



EUROPE

# Environment and health performance review

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**Malta**

## ABSTRACT

This report describes and evaluates the current environment and health situation in Malta. It evaluates the strong and weak points of the national environmental and health status and presents recommendations from independent experts. The conclusions and recommendations are based on a detailed environment and health performance review carried out in the country. The review identified the most important environment and health problems, evaluated the public health impact of environmental exposure and reviewed the policy and institutional framework, taking into account the institutional set-up, the policy setting and legal framework, the degree and structural functioning of intersectoral collaboration and the available tools for action.

The WHO Regional Office for Europe developed this project to follow up the commitments made by Member States at the Fourth Ministerial Conference on Environment and Health in Budapest in June 2004 to reduce children's exposure to environmental hazards. The project was designed to provide the evidence base for developing and implementing such action. The environment and health performance reviews are country-based interdisciplinary assessments the WHO Regional Office for Europe carries out at the request of Member States. Through the environment and health performance reviews, Member States receive support in reforming and upgrading the overall public health system.

### Keywords

ENVIRONMENTAL HEALTH  
HEALTH STATUS INDICATORS  
PROGRAM EVALUATION  
HEALTH POLICY  
NATIONAL HEALTH PROGRAMS  
PUBLIC HEALTH ADMINISTRATION  
MALTA

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Cover design: Sven Lund  
Text editing: David Breuer  
Printed in Denmark by Panthera Design



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**Malta**



Department for  
Environmental Health



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## Abbreviations

BMI	body mass index
BTEX	benzene, toluene, ethyl benzene and xylenes
CH <sub>4</sub>	methane
CO <sub>2</sub>	carbon dioxide
DALY	disability-adjusted life-years
DOTS	the basic package that underpins the Stop TB Strategy
EHPR	environment and health performance review
ENHIS	European Environment and Health Information System
EU	European Union
EU15	15 countries in the EU before May 2004
GDP	gross domestic product
HELP	Healthy Eating Lifestyle Plan
HIV	human immunodeficiency virus
ILO	International Labour Organization
ISO	International Organization for Standardization
LPG	liquefied petroleum/propane gas
NEHAP	national environment and health action plan
NGO	nongovernmental organization
N <sub>2</sub> O	nitrous oxide
NO <sub>2</sub>	nitrogen dioxide
O <sub>3</sub>	ozone
OECD	Organisation for Economic Co-operation and Development
PM <sub>2.5</sub>	particulate matter with an aerodynamic diameter of less than 2.5 µm
PM <sub>10</sub>	particulate matter with an aerodynamic diameter of less than 10 µm
REACH	Registration, Evaluation, Authorization and Restriction of Chemical substances
SO <sub>2</sub>	sulfur dioxide
THE PEP	UNECE/WHO Transport, Health and Environment Pan-European Programme
UNECE	United Nations Economic Commission for Europe
UNICEF	United Nations Children's Fund
WHO	World Health Organization

## Foreword

The purpose of this report is to map and convey a clear picture of the current environment and health situation in Malta. It evaluates the strong and weak points of environmental and health status in Malta. It also presents recommendations from independent experts on the key areas that could be considered for improvement.

The process of preparing this environment and health performance review began in November 2008. The evaluation mission took place from 16 to 20 March 2009 in Malta. During this field visit, the team of two environment and health experts, Sonja Kahlmeier and Nathalie Röbbel, met 48 representatives from 18 institutions from various sectors involved in environment and health. Additional information was collected from national counterparts as needed while preparing the report. The national contributors are acknowledged at the beginning of this report. The cut-off date for the information summarized in this report is June 2009.

The environment and health performance review for Malta was carried out thanks to the support of the Department for Environmental Health of the Public Health Regulation Division, Ministry for Social Policy, Health, the Elderly and Community Care, under the supervision of John Attard Kingswell, Director, Department for Environmental Health. Special thanks are due to Karen Vincenti, National Focal Point for Environment and Health, who coordinated the visit and national workshop, provided background information and shared her valuable time. We are very grateful to all the national specialists and experts who shared with us their knowledge about environment and health issues in Malta.

