 2010, while attempting to balance wages, taxation and productivity, in collaboration with the social partners.</p> <p>Society</p> <p>12. Poverty reduction: reduce or at least sustain the current level of 15% of the population at risk of poverty and decrease the ratio of population aged over 65 at risk of poverty from 20% to 15%, by 2010;</p> <p>13. Labour force participation of women: adopt policy measures so that the labour force participation rate of women increases from 33% to 40.7% by 2010;</p> <p>14. Health: decrease ratio of overweight/obese population in line with the EU average by 2010 by, amongst other actions enhancing the focus on healthy living and prevention, to reduce the need for curative care;</p> <p>15. Education: continue to adopt measures to decrease the early school-leavers rate to 35% by 2010.</p> <p>Cross Cutting Issues</p> <p>16. Spatial development plan: by 2010 draw up an integrated spatial development plan to take forward the National Strategy for Sustainable Development, with the participation of major stakeholders;</p> <p>17. Economic Instruments: gradually adjust the present income tax regime so that the ratio of green taxation to total taxation reaches the EU average by 2010;</p> <p>18. Enforcement: by 2008, put in place an audit of enforcement arrangements to assess the adequacy of the current enforcement mechanisms and to promote integration of responsibilities and reduction of overlaps.</p> <p>Implementation</p>	

Plan, Programme, Legislation	Description	Implications for OP
	<p>19. Institutional setup: by 2008 put in place a permanent structure, appropriately staffed and funded, to revise and implement the National Strategy for Sustainable Development, on an ongoing basis, under the auspices of the National Commission for Sustainable Development, and hold an annual Conference with participation of major stakeholders to critically evaluate progress relating to the strategy;</p> <p>20. Sustainability indicators: by 2008, establish and fund an entity responsible for compiling and evaluating sustainability indicators. This entity should work closely with the National Commission for Sustainable Development and the National Statistics Office.</p>	
National Strategic Reference Framework	<p>The National Strategic Reference Framework (NSRF) is the strategic document that sets out Malta's strategic objectives for Cohesion Policy 2007-2013. The NSRF, describes Government's Vision for the country: "a dynamic, high value-added economy founded on competence, skills and excellence, and capable of sustaining a high standard of living for its citizens". The NSRF highlights the following issues that are key to Malta's socio-economic development:</p> <ul style="list-style-type: none"> • The declining cost competitiveness and the negative implications on the diverse economic sectors; • The impact from insularity and double insularity (Gozo) and the overt dependence on air and sea transport; • Limited domestic market and territorial realities that lead to market failures and loss of economies of scale; • The dependence on key source markets and seasonal tourism concentrations as well as increasing competitive challenges from central Mediterranean destinations; • Increasing economic and social demands on the environment leading to sustainability concerns; • Malta's infrastructure deficit in areas such as transport, education, research, technological development and innovation, environment and energy; and • The challenge of implementing the relevant EU Directives. 	The OP is based on the NSRF.
Structure Plan for the Maltese Islands, 1990	<p>This is the national planning document that sets out the development framework for the Maltese Islands for the twenty-year period to 2010. Its' three goals are:</p> <ol style="list-style-type: none"> 1. To encourage the further social and economic development of the Maltese islands, and to ensure as far as possible, that sufficient land and support infrastructure are available to accommodate it; 2. To use land and buildings efficiently, and consequently to channel urban development activity into existing and planned development areas, particularly through rehabilitation and upgrading of the 	The broad goals of the Structure Plan are in line with the Objectives of the OP.

Plan, Programme, Legislation	Description	Implications for OP
	existing fabric and infrastructure thus constraining further inroads into undeveloped land, and generally resulting in higher density development than at present; 3. To radically improve the quality of all aspects of the environment of both urban and rural areas.	
National Reform Programme, 2005	The National Reform Programme (NRP) with a governance structure based on a three-year cycle (2005-2008) aims to set out a comprehensive strategy to deliver growth and jobs in line with the refocus of the Lisbon Agenda agreed to in the Spring European Council. Several political, economic, social, technological and environmental factors affect Malta's economic growth and international competitiveness and hence, the island's employment growth potential. These include: <ul style="list-style-type: none"> • maximising new market and funding opportunities in the EU; • intensifying international competition as a result of globalisation; • increasing oil prices, terrorism and competition from low cost nations; • changing demographics: ageing population, increasing life expectancy, lower fertility rates; • leveraging technological developments; and • protecting the environment. The NRF identifies 3 environmental priorities for action by the Maltese Government: <ol style="list-style-type: none"> 1. Halting Biodiversity Loss; 2. Internalisation of Environmental Externalities; 3. Fight against Climate Change 	The OP should be cognisant of these priority actions and should ensure that OP measures are synergistic with the Government actions.
3. Sectoral Plans & Policies		
The Rural Development Plan (RDP) for Malta 2004-2006	The RDP maintains that the present situation of Maltese agriculture is largely unsustainable and the most relevant threat to the survival of Maltese agriculture in the coming years appears to be prevailing situation where Maltese agriculture supplies consumers with high priced, low quality produce. The abandonment of agriculture will accelerate the rate of soil erosion and consequently lead to land degradation and a change in the landscape. The main issue with respect to agriculture is the protection of agriculture through measures that facilitate the cultivation of land by farmers. The new vision for Maltese agriculture is the sustainable development of rural Malta in a manner that leads to its increased economic competitiveness in a demand-driven, international market system, in a context that takes into account its environmental, social and cultural dimensions and their importance to the Maltese way of life.	The priorities contained in the OP are based on the RDP; the two objectives of the RDP are implemented in the OP.
Solid Waste Management	The Strategy provides a policy and decision-making framework for the future management of waste	The OP should be congruent

Plan, Programme, Legislation	Description	Implications for OP
Strategy for the Maltese Islands, 2001	generated in the Maltese Islands, and for the preparation of detailed implementation plans. It is also the means by which the various requirements and targets contained in European Directives on waste will be implemented, in particular the Waste Framework Directive (75/442/EEC as amended by 91/156/EEC), the Hazardous Waste Directive (91/689/EEC as amended by 94/31/EEC), the Disposal of Waste Oils Directive (75/439/EEC as amended by 87/101/EEC), and the Landfill Directive (99/31/EC). Other key areas arising from the SWMS are sustainable waste management, producer responsibility, segregation at source and the minimisation of waste generation.	with the requirements of the Strategy, and should stress the importance of the waste hierarchy to the approach taken in waste management.
Space for Waste: the Waste Management Subject Plan	The Waste Management Subject Plan provides strategic long-term direction and context to guide both Government and the private sector in waste management issues. Its policies guide the strategic planning of waste management and the determination of development permit applications for developments and land use changes related to waste management facilities.	The OP should be congruent with the requirements of the Subject Plan.
Sewerage Master Plan, 1990	The Sewerage Master Plan provides the framework for the upgrading of the sewerage infrastructure of the Maltese Islands. It calls for the construction of three sewage treatment plants, one in Gozo and two in Malta.	The OP makes specific reference to the Master Plan.
The Transport Infrastructure Needs Assessment (TINA), 2002	<p>The TINA Study identified the Malta Trans-European Network – Transport (TEN-T), which provides critical linkages between the two international seaports of Valletta and Marsaxlokk, the international airport and between Malta and Gozo. The Study concluded that Malta’s transport objectives are to provide:</p> <ul style="list-style-type: none"> • An internal market that works efficiently and facilitates the free movement of goods and people; • A coherent, integrated transport system using the most appropriate technologies; and • Social policies to protect and promote the interests of those working in and using transport. <p>Feasibility Studies and Environmental Impact Assessment are to be carried out on projects resulting from the TINA Study.</p>	Transport is a major issue in the OP; the latter plays a key role in the achievement of the objectives of the Study.
Draft National Allocation Plan for Malta 2005-2007	The National Allocation Plan (NAP) for Malta is prepared pursuant to obligations under Directive 2003/87/EC, which establishes an emissions trading scheme for greenhouse gas (GHG) emissions within the EU. Currently the power generation sector falls within this scheme. Among others, the NAP allocates a quantified number of tonnes of CO ₂ emissions to these installations for the plan period. It also requires that Government prepares programmes to encourage use of renewable energy.	Targets should be considered in the OP and priority given to projects that are energy efficient and promote use of renewable energy.
National Report on the	This Report identifies priority actions in the field of marine and coastal biodiversity. These actions	The OP should be cognisant of

Plan, Programme, Legislation	Description	Implications for OP
Strategic Action Plan for the Conservation of Maltese Coastal and Marine Biodiversity, 2002	include the preparation of species and habitat action plans, declaration of marine and coastal protected areas, data compilation, monitoring proposals, upgrading research equipment, and effective enforcement.	the requirements in the field of biodiversity.
The First Communication of Malta to the United Nations Framework Convention on Climate Change (UNFCCC), 2004	<p>The Communication recognises that Malta is more likely than larger countries to suffer the consequences of climate change but, as with other small states, cannot be considered a main contributor to the change. The implementation framework to deal with climate change favours multi-sectoral policies (notably energy, transport and agriculture) with a view to integrating environmental considerations within measures aimed at climate change abatement and adaptation strategy. Malta is committed to honouring obligations in respect of the UNFCCC and the Kyoto Protocol and, as an EU member state, is obliged to develop the capacity for reporting, monitoring and verifying greenhouse gas emissions. The National Action Plan provides an administrative framework to enable the exploration of various measures proposed in support of greenhouse gas mitigation and adaptation to climate change.</p> <p>The National Action Plan consists of a set of adaptation and mitigation measures. It recognises that the challenge of climate change must be shared equitably by all sectors and needs to be addressed by adopting clear criteria, including:</p> <ul style="list-style-type: none"> • Commitment to sustainable development; • Disposition to maximise economic efficiency by implementing cost-effective measures; • Policies and measures tailored specifically to all relevant sectors, with the intention of achieving emission reductions across all economic sectors; • Recognition of the specific arrangements and special requirements that pertain to a small island state; • Presentation at international fora of a proposal to allow small island states, and states with a large coastal perimeter to land area ratio, to include marine sinks in their inventory; • Generating an impetus for early action by adopting a phased approach that allows for immediate actions while planning for longer-term provisions; and • Common and coordinated policies and measures to be implemented at EU and wider international levels. 	Climate change should be one of the key considerations that is addressed in the OP.
4. National Legislation		
Constitution of Malta	The Constitution of Malta (Section 9) declares that the State shall safeguard the landscape and the historical and artistic patrimony of the Nation. These are the only aspects of the environment	Landscape and historical heritage must be recognised as

Plan, Programme, Legislation	Description	Implications for OP
	referred to in the Constitution, underlining the importance of the landscape and historical heritage.	important assets in the OP.
Development Planning Act, 1992	This Act regulates and controls the use of land, and in particular requires that changes of use and development of land be subject to permission granted by the Malta Environment Planning Authority; such permissions may be subject to conditions.	Projects resulting from the OP must conform to the requirements of the Development Planning Act.
Environment Protection Act, 2001	<p>The Act requires everyone together with the government to protect the environment and to assist in the taking of preventative and remedial measures to protect the environment and manage natural resources in a sustainable manner. Various duties that fall to the government are established including:</p> <p>4(a) to manage the environment in a sustainable manner by integrating and giving due consideration to environmental concerns in decisions on socioeconomic and other policies;</p> <p>4(b) to take such preventive and remedial measures as may be necessary to address and abate the problem of pollution and any other form of environmental degradation in Malta and beyond, in accordance with the polluter pays principle and the precautionary principle;</p> <p>4(e) to apply scientific and technical knowledge and resources in determining matters that affect the environment;</p> <p>4(g) to safeguard biological diversity;</p> <p>4(h) to combat all forms of pollution;</p> <p>4(i) to consider the environment as the common heritage and common concern of humankind; and</p> <p>4(j) to provide incentives leading to a higher level of environmental protection.</p>	<p>The OP should stress:</p> <p>a) the importance of protecting the natural and human environment from pollution,</p> <p>b) prevention at source;</p> <p>c) conservation of resources;</p> <p>d) safeguarding protected areas and buildings; and</p> <p>e) educating people.</p>
Legal Notice 204 of 2001, Environmental Impact Assessment Regulations	This Legal Notice requires that an Environmental Impact Assessment is carried out for certain developments that may have an impact on the environment.	Projects resulting from the OP must be screened to ensure that an EIA is carried out if required by legislation.
Legal Notice 418 of 2005, Strategic Environmental Assessment Regulations	The SEA Regulations require that certain plans and programmes are subject to an environmental assessment prior to their implementation.	The OP is undergoing an SEA.
Legal Notice 257 of 2003, Flora, Fauna and Natural Habitats Protection Regulations, 2003 and	These Regulations transpose the Habitats Directive and designate Special Areas of Conservation including Marine Protected Areas. The legislation calls for the protection of species and habitats and the setting up of a NATURA 2000 network.	The OP must ensure that it does not threaten areas designated as protected areas.

Plan, Programme, Legislation	Description	Implications for OP
Government Notices 223 of 2005 and 1138 of 2005		
Legal Notice 116 of 2005 Freedom of Access to Information on the Environment Regulations, 2005	This legislation enables the public to have access to information on the environment that is held by the public authorities.	The Environmental Report for the SEA on the Malta's OP will be published for public consultation.
Air Quality Regulations ⁷⁰	Local regulations on air quality aim to develop and implement appropriate instruments to improve air quality. The control of emissions from mobile sources, improving fuel quality and promoting and integrating environmental protection requirements into the transport and energy sector are part of these aims. The regulations contain targets and objectives that must be met by Malta. Different regulations address individual or groups of specific pollutants.	The OP must ensure that air quality does not deteriorate as a result of the Programme.
Legal Notice 194 of 2004, Water Policy Framework Regulations, 2004	<p>The Water Framework Directive seeks to establish a structured framework for action in the field of water policy. It aims to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater that:</p> <ul style="list-style-type: none"> • Prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems; • Promotes sustainable water use based on a long-term protection of available water resources; • Aims at enhanced protection and improvement of the aquatic environment, inter alia, through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances; • Ensures the progressive reduction of pollution of groundwater and prevents its further pollution, and • Contributes to mitigating the effects of floods and droughts and will have a significant role to play in protecting and managing water resources. 	It is important that the issues and measures presented in the regulations are considered in the OP.
Legal Notice 340 of 2001	This Regulation concerns the collection, treatment and discharge of urban wastewater and the	The Directive is mentioned in

⁷⁰ Environmental Regulations in the field of air quality mainly relate to emission thresholds for various pollutants. We do not attempt to summarise all the regulations, as this would represent a large amount of analytical text. This review seeks to draw out main themes and messages covered by current legislation.

Plan, Programme, Legislation	Description	Implications for OP
Urban Waste Water Treatment Regulations, 2001	treatment and discharge of wastewater from certain industrial sectors. The objective of the legislation is to protect the environment from the adverse effects of these wastewater discharges. The regulation also sets acceptable pollutant levels.	the OP and its requirements are taken into consideration.
Legal Notice 343 of 2001 - Protection of Waters Against Pollution Caused by Nitrates from Agricultural Sources Regulations, 2001	This Regulation has the objective of: <ul style="list-style-type: none"> • Reducing water pollution caused or induced by nitrates from agricultural sources; and • Preventing further such pollution. 	The OP recognises that agriculture is important to Malta. The OP should reflect both this and the pollutant threat from inappropriate or excessive use of nitrate fertilisers and other sources of nitrate.
Legal Notice 380 of 2003, Quality of Bathing Water Regulations, 2003	This regulation sets binding standards for bathing waters. It sets parameters that Malta is legally obliged to meet for water quality standards for coastal bathing water.	It is important that the OP is aware of the targets and impact it may have on water quality.
Legal Notice 23 of 2004, Quality of Water Intended for Human Consumption Regulations, 2004	The regulation addresses the quality of water intended for human consumption. It sets technical standards in relation to 48 parameters, which must be adhered to and monitored. The aim is to provide a sound basis for both consumers and suppliers of drinking water in the EU.	As above
Legal Notice 337 of 2001, Waste Management (Permit & Control) Regulations	The EU's approach to waste is based on three principles: <ol style="list-style-type: none"> 1. Waste prevention – reducing the amount of waste our economies produce – sustainable production and consumption; 2. Recycling and reuse – where waste reduction not possible, efforts should be made to recover and reuse waste; and 3. Improving final disposal and monitoring – landfill of waste should be used as a last resort, with safe incineration being favoured, but both these methods cause environmental damage and must be carefully monitored and regulated. EU waste legislation is broad in scope and complex due to the nature of waste management and waste streams, however, a hierarchy exists: <ul style="list-style-type: none"> • Framework: waste directive (Directive 75/442/EEC, amended by Directive 91/156/EEC, Directive;91/692/EEC and Commission Decision 96/530/EC) and Directive 91/689/EEC on hazardous waste; 	

Plan, Programme, Legislation	Description	Implications for OP
	<ul style="list-style-type: none"> • Waste management: Directive 99/31/EC on the landfill of waste, Directive 2000/76/EC on incineration of waste and Directive 2000/59/EC on port-reception facilities for ship-generated waste and cargo residues; and • Specific waste streams: separate directives exist for waste oils, titanium oxide, batteries and accumulators, packaging and packaging waste, and end of life vehicles. <p>Due to their relative importance to the SEA, we have reviewed the Framework Directive, and the Directive on the Landfill of Waste.</p>	
<p>Legal Notice 168 of 2002 - Waste Management (Landfill) Regulations, 2002</p>	<p>The Legal Notice sets out strict operational and technical requirements on waste and landfills, to provide for measures, procedures and guidance to prevent or reduce as far as possible negative effects on the environment. Particular focus is on the pollution of surface water, groundwater, soil and air, and on the global environment, including the greenhouse effect, as well as any resulting risk to human health, from landfilling of waste, during the whole life-cycle.</p>	<p>The OP should be aware of the negative environmental impact of waste.</p>

BASELINE DATA

293. Before being in a position to assess the effects of a plan or programme on the environment, it is important to establish the environment baseline. It provides a snapshot of the existing state of the environment by providing an indication of the future (based on past trends) without the programme being in place.
294. Schedule 3 of the SEA Regulations requires baseline information, either already collected or still needed, with notes on sources and any problems encountered. This is essentially a broad-brush "State of the Environment" review of the Maltese Islands focusing on the main environmental issues. Existing environmental and sustainability data will be collected from a wide range of sources. **Table 2** summarises this broad-brush description. The list is not exhaustive, and may be modified in the Environmental Report.
295. The draft Sustainable Development Strategy 2006 to 2016 identifies Malta's environmental challenges; it arises from a systematic review of official reports including the State of The Environment Report (1998, 2002 and 2005) and Malta's National Report to the World Summit on Sustainable Development (2002) and an extensive consultation process. The following environmental challenges were identified:
- Air quality and climate change;
 - Energy-efficiency and renewable energy resources;
 - Biodiversity;
 - Freshwater;
 - Waste;
 - Marine and Coastal Environment;
 - Land Use;
 - Transport;
 - Natural and Technological Risks; and
 - Leisure and the environment.
296. On the basis of the above issues / vulnerable aspects of the environment, **Table 2** shows how the Environment Report will draw together the issues and baseline data. Sources of information included the statistics produced by the National Statistics Office, the State of the Environment Report, 2005 and the documents prepared in connection with the Structure Plan Review process.