We acknowledge Grant Agreement 2005156 from the European Commission, Directorate-General for Health and Consumers, for support in implementing this project and preparing this report.

This report is also integral part of the biennial collaborative agreement between the WHO Regional Office for Europe and the Government of Malta for 2008–2009 to support environment and health management.

Srdan Matic  
Unit Head, Noncommunicable Diseases and Environment  
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## Executive summary: main conclusions and recommendations

### Main conclusions

- The report shows that urban outdoor air pollution, lack of physical activity and nitrate concentrations in groundwater are the main health and environment concerns in Malta.
- Road traffic is of high national concern, contributing not only to air and noise pollution but also affecting the risk of road crashes and insufficient physical activity.
- The environment and health situation in Malta has improved overall in recent years, and many policies and priority measures have been adopted.
- Children and adolescents are recognized as a priority in environment and health and occupational health.
- Despite increasing recognition of disease prevention, the health sector still gives higher priority to health care.
- Environment and health remains a niche in political decision-making.
- The Department for Environmental Health of the Public Health Regulation Division within the Ministry for Social Policy, Health, the Elderly and Community Care is the main institution responsible for environment and health in Malta.
- The health sector is giving more priority to noncommunicable diseases.
- Many sectors, bodies and institutions cover environmental protection and management, the main institution being the Malta Environment & Planning Authority.
- Other sectors have taken many preventive activities on board: for example, the education sector is strongly emphasizing healthy nutrition, preventing injuries and, more recently, promoting physical activity.
- The Public Health Act only acknowledges environment and health to a limited extent, mainly focusing on infectious diseases.
- The National Environment and Health Action Plan (NEHAP) is the main policy instrument for environment and health.
- Malta has made significant progress in developing an intersectoral approach in environment and health policy-making.
- Health needs to be better integrated into environmental impact assessment procedures.
- Knowledge on environment and health and the availability of human resources in environment and health need to be improved.

### Recommendations

- The ongoing reform of the public transport system would be of further benefit by more strongly emphasizing healthy alternatives.
- A balance needs to be found between implementing the EU agenda and ensuring a focus on specific national priorities.
- More financial support for disease prevention and health promotion services is desirable.
- The Department for Environmental Health needs more human resources.
- The health sector should optimally always participate in environmental impact assessment.
- Physicians should be more involved in promoting action on disease prevention.
- The national capacity to apply for EU funds needs to be increased.
- The collaboration between the environment and the transport sectors should be more streamlined.

- The participation of NGOs in the decision-making process could be institutionalized further.
- Environment and health could be better addressed at the policy level.
- Policy documents should ideally be equipped with an appropriate implementation structure.
- A comprehensive health report mapping the health situation of Malta's population would be of great value.
- Progressive adoption by a designated institution of indicator-based analysis and reporting following the methods of the European Environment and Health Information System (ENHIS) is highly recommended.
- All data relevant to environment and health should be collected in one place.
- Research in environment and health requires better allocation of resources, including funding.

Environment and health is an inherently intersectoral task that requires effective collaboration between health and non-health authorities, such as those dealing with environment, transport, housing, social, economic and regional planning. The effectiveness of this collaboration is an essential prerequisite for successful environment and health services.

Environment and health issues are essentially intersectoral. Human health can only be protected from the risks posed by a hazardous or contaminated environment through the coordinated input of different sectors and greater capacity within the health sector to enlist the support of these actors in developing a high level of targeted activities while ensuring consistency and synergy with other relevant commitments made by countries. Through a detailed environment and health performance review, the WHO Regional Office for Europe provides a country-based analytical description of the environment and health situation in Malta. The major areas of this strategic analysis are the institutional set-up, the policy setting and legal framework, the level and structural functioning of intersectoral collaboration and the tools available for action. This interdisciplinary assessment objectively examines the relevant policy and institutional framework and gives guidance for strengthening environment and health policy-making, planning preventive interventions, ensuring service delivery and conducting surveillance in environment and health.