Table 2: Environmental baseline

Issue	Relevant baseline data	Illustrative material
Air quality / pollution	<ul style="list-style-type: none"> Malta's national air monitoring programme 	Ozone, benzene, nitrogen oxides, and sulphur dioxide concentrations by locality
Climate change	<ul style="list-style-type: none"> Greenhouse gas emissions Temperature and rainfall 	Graphs and figures
Energy-efficiency and renewable energy resources	<ul style="list-style-type: none"> Energy consumption Energy from renewable resources 	Graphs and figures
Biodiversity	<ul style="list-style-type: none"> Natural areas designated and managed Percentage of total species of international importance per group protected by national legislation Status of selected groups of species 	Designated and managed areas
Freshwater	<ul style="list-style-type: none"> Water consumption Nitrate and chloride levels at abstraction boreholes Groundwater quantitative status 	<ul style="list-style-type: none"> Quantitative status of Malta's groundwater bodies Levels of Nitrates and Chlorides at abstraction boreholes in 2004
Waste	<ul style="list-style-type: none"> Waste generation Waste separated and recycled in 2004 	Waste management facilities
Marine and Coastal Environment	<ul style="list-style-type: none"> Bathing water quality % of the coastal zone that is built up 	<ul style="list-style-type: none"> Trends in microbiological status of bathing water (2001, 2004) Built up coast
Land Use	<ul style="list-style-type: none"> Land cover by type No. of vacant properties 	<ul style="list-style-type: none"> CORINE 2000 land cover Areas from which urban areas are visible
Transport	<ul style="list-style-type: none"> Private car ownership Kilometres of roads Use of public transport Road traffic growth (if available) Traffic (vehicle kms) Road building expenditure Road accidents Increasing trend towards air travel 	Various graphs and figures
Natural and Technological Risks (oil spills and floods)	<ul style="list-style-type: none"> Number of oil spills 	

Issue	Relevant baseline data	Illustrative material
Leisure and the environment ⁷¹ .	<ul style="list-style-type: none"> • Information on floods • Areas protected for landscape value • Number of sites protected for cultural heritage • Light, dust, and noise pollution information 	Landscape sensitivity areas and protective designations

297. Where possible quantitative data will be presented in the form of maps, tables and figures. A brief description of the baseline and any trends will be given, where these are available. Difficulties were encountered in obtaining national data with respect to noise pollution as a “noise map” for Malta has not yet been produced.
298. Schedule I of the SEA Regulations, 2005 requires a description of the environmental characteristics of the areas to be affected. It is noted that the OP is a national strategic document that only identifies priority areas and not individual projects in specific areas. Consequently, the environmental characteristics of the Maltese Islands will be described in accordance with the parameters listed in **Table 2**.

EVALUATION OF THE CURRENT SITUATION IN THE ABSENCE OF THE OP

299. The SEA Regulations require a description of the relevant aspects of the current state of the environment and the likely evolution thereof without the implementation of the programming document with a particular emphasis on the future developments arising from other relevant plans and programmes.
300. This analysis will focus on the main environmental issues that have been identified in **Table 2**. It will include a description of the past and current trends from data available from existing monitoring systems or through expert judgements (in cases where data are lacking). It will also outline the likely evolution of these trends, if the OP were not implemented.
301. The information collected to date from PPCD and the Government agencies that would implement the OP gives no indication of how the current situation would evolve in the absence of the OP. The OP sets out the strategic basis for interventions in a number of priority areas identified by the Maltese government. Given that the preparation of the OP emanates from EU legislation (obligatory for all EU Member States) the do-nothing scenario was never an option.
302. The description of the likely future trends should the OP not be implemented is constrained by uncertainties including availability of data on future economic development, technological progress or advancements in regulatory frameworks that

⁷¹ The draft Sustainable Development Strategy includes dust, noise, and light pollution in this category. Data on a national level are not available.

collectively influence future trends. The assessment will include a list of major uncertainties.

SEA OBJECTIVES

303. Although the SEA Directive does not specifically require the use of objectives or indicators in SEA, they are a recognised way in which environmental effects can be described, analysed and compared. SEA objectives state what is intended. The programme's performance against objectives is normally measured by using indicators. The SEA objectives are meant to be separate from the OP's objectives, though the two influence each other and may overlap. To fulfil the requirements of the SEA Directive and the SEA Regulations, 2005, the SEA objectives must cover biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage, landscape, and interrelationships between them.
304. In developing appropriate objectives the following documents have been consulted:
- GRDP's Handbook on SEA for Cohesion Policy 2007- 2011;
 - The Commission's "Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment";
 - A Practical Guide to the Implementation of the SEA Directive, ODPM
 - The SEA Directive 2001/42/EC; and
 - SEA Regulations, 2005.
305. In developing appropriate indicators the following documents have been consulted:
- The Draft Sustainable Development Strategy for the Maltese Islands, 2006-2013; and
 - Malta's State of the Environment Report, 2005.
306. **Table 3** defines the set of objectives relating to the environmental issues identified in **Table 2**. Alongside these, relevant criteria for assessment and possible data sources have been identified.
307. The SEA objectives listed in **Table 3** are not relevant to all the Priority Axes. For example, investing in research and education programmes will not significantly affect protected areas. The relevance of each of the SEA Objectives to the Objectives of the eight Priority Axes will be determined prior to commencing the impact assessment. **Table 4** sets out the framework to determine which SEA Objectives are relevant to the different Priority Axes.
308. The SEA indicators are measurements of trends over time. They will be used as a means of ascertaining the success of implementation of the OP against the various SEA Objectives. Where possible the SEA process endeavours to identify how the OP would affect these indicators (i.e. the trends); such a process is constrained by

the fact that the SEA indicators themselves depend on other factors outside the control of the OP.

Table 3: SEA Environmental Objectives & Criteria for Assessing Impacts

Issue	SEA Objective	Criteria Will this priority axis ...	SEA Indicator	Data source
Biodiversity	Maintain or enhance protected areas.	<ul style="list-style-type: none"> Help to maintain or enhance the conservation of designated areas (under both the Development Planning Act and Environment Protection Act)? 	Percentage of designated areas that are subject to formal management arrangements over time	MEPA, Nature Protection Unit
Fauna & Flora	Maintain / enhance current levels of protected species	<ul style="list-style-type: none"> Help to maintain or enhance protected species? 	Threatened/endangered species list over time	MEPA, Nature Protection Unit
Population	Minimize production of waste & increase recycling	<ul style="list-style-type: none"> Help to minimise waste generation? Promote recycling rather than waste disposal to landfill? 	Waste generation by sector over time % waste recycled over time	MRAE / Wasteserv
Human health	Reduce noise, dust and light pollution.	<ul style="list-style-type: none"> Help to reduce dust generation from construction and waste handling activities? Help to reduce noise from construction and traffic? Help to reduce light pollution from development? 	None available yet	
Soil	Prevent soil erosion	<ul style="list-style-type: none"> Help to maintain soils levels through sound agricultural practices? Help control runoff from rural land? 	Aid given to farmers to protect their fields from erosion over time Plan / programme to carry out stormwater management in rural areas?	MRAE MRA
	Improve soil quality	<ul style="list-style-type: none"> Help to improve the quality of soil in agricultural areas? 	Increased crop yields over time	MRAE
Water	Improve drinking water quality and supply	<ul style="list-style-type: none"> Help to maintain the drinking water quality while meeting demand? Promote the maintenance of the existing supply infrastructure 	Drinking water quality over time Number of plans and programmes to maintain the existing supply infrastructure over time	Malta Resources Authority / WSC

Issue	SEA Objective	Criteria Will this priority axis ...	SEA Indicator	Data source
	Improve coastal water quality	<ul style="list-style-type: none"> Help to improve the quality of the marine environment? 	Bathing water quality tests over time Results of discharges to the marine environment over time	Department of Public Health, MEPA & MRA
Air	Improve air quality	<ul style="list-style-type: none"> Help to reduce emissions from non-mobile sources? Help to reduce emissions from mobile sources? 	Emissions of nitrogen oxides, sulphur dioxide, particulates over time	MEPA air quality monitoring programme
Climate	Increase use of renewable energy sources	<ul style="list-style-type: none"> Reduce Malta's vulnerability to climate change? Help to increase use of renewable energy? 	% use of renewable resources over time	MRA
	Reduce GHG emissions	<ul style="list-style-type: none"> Contribute towards the reduction of GHGs? 	GHG emissions over time	MEPA
Material assets (Infrastructure / built environment)	To manage stormwater away from where it is a hazard to where we are short of it.	<ul style="list-style-type: none"> Help to manage stormwater to the benefit of nation? 	Number of plans / programme of works to carry out stormwater management over time Number of insurance claims for flood damage over time	MEPA (insurance data being collected as part of the SEA for the new Structure Plan) MRA
	Minimise impacts of environmental disasters	<ul style="list-style-type: none"> Help to mitigate environmental disasters? 	Contingency plans over time	Government agencies.
Cultural heritage	Maintain or enhance the conservation status of cultural heritage sites / areas	<ul style="list-style-type: none"> Enhance scheduled / protected areas? Reduce negative impacts on cultural heritage features and sites? 	Number of management plans for protected areas over time	MEPA, Resources Management Unit and Heritage Malta
Landscape	Enhance the landscape value of areas protected for their landscape value	<ul style="list-style-type: none"> Enhance valued landscapes? 	Major projects turned down in areas of high landscape value.	MEPA
Land	Channel development into existing built up areas	<ul style="list-style-type: none"> Help to channel development into existing built up areas? 	Area of land developed outside development zone over time	MEPA

Table 4: Relevance of the SEA Objectives to the Priority Axes

SEA Objectives / Priority Axes Objectives	Maintain protected areas	Maintain protected species	Minimize waste / increase recycling	Reduce noise, dust light pollution	Prevent soil erosion	Improve drinking water quality & supply	Improve coastal water quality	Improve air quality	Increase use of renewable energy sources	Reduce GHG emissions	Manage stormwater	Minimise impacts of environmental disasters	Conservation of cultural heritage sites / areas	Enhance the landscape value	Channel development into existing built up areas
Priority Axis 1: To undertake investment in state-of-the-art enterprise support infrastructure that would complement the promotion of RTDi initiatives and strengthen high-value added economic activity through dedicated industrial facilities and educational infrastructure.	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
Priority Axis 2: To support enterprise competitiveness and to promote the further development of those economic activities that can add most value both economically and socially	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
Priority Axis 3: To promote a sustainable & competitive tourism	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N

SEA Objectives / Priority Axes Objectives	Maintain protected areas	Maintain protected species	Minimize waste / increase recycling	Reduce noise, dust light pollution	Prevent soil erosion	Improve drinking water quality & supply	Improve coastal water quality	Improve air quality	Increase use of renewable energy sources	Reduce GHG emissions	Manage stormwater	Minimise impacts of environmental disasters	Conservation of cultural heritage sites / areas	Enhance the landscape value	Channel development into existing built up areas
industry able to achieve its potential for growth and re-affirm its central role in Malta's economic activity.															
Priority Axis 4: To invest in the upgrading of transport links within the context of the TEN-T network	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
Priority Axis 5: To improve accessibility and those services of general economic interest.	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
Priority Axis 6: To continue with the upgrading process of the country's environment infrastructures, in respect of solid waste, liquid waste, and storm water management.	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
Priority Axis 7: To safeguard and valorise the country's urban heritage, undertake urban regeneration initiatives for	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N

SEA Objectives / Priority Axes Objectives	Maintain protected areas	Maintain protected species	Minimize waste / increase recycling	Reduce noise, dust light pollution	Prevent soil erosion	Improve drinking water quality & supply	Improve coastal water quality	Improve air quality	Increase use of renewable energy sources	Reduce GHG emissions	Manage stormwater	Minimise impacts of environmental disasters	Conservation of cultural heritage sites / areas	Enhance the landscape value	Channel development into existing built up areas
local development and promote a better quality of life															
Priority Axis 8: to reinforce the administrative capacity for implementing the 2007-2013 programme.	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N

LIKELY SIGNIFICANT EFFECTS AND CONSTRAINTS

309. Significance will also be assessed in accordance with the criteria listed in Schedule 4 of the SEA Regulations, 2005. Consultation with the OP Management Team and MEPA will ensure that all factors are considered. Reference documents will include the draft Sustainable Development Strategy and the State of the Environment Report, 2005. Subsequent sections further describe how impacts will be assessed.
310. The assessment of significance is already well established in Environmental Impact Assessment (EIA) literature. Significance is a function of impact magnitude and the sensitivity of receptors. Various methods can be used to determine significance including expert judgements, the use of thresholds, reference to legislation, and consultation with stakeholders. It is expected that, in the course of the SEA process, all these techniques will be used.
311. The assessment of significance is based on probability of the impact occurring, on the scale of the impact, its duration, reversibility, whether it has transboundary impacts and whether the impact is uncertain. **Table 5** describes the assessment framework and the symbols used to denote the various types of impact.
312. The relevant SEA objectives identified in **Table 4** will then be used to assess the 8 Priority Axes in accordance with the significance criteria described in **Table 5**. It is proposed to present the results of the assessment in the format indicated in **Table 6**.

Table 5: Assessment legend

Impact character	Symbol	Description of Impact
Probability	VP	Impact very likely to occur
	P	Impact likely to occur
Scale	++	Large positive impact
	+	Positive impact
	0	No impact
	--	Large negative impact
	-	Negative impact
Frequency / duration	LT	Long term
	ST	Short term
Reversibility	IR	Impact is irreversible
	R	Impact is reversible
Transboundary dimension	TR	Possible transboundary effect
Uncertainty	?	Impact uncertain

Table 6: Example Policy Assessment framework and format for environmental report

Relevant SEA Objective	Criteria	Indicator	Comment	Significance		Mitigation
				Symbols	Summary description	
PRIORITY AXIS 1: Investing in an enterprise support infrastructure						
Maintain or enhance protected areas.	Maintain or enhance protected areas.	Help to maintain or enhance the conservation of designated areas (under both the Development Planning Act and Environment Protection Act)?	What is the potential impact?	Impact assessment in accordance with the criteria listed in Table 4	Justification of the impact assessment	Description of mitigation measures, if these are necessary
Enhance the landscape value of areas protected for their landscape value	Enhance valued landscapes?	Major projects turned down in areas of high landscape value.	What is the potential impact?	Impact assessment in accordance with the criteria listed in Table 4	Justification of the impact assessment	Description of mitigation measures, if these are necessary
PRIORITY AXIS 2: Supporting a competitive enterprise						

Cumulative & Synergistic Impacts

313. This stage of the process involves an assessment of the cumulative and synergistic effects of all proposed priorities in the OP on the relevant environmental issues, objectives and indicators. Cumulative effects are effects that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the proposal. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.
314. Synergistic effects interact to produce a total effect that is greater than the sum of the individual effects. Synergistic effects often happen as habitats, resources, or human communities get close to capacity.
315. The cumulative and synergistic impact assessment will be based on the information generated by the preceding assessments (described above) of the individual priorities. Any identified cumulative and synergistic effects will be summarised and used as recommendations for final adjustments to the programming document.

ALTERNATIVES

316. The SEA Directive requires that an assessment must identify the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme.
317. It is noted that the OP was well advanced by the time the SEA process commenced. During the formulation of the OP, Government met with the Stakeholders on many occasions, conducted public consultation on the matters to be included in it, and that drafting of most of the key documents that informed the Programme commenced or had been completed well before the SEA legislation came into force.
318. The procedures leading to the preparation of the OP were complex and lengthy. The discussion on the Programming of Cohesion Policy 2007-2013 started in early 2005 with the launch of the *Governments' Pre-Budget Document* which was followed by a consultation process in the summer of 2005 on the National Reform Programme. Four Working Groups were set up during the third quarter of 2005 to prepare the Cohesion Policy Programmes. They focused on economic development and competitiveness, accessibility, environment, and employment and social inclusion. The Working Groups brought together various experts, Government ministries, public sector organisations, NGOs and socio-economic partners. A Steering Committee was set up in 2005 to oversee the programming process of the 2007-2013 Cohesion Policy Programmes. The Steering Committee⁷² oversees the drafting

⁷² The Steering Committee is composed of a number of senior public officers including the Principal Permanent Secretary (as the link to Cabinet and the relevant Cabinet Committees with an overview of national priorities the Permanent Secretary (Policy) within the Office of the Prime Minister (as the link between Cohesion Policy Programmes and the National Reform Programme), the Permanent Secretary and the Director General Budgetary Operations within the Ministry of Finance (as the links between Cohesion Policy and national budget initiatives), the Director General Economic Policy (the link between Cohesion Policy and the overall

of the overall strategy and the identification of the Priorities to be presented in the National Strategic Reference Framework and the Operational Programmes. A national SWOT (Strengths, Weaknesses, Opportunities, Threats) workshop spanning five half day sessions was organised in September 2005. Four sessions dealing with the same thematic areas as the Working Groups were held in Malta and a fifth session was held in Gozo dealing with Gozo special needs. Over 80 key personnel were invited to the workshops.