The main causes of death in Malta are cardiovascular diseases and cancer, followed by respiratory diseases, external causes and endocrine diseases. Life expectancy in Malta is high, but death rates from some causes are higher than the EU average in some age groups.

The leading causes of death from unintentional injuries are falls followed by road traffic injuries, poisoning, drowning and fires. In addition, Malta has an increasing prevalence of overweight and obesity, the highest in the WHO European Region. Malta has registered an increased prevalence of childhood asthma in recent years.

Urban outdoor air pollution, road traffic injuries and unintentional injuries are the main health and environment concerns in Malta. Nitrate concentrations in groundwater appear to be another concern, but drinking-water at the point of use reaches the required standards. These environment and health priorities match the main complaints and concerns of the interviewed professionals dealing with environment and health issues. Local councils often discuss air pollution, and the public and the mass media often address the challenges of waste.

The national average concentrations of sulfur dioxide and nitrogen dioxide are below the EU annual threshold values, but the concentrations of particulate matter with an aerodynamic diameter of less than 10 µm (PM<sub>10</sub>) and ozone are still high. Power stations use low-sulfur fuels, but electricity generation still largely requires the combustion of fossil fuels, contributing significantly to air pollution. The asthma prevalence in Malta is above the European Region average. The introduction of lead replacement petrol has reduced the concentrations of benzene and lead in outdoor air.

Road traffic is an important national concern, contributing not only to air and noise pollution but also causing road crashes and leading to insufficient physical activity. Both children and adults in Malta engage in less physical activity than the European Region average.

A high percentage of Malta's population has access to an improved water supply at home (both in urban and rural areas), and most schools have access to a continuous safe drinking-water supply. Microbiological parameters for drinking-water meet all requirements. Nitrates are still present in groundwater. In 2006 and 2007, nitrate concentrations exceeded EU standards in 9 of 13 pumping stations used by the Water Services Corporation; the highest values reported reached 161 mg/l.

Rainwater has not yet been fully exploited as an alternative water source for toilet flushing and other uses to prevent the scarcity of drinking-water in Malta.

WHO estimates that the environmental burden of disease in Malta is 14% of the total burden. However, the environment and health situation in Malta has improved overall in recent years, and many policies and priority measures have been adopted, many of them in relation to EU membership in 2004. For example, air quality and wastewater management have improved, compliance with mandatory requirements for bathing water quality in coastal zones improved considerably between 2005 and 2007, road traffic injuries have increasingly been recognized as a national priority and more efforts have been made to promote healthy nutrition and physical activity, although the promotion of physical activity (including cycling and walking) should be scaled up further.

Children and adolescents are recognized as a priority in environment and health and occupational health. In general policy terms, children seem to be recognized as an important part of the family.

Although disease prevention is being increasingly emphasized, the health sector is still giving priority to health care. This increased emphasis on preventing disease is reflected in an increased budget allocation for specific topics, such as climate change, air quality and transport-related activities. Further, in 2008 the Department for Environmental Health was created, comprising about 250 staff, including administrative and laboratory personnel. Environment and health still remains a niche in the political decision-making processes. Society is increasingly recognizing the environment and environmental protection as being important, but the health costs due to environmental exposure are still not sufficiently recognized as an interdependent factor.

A recurrent problem mentioned by many professionals in environment and health is the difficulty in setting national priorities while focusing on implementing EU policies as part of fulfilling EU requirements. A balance is needed between implementing the EU agenda while ensuring a focus on specific national priorities.

The creation of the Department for Environmental Health has contributed positively to improving the positioning and visibility of environment and health concerns, but it still lacks human and financial resources. The health sector is giving higher priority to noncommunicable diseases. A focus on noncommunicable diseases is now an integral part of health promotion, addressing not only nutrition but increasingly also physical activity.

The Malta Environment & Planning Authority has the main responsibility for environmental protection and management, but many sectors, bodies and institutions cover the environment in practice. Improved coordination between the various sectors, such as between environment and transport and regarding climate change, would optimize the synergy between sectors. The number of staff working on environmental management within Malta Environment & Planning Authority is low and needs to be increased. Various expert reports on institutional capacity support this claim.