319. A series of public dialogues were then organised by the Office of the Prime Minister in the first quarter of 2006. These public dialogues were led by the Prime Minister; members of the public and public and private organisations were invited to attend. Five public dialogues were held covering the themes: human resources, environment, accessibility, enterprise and tourism, and Gozo. During this time a number of high level inter-governmental consultations were also held to prioritise the areas of intervention that had been identified through the working groups, the SWOT analysis and the public dialogues. The prioritisation exercise was based on a number of criteria, namely: clear needs that had emerged from all the consultation exercises⁷³, the sectoral strategies⁷⁴, available budget⁷⁵, obligations emanating from the EU⁷⁶, the regulatory package of the Structural Funds⁷⁷, and proposed duration, sustainability and risks⁷⁸.
320. Following this process, the first draft of the NSRF⁷⁹ was published for public consultation. No substantial comments were received.
321. This process finally led to the preparation of the OPs. As described in Chapter 2 of this Report, the Priority Axes cover all sectors⁸⁰. The strategic level at which the objectives have been formulated means that any project that is eligible for funding under Cohesion Policy could be considered.
322. Some potentially alternative initiatives were not taken forward because there was a consensus amongst the Stakeholders that they would be better funded by the private sector, and some of those initiatives that would be eligible for ERDF / CF funding

macro-economic situation in Malta), and the Head of the designated Managing Authority for the 2007-2013 Cohesion Policy Programmes

⁷³ There was a high degree of consistency between the priorities that were proposed internally by public organisations and those which were proposed most strongly by the partners and the public in the public dialogues.

⁷⁴ Where these were available.

⁷⁵ Not just the global allocation but also the allocations by Fund.

⁷⁶ These included commitments undertaken under the Accession Treaty (e.g. environment), priorities for the EU for Cohesion Policy (Community Strategic Guidelines, Lisbon Agenda, National Reform Programme amongst others)

⁷⁷ The issue of eligibility, state aid (which could delay) and project implementation period were amongst the main issues considered under this item.

⁷⁸ Under this item the issue of implementation risks such as expropriation, MEPA permits were discussed and where the risk was considered to be too high in terms of timing, national funds were proposed.

⁷⁹ The strategy underpinning the Operational Programmes.

⁸⁰ With the exception of education and training that are covered by OP2 and agriculture and fisheries that are covered by other funds.

were not included in the OP because they were either too uncertain, or would be likely to require so much research and development / negotiations with the Commission, that they would not be likely to be completed within the funding period; the funds secured for the Initiative would, therefore, not be used. Many of the proposed Initiatives were selected because they built on existing expertise and experience.

323. As a result of the extensive consultation exercise carried out prior to the formulation of the OP and considering that the OP is multi-sectoral, comprehensive, and that no sectors have been omitted, PPCD and the stakeholders have confirmed that there are no realistic alternatives to the objectives presented in the OP.

MONITORING

324. The Environmental Report will include a section on that describes how the success of the OP implementation will be measured with respect to the SEA objectives, by measuring (monitoring) the significant effects of the OP on the environment.
325. The SEA will assess the monitoring arrangement proposed for the OP and may recommend incorporation of new indicators based on the relevant environmental issues, objectives and indicators for the programming document.
326. Again, it is noted that the correlation between indicators for monitoring and the OP objectives may be constrained because indicators may be affected by other initiatives including private sector initiatives, other plans and programmes, and legislative measures that are outside the scope of the OP.

ASSESSMENT METHODOLOGY

327. This SEA was begun in mid-May 2006, following a call for Tender by the Planning & Priorities Coordination Division. Adi Associates Environmental Consultants Ltd and Professor Brian Clark have carried out most of the SEA, with support and guidance from the PPCD and MEPA.
328. The SEA involves several key stages:
- The *scoping stage* (10th -26th May 2006) aimed to agree the "scope and level of detail of information which must be included in the environmental report" (SEA Directive, Art. 5.4). A meeting was held on 25th May 2006 between the consultants, the OP management team, representatives of MEPA and the Department of Public Health, the EU fund managers of different Government entities. The key points arising from the meeting are attached at **Appendix I**.
 - The *collection of baseline data and analysis of relevant plans, programmes and environmental objectives* has already commenced. The Consultants brought together baseline data from a wide range of sources, including studies of the key growth areas, and analysed a wide range of plans/programmes/objectives using matrices to structure the data collection. Maps of key environmental issues are being prepared.

- Preparation of the *Environmental Report* – this commences once information is collected and following consultation with the stakeholders, MEPA and the Programme Manager.

329. It is noted that the Scoping Report does not contain details on public consultation. This has purposely been omitted as the responsibility for public consultation lies with PPCD and it is outside the remit of the SEA Team to carry out the public consultation exercises required by the SEA Regulations, 2005.

THE ENVIRONMENTAL REPORT

330. The proposed structure of the Environmental Report is as set out below. It is noted that as the Report develops the structure may change slightly, however the following table gives the general framework. It is in accordance with the provisions of Schedule I of the SEA Regulations, 2005.

Table 7: Structure of the Environment Report

Section	Content
Summary and outcomes	Non-technical summary Statement on the difference the process has made Directions on how to comment on the assessment
Introduction	Strategic environmental assessment (compliance with the SEA Regulations, 2005) Aim and structure of this report OP background
Methodology	Approach adopted Stages of SEA process (timings and responsibilities) Limitations Consultation
Baseline	The environmental baseline Summary of environmental issues Links to other relevant policies, plans, programmes
SEA framework	Objectives and indicators Assessment of significance
Assessment of alternatives	Alternatives considered Comparison of alternatives Consideration of environmental issues in development of alternatives Preferred alternative (including reasons for rejection of others)
Detailed Assessment of the OP	Assessment of each priority axis Recommendations Recommended changes to the OP Proposed mitigation Uncertainties and risks
Monitoring proposals	A description of the monitoring requirements
Appendices	As necessary

APPENDIX I

Minutes of the Scoping Meeting with the Stakeholders



Structural Funds Programme for Malta 2007-2013
Project Part-Financed by the European Union
European Regional Development Funds (ERDF)
Co-financing rate: 75%



Strategic Environmental Assessment on Malta's Operational Programmes 2007 – 2013

Meeting with Stakeholders

Date: 25th May 2006: 14:30 - 16:00

Venue: Intercontinental Hotel, St Julians

Participants:

Stakeholders

Ministry for Competitiveness and Communications

Ministry for Rural Affairs and the Environment

Ministry for Resources and Infrastructure

Ministry for Investment, Industry and Information Technology

Ministry for Education, Youth and Employment

Ministry for Health, the Elderly and Community Care

Malta Maritime Authority

Water Services Corporation

Enemalta Corporation

Malta Transport Authority

Wasteserv Malta Ltd.

Mr. Anton Spiteri

Dr. Chris Ciantar

Ms. Gabriella Briffa
Darmanin

Mr. Joseph Degiorgio

Mr. Franklin Mamo

Ms. Lucienne Meilak

Emanuel J. Attard

Dr. Karen Vincenti

Mr Charles Bonnici

Mr. Chris Farrugia

Ing. Paul Micallef

Mr. Joseph Vassallo

Mr. David Sutton

Ing. Vince Magri

EU Affairs Director

Director of Environmental Policy and Initiatives

Funds Manager

EU Affairs Director

EU Affairs Director

EU Affairs Director

Executive Director

Consultant in Public Health

Principal Health Inspector

Senior Manager, EU Affairs

Manager R&D

Engineer

Deputy Chief Executive Officer

Chief Executive Officer

Client

Planning and Priorities Coordination Division

Pricewaterhouse Coopers (Ex ante)

Ms. Marlene Bonnici

Dr. Brian Portelli

Dr. Denise Caruana

Ms. Michel Ganado

Director General

Programme Manager

Programme Manager

Senior Consultant

Environment Authority

MEPA

Ms. Josianne Vassallo

Ms. Krista Falzon

Snr Environment Protection Officer

Environment Protection Officer

Consultants

Adi Associates Environmental Consultants Ltd

Mr Kevin Morris

Mr Yury Zammit

Purpose

The SEA Regulations require that the SEA assesses the objectives and initiatives of OP I and as well the “do nothing” situation and alternatives from an environmental point of view.

The purpose of the meeting was to consult the Stakeholders on the Scoping Report for the SEA, and in particular to elucidate the alternative objectives that were considered and not included in OP I and to discuss the implications of the “do nothing” scenario.

Following an introduction by DG/PPCD, Adi Associates provided an overview of the SEA process, described the scoping process, and posed the following questions to the Stakeholders in respect of each Specific Objective and Initiative. In so doing Adi Associates pointed out that there was no intention to question those objectives that had been included in the OP I but there may be a need, as a result of the SEA process, to reword some of the objectives and initiatives to better reflect the overarching environmental sustainability obligations of the SEA legislation.

Matters for Discussion

A. Specific Objectives

- Why have these objectives been selected & what others were discarded?
- What were the criteria for selection of objectives?

B. Initiatives

- Why were these initiatives selected & what others were discarded?
- What were the criteria for selection of the initiatives?
- What happens if Government does not implement the OP i.e. the objectives and initiatives do not materialise?
- How do the Stakeholders propose to **monitor** the success of the initiatives?

Key Points

In order to facilitate discussion Adi Associates tabled Working Paper I: Summary of OP Objectives and Initiatives. This paper was a compilation of the specific objectives and initiatives contained in the OP itself. In order to focus the understanding of the objectives, the essence of the objectives and initiatives were described; caveats and riders were omitted.

Alternatives

PPCD explained that the OP was well advanced and that in the formulation of the OP, Government had met with the Stakeholders on many occasions, and conducted public consultation on the matters to be included in it. It was also noted that the requirement for an SEA had come about well after formulation of the Programme and furthermore, the

dialogue that was undertaken in respect of the key documents that informed the Programme had commenced / had been completed well before the SEA legislation came into force.