Other sectors have taken many preventive activities on board: for example, the education sector is strongly emphasizing healthy nutrition and preventing injuries and, more recently, the promotion of physical activity.

Municipalities are often responsible for implementing environment and health measures but lack the necessary money for implementing them. Malta has many environmental nongovernmental organizations (NGOs) but only one association dealing with environment and health. The involvement of NGOs in public consultation processes has increased in recent years, and youth involvement and participation in issues of public concern are being steadily improved and promoted.

From a policy perspective, the Public Health Act only acknowledges environment and health to a limited extent, mainly focusing on infectious diseases. However, a strategy on noncommunicable diseases is being developed, showing a good approach for improving the coverage of lifestyle factors closely linked to the environment. The main policy instrument for environment and health is the NEHAP, which has been an influential tool for formulating and sharing responsibilities in environment and health. Nevertheless, the Ministry for Social Policy, Health, the Elderly and Community Care only recently formally approved the current NEHAP 2006–2010.

Malta has ratified many multilateral environmental agreements, but EU and multilateral legislation and agreements do not always provide guidance on how to achieve the targets set.

All strategies drafted by an institution must undergo public consultation involving all sectors and ministries, with a high degree of transparency and interministerial collaboration. Nevertheless, the good intersectoral collaboration between the sectors often relies on good personal contacts and varies between sectors, unless intersectoral collaboration is covered by a mandatory process, such as strategic environmental assessment. Overall, the development and approval of policies and strategies takes too long, and policy evaluation is also generally lacking.

Malta has also progressed well in compiling data and information that enable the environment and health situation to be assessed. Air quality and water monitoring data are available in real time on the web. Many data are collected, but the collection and collation mechanisms and procedures need to be standardized. One area to address is the lack of a regular report on the health situation in Malta; an annual booklet is published on selected

indicators on the state of the environment, including some relevant to environment and health, and a report on the state of the environment is published every three years.

Environment and health needs to be better integrated into environmental impact assessment procedures. Little formal training on environmental impact assessment is available in Malta, and health impact assessment is not sufficiently covered at the policy level.

Finally, knowledge on environment and health and the availability of human resources in environment and health need to be improved. Physicians need to more strongly acknowledge environment and health.

In conclusion, the environment and health performance review showed that Malta is increasingly targeting health risks related to the environment through numerous preventive approaches and that the overall environment and health situation in the country has improved in recent years. However, environment and health policy-making needs to be further institutionalized and a more integrated and coordinated policy approach involving all relevant sectors needs to be ensured. In some areas, monitoring can be further improved, and policy evaluation needs to be strengthened.



## 1. Introduction

### **The main objectives of the environment and health performance reviews (EHPR) are:**

- to assist Member States in developing a national institutional framework that will enable national action plans that address children's health and environment to be drafted;
- to provide a country-based analytical description of the environment and health situation; and
- to determine whether health policies are well designed to prevent ill health caused by environmental determinants.

### Background

The Tallinn Charter: Health Systems for Health and Wealth (1) stated:

Preventing disease and injury is at the heart of public health and health systems. Within the political and institutional framework of each country, a health system is the ensemble of all public and private organizations, institutions and resources mandated to improve, maintain and restore health. Health systems encompass both personal and population services, as well as activities to influence the policies and actions of other sectors to address the social, environmental and economic determinants of health.

The environment is responsible for as much as 20% of the total burden of disease (2,3).

Environment and health comprises the aspects of human health and disease that are determined by factors in the environment. It also refers to the theory and practice of assessing and controlling factors in the environment that can potentially affect health. According to the definition used by the WHO Regional Office for Europe, environment and health includes both the direct pathological effects of chemicals, radiation and some biological agents and the effects (often indirect) on health and well-being of the broad physical, psychological, social and aesthetic environment (4). In this report, the relationship between environment and health covers all human health issues that are related to environmental factors and all environmental factors that may (possibly) affect health (either negatively or positively).