PPCD also noted that many of the Specific Objectives / Initiatives suggested by the various parties had been considered in some depth before being set aside because they would not be eligible for funding under the European Regional Development Fund (ERDF) or the Cohesion Fund (CF). Some initiatives were not taken forward because there was a consensus amongst the Stakeholders that they would be better funded by the private sector, and some of those initiatives that would be eligible for ERDF / CF funding were not included in the OP because they were either too uncertain, or would be likely to require so much research and development / negotiations with the Commission, that they would not be likely to be completed within the funding period; the funds secured for the Initiative would, therefore, not be used. Many of the proposed Initiatives were selected because they built on existing expertise and experience.

As a result of this coarse screening, there were few, if any, eligible initiatives that were not included in the OP. This was confirmed by the round table discussion of the Objectives and Initiatives described in each of the Priority Axes.

DG/PPCD further advised that many of the Initiatives would be further refined through the various studies that were currently underway or due to commence in the near future, such as the further development of the RTDi strategy.

Do Nothing Scenario

Adi Associates explained that the SEA Regulations require an assessment of the situation that would arise from an environmental point of view should the initiative not be undertaken, ie the “do nothing” scenario. This assessment is fundamental to demonstrating to the decision makers and public alike that the selected objectives and initiatives have been assessed from an environmental perspective and amended as appropriate.

The Stakeholders were unanimous in the opinion that a scenario that contemplated a future without the proposed interventions was not acceptable and not realistic because of the momentum of the economy.

They made the following points:

- In the absence of the Initiatives, Malta may not meet the Lisbon Agenda such as having 3% of its GDP base on R&D by 2010;
- The manufacturing industry would become out of date, and possibly close as entrepreneurs move to other countries that are better equipped and where labour is cheaper; and
- Malta would experience untold difficulties in respect of transport, communications, waste, etc such that the Stakeholders were unable to advise on the possible repercussions of not continuing forward.

Monitoring the success of the Initiatives

DG/PPCD explained that the success of the Specific Objectives and the Initiatives would be gauged through reference to the Performance Indicators described in the OP and as agreed with all Stakeholders in the formulation of the Document. It was advised that where possible the SEA could link to the same indicators.

APPENDIX 3

Other Plans and Programmes and Legislation relevant to the OP

RELATION OF OP I TO OTHER NATIONAL DOCUMENTS & LEGISLATION

Schedule 3 of the SEA Regulations requires a discussion of the "relation [of the plan] with existing legislation, policies, and other plans and programmes and their objectives, with information on potential synergies or conflicts". **Table I** provides a list of the policies, plans, and programmes relevant to the OP, which have been analysed.

The analysis has been subdivided into four main categories:

- (i) **International Commitments:** this category covers the highest-level environment and sustainability policy framework within which Malta must work. It includes a selection of global commitments, such as those arising from the Millennium Development Goals (MDGs) as well as some international conventions. Since European Directives have been transposed into national legislation, the Directives *per se* will not be discussed; the section on national legislation is described below;
- (ii) **National Environmental & Planning Documents** including the Structure Plan for the Maltese Islands, the draft National Sustainable Development Strategy, and the National Reform Programme. The review provided herein summarises the key issues raised; further information can be obtained from the original documents;
- (iii) **Sectoral Policies and Strategies:** this section covers highest-level policy and strategy documents published by the Government, such as the Transport Infrastructure Needs Assessment (TINA) Study. Rather than summarise entire documents this review seeks to emphasise the key sustainability objectives and priorities;
- (iv) **National legislation:** no attempt will be made to assess the individual regulations, as in done at the project level EIA. However, the main areas of concern for the OP will be highlighted. Given the scale (and evolutionary nature of this field) this review is not exhaustive and represents a current (May 2006) snapshot.

Table I Analysis of Related Plans, Programmes, and Legislation

Plan, Programme, Legislation	Description	Implications for OP
I. International Commitments		
Malta Statement by Dr. Lawrence Gonzi Deputy Prime Minister and Minister of Social Policy of Malta at the World Summit on Sustainable Development Johannesburg, South Africa 3 September 2002	During the World Summit on Sustainable Development, the Maltese Government made commitments for action in the following areas: (a) The rehabilitation of Valletta (b) Coastal zone management; (c) Transport; and (d) Waste management. The Government is also committed to building capacity for Overseas Development Assistance.	These are national commitments and the OP must play a role in their realisation. The SEA Objectives include, within their scope, consideration of waste management, cultural heritage, transport and coastal zone issues.
The UN Millennium Declaration and Millennium Development Goals (MDGs)	The United Nations Millennium Declaration arose from the meeting of UN Heads of State in New York, September 2000. The Declaration was aimed at revitalising international efforts to tackle critical development issues, and led to agreement on, and adoption of, the eight Millennium Development Goals (MDG). Of relevance to the SEA is the seventh MDG: ensure environmental sustainability .	This is a national commitment and the OP must play a role in its realisation. The SEA reflects the principles of environmental sustainability.
UN Framework Convention on Climate Change	The ultimate objective of this Convention, and any related legal instruments that the Conference of the Parties may adopt, is to achieve stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a timeframe sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner. Malta is not an Annex I country, which means that it does not have to meet quantified targets for a reduction in greenhouse emissions. It does, however, support efforts to reduce greenhouse gas emissions and is bound by EU legislation.	The OP is a key national document that can play an important role in assisting Malta in stepping up its climate change efforts. The OP should be aware of this and seek to include and encourage efforts to reduce emissions. The SEA Objectives include, within their scope, reduction of green house gas emissions and use of renewable energy.
Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)	Malta is a party to the Bern Convention. The Convention aims to ensure conservation of wild flora and fauna species and their habitats. Special attention is given to endangered and vulnerable species, including endangered and vulnerable migratory species specified in appendices. The Parties to the Convention must undertake to take all appropriate measures to ensure the conservation of the habitats of the wild flora and fauna species. Such measures should be included in the Parties'	The OP should be aware of the endangered and vulnerable species of flora and fauna in Malta and ensure that the Programme is not in conflict

Plan, Programme, Legislation	Description	Implications for OP
	<p>planning and development policies and pollution control, with particular attention to the conservation of wild flora and fauna. They should also undertake to promote education and disseminate general information concerning the need to conserve species of wild flora and fauna and their habitats.</p>	<p>with protection and conservation of them and their habitats. Issues associated with hunting and trapping should also be actively considered in the OP.</p> <p>The SEA Objectives consider biodiversity issues.</p>
2. National Environmental & Planning Documents		
<p>A Draft Sustainable Strategy for the Maltese Islands 2006-2016</p>	<p>The Sustainable Strategy is centred on four main themes:</p> <ul style="list-style-type: none"> • Managing the environment and resources; • Promoting sustainable economic development; • Fostering sustainable communities; • Cross-cutting strategic issues. <p>Within these sectors the following priorities are identified:</p> <p>The Environment</p> <ol style="list-style-type: none"> 1. Climate Change: take steps to reduce greenhouse gas emissions through transport and energy policies that seeks to promote environmental protection, competitiveness and security of supplies and, as a result decouple the rate of growth of Green House Gases (GHG) emissions from economic growth. 2. Air Quality: take remedial action to control emissions of air pollutants and achieve compliance with European standards; 3. Nature and Biodiversity: halt loss of biodiversity by 2010, and achieve management of protected areas by 2008; 4. Groundwater: adopt a policy that safeguards the quality of ground water resources to protect human health, and satisfy the requirements for human use and achieve good quantitative status by 2015; 5. Seawater: sustain compliance with Bathing Water Directive and achieve compliance with Barcelona Convention standards; 6. Waste: prevent and minimise waste by achieving EU waste-related objectives and targets, reviewing Malta's Waste Management Strategy by 2007; 7. Land use: protect, maintain and improve the urban and rural environment and through the planning system protect the open countryside from uses, particularly residences, which can be more 	<p>Sustainable development principles must be included in the OP.</p> <p>The OP should reflect all the sustainable development challenges contained in the Draft Strategy.</p> <p>The OP should be responsive to the actions proposed in the Strategy.</p> <p>The SEA Objectives and Indicators are based on Malta's Sustainable Development Strategy.</p>

Plan, Programme, Legislation	Description	Implications for OP
	<p>appropriately located in urban areas; 8. Transport: reduce car ownership rates to the EU average by 2014. Attain 1995 bus patronage levels by 2014 (40 million passengers);</p> <p>The Economy 9. Economic Growth: adopt policy measures so that the growth of GDP per capita in real terms grows at a rate that will enable the Maltese economy to converge towards the EU average. 10. Employment: create employment opportunities to generate income and improve the quality of life of the population, taking into consideration environmental and social impacts, and adopt policy measures so that the ratio of total employment to the working age population in Malta converges with the EU average and reaches at least 57% by 2010; 11. Labour productivity: adopt policy measures to increase average labour productivity at a rate of 1% per annum over the EU average by 2010, while attempting to balance wages, taxation and productivity, in collaboration with the social partners.</p> <p>Society 12. Poverty reduction: reduce or at least sustain the current level of 15% of the population at risk of poverty and decrease the ratio of population aged over 65 at risk of poverty from 20% to 15%, by 2010; 13. Labour force participation of women: adopt policy measures so that the labour force participation rate of women increases from 33% to 40.7% by 2010; 14. Health: decrease ratio of overweight/obese population in line with the EU average by 2010 by, amongst other actions enhancing the focus on healthy living and prevention, to reduce the need for curative care; 15. Education: continue to adopt measures to decrease the early school-leavers rate to 35% by 2010.</p> <p>Cross Cutting Issues 16. Spatial development plan: by 2010 draw up an integrated spatial development plan to take forward the National Strategy for Sustainable Development, with the participation of major stakeholders; 17. Economic Instruments: gradually adjust the present income tax regime so that the ratio of green taxation to total taxation reaches the EU average by 2010; 18. Enforcement: by 2008, put in place an audit of enforcement arrangements to assess the adequacy of the current enforcement mechanisms and to promote integration of responsibilities and reduction of overlaps.</p>	

Plan, Programme, Legislation	Description	Implications for OP
	<p>Implementation</p> <p>19. Institutional setup: by 2008 put in place a permanent structure, appropriately staffed and funded, to revise and implement the National Strategy for Sustainable Development, on an ongoing basis, under the auspices of the National Commission for Sustainable Development, and hold an annual Conference with participation of major stakeholders to critically evaluate progress relating to the strategy;</p> <p>20. Sustainability indicators: by 2008, establish and fund an entity responsible for compiling and evaluating sustainability indicators. This entity should work closely with the National Commission for Sustainable Development and the National Statistics Office.</p>	
National Strategic Reference Framework	<p>The National Strategic Reference Framework (NSRF) is the strategic document that sets out Malta's strategic objectives for Cohesion Policy 2007-2013. The NSRF, describes Government's Vision for the country: "a dynamic, high value-added economy founded on competence, skills and excellence, and capable of sustaining a high standard of living for its citizens". The NSRF highlights the following issues that are key to Malta's socio-economic development:</p> <ul style="list-style-type: none"> • The declining cost competitiveness and the negative implications on the diverse economic sectors; • The impact from insularity and double insularity (Gozo) and the overt dependence on air and sea transport; • Limited domestic market and territorial realities that lead to market failures and loss of economies of scale; • The dependence on key source markets and seasonal tourism concentrations as well as increasing competitive challenges from central Mediterranean destinations; • Increasing economic and social demands on the environment leading to sustainability concerns; • Malta's infrastructure deficit in areas such as transport, education, research, technological development and innovation, environment and energy; and • The challenge of implementing the relevant EU Directives. 	The OP is based on the NSRF.
Structure Plan for the Maltese Islands, 1990	<p>This is the national planning document that sets out the development framework for the Maltese Islands for the twenty-year period to 2010. Its' three goals are:</p> <ol style="list-style-type: none"> 1. To encourage the further social and economic development of the Maltese islands, and to ensure as far as possible, that sufficient land and support infrastructure are available to accommodate it; 2. To use land and buildings efficiently, and consequently to channel urban development activity into existing and planned development areas, particularly through rehabilitation and upgrading of the existing fabric and infrastructure thus constraining further inroads into undeveloped land, and 	The broad goals of the Structure Plan are in line with the Objectives of the OP.

Plan, Programme, Legislation	Description	Implications for OP
	<p>generally resulting in higher density development than at present; 3. To radically improve the quality of all aspects of the environment of both urban and rural areas.</p>	
National Reform Programme, 2005	<p>The National Reform Programme (NRP) with a governance structure based on a three-year cycle (2005-2008) aims to set out a comprehensive strategy to deliver growth and jobs in line with the refocus of the Lisbon Agenda agreed to in the Spring European Council. Several political, economic, social, technological and environmental factors affect Malta's economic growth and international competitiveness and hence, the island's employment growth potential. These include:</p> <ul style="list-style-type: none"> • maximising new market and funding opportunities in the EU; • intensifying international competition as a result of globalisation; • increasing oil prices, terrorism and competition from low cost nations; • changing demographics: ageing population, increasing life expectancy, lower fertility rates; • leveraging technological developments; and • protecting the environment. <p>The NRF identifies 3 environmental priorities for action by the Maltese Government:</p> <ol style="list-style-type: none"> 1. Halting Biodiversity Loss; 2. Internalisation of Environmental Externalities; 3. Fight against Climate Change 	<p>The OP should be cognisant of these priority actions and should ensure that OP measures are synergistic with the Government actions.</p> <p>Biodiversity and climate change issues are considered in the SEA.</p>
3. Sectoral Plans & Policies		
The Rural Development Plan (RDP) for Malta 2004-2006	<p>The RDP maintains that the present situation of Maltese agriculture is largely unsustainable and the most relevant threat to the survival of Maltese agriculture in the coming years appears to be prevailing situation where Maltese agriculture supplies consumers with high priced, low quality produce. The abandonment of agriculture will accelerate the rate of soil erosion and consequently lead to land degradation and a change in the landscape. The main issue with respect to agriculture is the protection of agriculture through measures that facilitate the cultivation of land by farmers. The new vision for Maltese agriculture is the sustainable development of rural Malta in a manner that leads to its increased economic competitiveness in a demand-driven, international market system, in a context that takes into account its environmental, social and cultural dimensions and their importance to the Maltese way of life.</p>	<p>The priorities contained in the OP are based on the RDP; the two objectives of the RDP are implemented in the OP.</p>
Solid Waste Management Strategy for the Maltese Islands, 2001	<p>The Strategy provides a policy and decision-making framework for the future management of waste generated in the Maltese Islands, and for the preparation of detailed implementation plans. It is also the means by which the various requirements and targets contained in European Directives on waste will be implemented, in particular the Waste Framework Directive (75/442/EEC as amended by 91/156/EEC), the Hazardous Waste Directive (91/689/EEC as amended by 94/31/EEC), the</p>	<p>The OP should be congruent with the requirements of the Strategy, and should stress the importance of the waste hierarchy to the approach taken</p>

Plan, Programme, Legislation	Description	Implications for OP
	Disposal of Waste Oils Directive (75/439/EEC as amended by 87/101/EEC), and the Landfill Directive (99/31/EC). Other key areas arising from the SWMS are sustainable waste management, producer responsibility, segregation at source and the minimisation of waste generation.	in waste management. Waste management issues including waste reduction are within the scope of the SEA.
Space for Waste: the Waste Management Subject Plan	The Waste Management Subject Plan provides strategic long-term direction and context to guide both Government and the private sector in waste management issues. Its policies guide the strategic planning of waste management and the determination of development permit applications for developments and land use changes related to waste management facilities.	The OP should be congruent with the requirements of the Subject Plan.
Sewerage Master Plan, 1990	The Sewerage Master Plan provides the framework for the upgrading of the sewerage infrastructure of the Maltese Islands. It calls for the construction of three sewerage treatment plants, one in Gozo and two in Malta.	The OP makes specific reference to the Master Plan.
The Transport Infrastructure Needs Assessment (TINA), 2002	<p>The TINA Study identified the Malta Trans-European Network – Transport (TEN-T), which provides critical linkages between the two international seaports of Valletta and Marsaxlokk, the international airport and between Malta and Gozo. The Study concluded that Malta’s transport objectives are to provide:</p> <ul style="list-style-type: none"> • An internal market that works efficiently and facilitates the free movement of goods and people; • A coherent, integrated transport system using the most appropriate technologies; and • Social policies to protect and promote the interests of those working in and using transport. <p>Feasibility Studies and Environmental Impact Assessment are to be carried out on projects resulting from the TINA Study.</p>	Transport is a major issue in the OP; the latter plays a key role in the achievement of the objectives of the Study.
Draft National Allocation Plan for Malta 2005-2007	The National Allocation Plan (NAP) for Malta is prepared pursuant to obligations under Directive 2003/87/EC, which establishes an emissions trading scheme for greenhouse gas (GHG) emissions within the EU. Currently the power generation sector falls within this scheme. Among others, the NAP allocates a quantified number of tonnes of CO ₂ emissions to these installations for the plan period. It also requires that Government prepares programmes to encourage use of renewable energy.	Targets should be considered in the OP and priority given to projects that are energy efficient and promote use of renewable energy. Energy efficiency and renewable energy are within the scope of the SEA objectives.
National Report on the Strategic Action Plan for the Conservation of Maltese Coastal and Marine	This Report identifies priority actions in the field of marine and coastal biodiversity. These actions include the preparation of species and habitat action plans, declaration of marine and coastal protected areas, data compilation, monitoring proposals, upgrading research equipment, and effective enforcement.	The OP should be cognisant of the requirements in the field of biodiversity.

Plan, Programme, Legislation	Description	Implications for OP
Biodiversity, 2002		Biodiversity issues are considered in the SEA.
The First Communication of Malta to the United Nations Framework Convention on Climate Change (UNFCCC), 2004	<p>The Communication recognises that Malta is more likely than larger countries to suffer the consequences of climate change but, as with other small states, cannot be considered a main contributor to the change. The implementation framework to deal with climate change favours multi-sectoral policies (notably energy, transport and agriculture) with a view to integrating environmental considerations within measures aimed at climate change abatement and adaptation strategy. Malta is committed to honouring obligations in respect of the UNFCCC and the Kyoto Protocol and, as an EU member state, is obliged to develop the capacity for reporting, monitoring and verifying greenhouse gas emissions. The National Action Plan provides an administrative framework to enable the exploration of various measures proposed in support of greenhouse gas mitigation and adaptation to climate change.</p> <p>The National Action Plan consists of a set of adaptation and mitigation measures. It recognises that the challenge of climate change must be shared equitably by all sectors and needs to be addressed by adopting clear criteria, including:</p> <ul style="list-style-type: none"> • Commitment to sustainable development; • Disposition to maximise economic efficiency by implementing cost-effective measures; • Policies and measures tailored specifically to all relevant sectors, with the intention of achieving emission reductions across all economic sectors; • Recognition of the specific arrangements and special requirements that pertain to a small island state; • Presentation at international fora of a proposal to allow small island states, and states with a large coastal perimeter to land area ratio, to include marine sinks in their inventory; • Generating an impetus for early action by adopting a phased approach that allows for immediate actions while planning for longer-term provisions; and • Common and coordinated policies and measures to be implemented at EU and wider international levels. 	<p>Climate change should be one of the key considerations that is addressed in the OP.</p> <p>Climate change issues are considered in the SEA.</p>
4. National Legislation		
Constitution of Malta	The Constitution of Malta (Section 9) declares that the State shall safeguard the landscape and the historical and artistic patrimony of the Nation. These are the only aspects of the environment referred to in the Constitution, underlining the importance of the landscape and historical heritage.	<p>Landscape and historical heritage must be recognised as important assets in the OP.</p> <p>Both landscape and cultural heritage are considered in the</p>

Plan, Programme, Legislation	Description	Implications for OP
		SEA.
Development Planning Act, 1992	This Act regulates and controls the use of land, and in particular requires that changes of use and development of land be subject to permission granted by the Malta Environment Planning Authority; such permissions may be subject to conditions.	Projects resulting from the OP must conform to the requirements of the Development Planning Act.
Environment Protection Act, 2001	The Act requires everyone together with the government to protect the environment and to assist in the taking of preventative and remedial measures to protect the environment and manage natural resources in a sustainable manner. Various duties that fall to the government are established including: 4(a) to manage the environment in a sustainable manner by integrating and giving due consideration to environmental concerns in decisions on socioeconomic and other policies; 4(b) to take such preventive and remedial measures as may be necessary to address and abate the problem of pollution and any other form of environmental degradation in Malta and beyond, in accordance with the polluter pays principle and the precautionary principle; 4(e) to apply scientific and technical knowledge and resources in determining matters that affect the environment; 4(g) to safeguard biological diversity; 4(h) to combat all forms of pollution; 4(i) to consider the environment as the common heritage and common concern of humankind; and 4(j) to provide incentives leading to a higher level of environmental protection.	The OP should stress: a) the importance of protecting the natural and human environment from pollution, b) prevention at source; c) conservation of resources; d) safeguarding protected areas and buildings; and e) educating people.
Legal Notice 204 of 2001, Environmental Impact Assessment Regulations	This Legal Notice requires that an Environmental Impact Assessment is carried out for certain developments that may have an impact on the environment.	Projects resulting from the OP must be screened to ensure that an EIA is carried out if required by legislation.
Legal Notice 418 of 2005, Strategic Environmental Assessment Regulations	The SEA Regulations require that certain plans and programmes are subject to an environmental assessment prior to their implementation.	The OP is undergoing an SEA.
Legal Notice 257 of 2003, Flora, Fauna and Natural Habitats Protection Regulations, 2003 and Government Notices 223 of 2005 and 1138 of 2005	These Regulations transpose the Habitats Directive and designate Special Areas of Conservation including Marine Protected Areas. The legislation calls for the protection of species and habitats and the setting up of a NATURA 2000 network.	The OP must ensure that it does not threaten areas designated as protected areas. The SEA contains 2 objectives related to protection of habitats and species.
Legal Notice 116 of 2005	This legislation enables the public to have access to information on the environment that is held by	The Environmental Report for

Plan, Programme, Legislation	Description	Implications for OP
Freedom of Access to Information on the Environment Regulations, 2005	the public authorities.	the SEA on the Malta's OP will be published for public consultation.
Air Quality Regulations ⁸¹	Local regulations on air quality aim to develop and implement appropriate instruments to improve air quality. The control of emissions from mobile sources, improving fuel quality and promoting and integrating environmental protection requirements into the transport and energy sector are part of these aims. The regulations contain targets and objectives that must be met by Malta. Different regulations address individual or groups of specific pollutants.	The OP must ensure that air quality does not deteriorate as a result of the Programme. Air quality objectives are included in the SEA.
Legal Notice 194 of 2004, Water Policy Framework Regulations, 2004	The Water Framework Directive seeks to establish a structured framework for action in the field of water policy. It aims to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater that: <ul style="list-style-type: none"> • Prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems; • Promotes sustainable water use based on a long-term protection of available water resources; • Aims at enhanced protection and improvement of the aquatic environment, inter alia, through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances; • Ensures the progressive reduction of pollution of groundwater and prevents its further pollution, and • Contributes to mitigating the effects of floods and droughts RSS will have a significant role to play in protecting and managing water resources. 	It is important that the issues and measures presented in the regulations are considered in the OP. Water quality issues are also considered in the SEA Objectives.
Legal Notice 340 of 2001 Urban Waste Water Treatment Regulations, 2001	This Regulation concerns the collection, treatment and discharge of urban wastewater and the treatment and discharge of wastewater from certain industrial sectors. The objective of the legislation is to protect the environment from the adverse effects of these wastewater discharges. The regulation also sets acceptable pollutant levels.	The Directive is mentioned in the OP and its requirements are taken into consideration.
Legal Notice 343 of 2001 - Protection of Waters	This Regulation has the objective of: <ul style="list-style-type: none"> • Reducing water pollution caused or induced by nitrates from agricultural sources; and 	The OP recognises that agriculture is important to

⁸¹ Environmental Regulations in the field of air quality mainly relate to emission thresholds for various pollutants. We do not attempt to summarise all the regulations, as this would represent a large amount of analytical text. This review seeks to draw out main themes and messages covered by current legislation.

Plan, Programme, Legislation	Description	Implications for OP
Against Pollution Caused by Nitrates from Agricultural Sources Regulations, 2001	<ul style="list-style-type: none"> • Preventing further such pollution. 	Malta. The OP should reflect both this and the pollutant threat from inappropriate or excessive use of nitrate fertilisers and other sources of nitrate. It is, however, noted that funding for agriculture does not fall within the scope of OP I but within the scope of the European Agricultural Fund for Rural Development (EAFRD) and the European Fisheries Fund (EFF).
Legal Notice 380 of 2003, Quality of Bathing Water Regulations, 2003	This regulation sets binding standards for bathing waters. It sets parameters that Malta is legally obliged to meet for water quality standards for coastal bathing water.	<p>It is important that the OP is aware of the targets and impact it may have on water quality.</p> <p>Marine water quality objectives have been set in the SEA.</p>
Legal Notice 23 of 2004, Quality of Water Intended for Human Consumption Regulations, 2004	The regulation addresses the quality of water intended for human consumption. It sets technical standards in relation to 48 parameters, which must be adhered to and monitored. The aim is to provide a sound basis for both consumers and suppliers of drinking water in the EU.	As above
Legal Notice 337 of 2001, Waste Management (Permit & Control) Regulations	<p>The EU's approach to waste is based on three principles:</p> <ol style="list-style-type: none"> 1. Waste prevention – reducing the amount of waste our economies produce – sustainable production and consumption; 2. Recycling and reuse – where waste reduction not possible, efforts should be made to recover and reuse waste; and 3. Improving final disposal and monitoring – landfill of waste should be used as a last resort, with safe incineration being favoured, but both these methods cause environmental damage and must be carefully monitored and regulated. EU waste legislation is broad in scope and complex due to the nature of waste management and waste streams, however, a hierarchy exists: <ul style="list-style-type: none"> • Framework: waste directive (Directive 75/442/EEC, amended by Directive 91/156/EEC, 	Waste management objectives are covered in the SEA.

Plan, Programme, Legislation	Description	Implications for OP
	<p>Directive;91/692/EEC and Commission Decision 96/530/EC) and Directive 91/689/EEC on hazardous waste;</p> <ul style="list-style-type: none"> • Waste management: Directive 99/31/EC on the landfill of waste, Directive 2000/76/EC on incineration of waste and Directive 2000/59/EC on port-reception facilities for ship-generated waste and cargo residues; and • Specific waste streams: separate directives exist for waste oils, titanium oxide, batteries and accumulators, packaging and packaging waste, and end of life vehicles. <p>Due to their relative importance to the SEA, we have reviewed the Framework Directive, and the Directive on the Landfill of Waste.</p>	
<p>Legal Notice 168 of 2002 - Waste Management (Landfill) Regulations, 2002</p>	<p>The Legal Notice sets out strict operational and technical requirements on waste and landfills, to provide for measures, procedures and guidance to prevent or reduce as far as possible negative effects on the environment. Particular focus is on the pollution of surface water, groundwater, soil and air, and on the global environment, including the greenhouse effect, as well as any resulting risk to human health, from landfilling of waste, during the whole life-cycle.</p>	<p>The OP should be aware of the negative environmental impact of waste.</p> <p>Waste management objectives are covered in the SEA.</p>