In 1989, the WHO Regional Office for Europe launched the Environment and Health Process through a series of ministerial conferences, with the aim of eliminating the most significant environmental threats to health as rapidly as possible, based on the premise that prevention is better than cure.

Environment and health issues are essentially intersectoral, and human health can only be protected from the risks posed by a hazardous or contaminated environment through the coordinated input of different sectors and greater capacity on the part of the health sector to enlist the support of these actors to develop a high level of targeted activities and to ensure consistency and synergy with other relevant commitments made by Member States (5,6).<sup>1</sup>

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<sup>1</sup> The Budapest Declaration (6):

- recognizes “the relevance of national environment and health action plans (NEHAPs) ... and commends the continuing efforts to implement and evaluate them” (paragraph 6);

The importance of coordinated input from different sectors was recognized by the ministers attending the Second Ministerial Conference on Environment and Health in Helsinki (7) and endorsed in the commitments of the Environment and Health Action Plan for Europe. This plan called for the development of national environment and health action plans (NEHAPs). The theme of the Third Ministerial Conference on Environment and Health held in London in 1999, Action in Partnership (8), continued to promote this key message and relevant commitments. Following the Fourth Ministerial Conference on Environment and Health in Budapest in June 2004, the Member States refined their action plans to addressing vulnerable populations, especially children, and committed to reducing children's exposure to environmental hazards. Countries are now seeking support for implementation work. To provide assistance to Member States, the WHO Regional Office for Europe ensured implementation of a project funded by the European Commission that would provide the evidence base for developing and implementing such actions.

## Objectives

Through detailed EHPRs, the WHO Regional Office for Europe provides country-based analytical descriptions of the environment and health situation in Member States. The major areas of this strategic analysis are the institutional set-up, the policy setting and legal framework, the level and structural functioning of intersectoral collaboration and the available tools for action. This interdisciplinary assessment objectively examines the relevant policy and institutional framework and gives guidance for strengthening environment and health policy-making, planning preventive interventions, ensuring service delivery and conducting surveillance in environment and health. The most important environment and health problems in the country are identified and the public health impact of environmental exposure is assessed. The national performance review is conceived as an integral part of the planning and management of environment and health services and is performed at the request of the Member State concerned.

## The process of the EHPRs

The EHPRs are based on the programme of environmental performance reviews launched in 1991 by the Organisation for Economic Co-operation and Development (OECD) to help OECD member countries improve their individual and collective performance in environmental management. The programme was mandated to the United Nations Economic Commission for Europe (UNECE) in 1993 to ensure coverage of the whole region of Europe (9,10). In the period 1997–2004, the WHO Regional Office for Europe contributed to the environmental performance reviews, providing a review of the health aspects related to the environment.

Since the environmental performance reviews focus on environmental management, the Regional Office recognized the benefits of such country-specific tools and expanded the

- 
- calls on organizations to establish mechanisms “for coordinating technical and financial assistance to the newly independent states and countries of south-eastern Europe, in order to stimulate legislative and institutional reforms, strengthen countries’ capacities and effectively reduce exposures to environmental hazards and their health impacts” (paragraph 20c); and
  - invites the WHO Regional Office for Europe “to support the initiative of the newly independent states and some countries of south-eastern Europe to reform and upgrade their sanitary/epidemiological services and set up public health systems” (paragraph 20d).

methods to better explore the relationship between human health and the environment and between the environment and health policy management (11–13).

The EHPRs are in accordance with and draw on the national profiles of children's health and environment developed by WHO headquarters (14) and are strongly linked to ongoing Regional Office environment and health programmes. The European Environment and Health Information System (ENHIS) records information on national implementation and hence progress in achieving targets set through international action programmes (15).

ENHIS provides reliable and standardized information about the health status of children, its determinants and its trends. It uses internationally available data sources and monitors and evaluates the effectiveness of policies. ENHIS is a standardized approach within the EHPRs to analyse the situation from the perspective of the entire WHO European Region. The analysis is then further complemented by the information gathered in the review process.

As in the case of ENHIS, the EHPRs focus on the risk factors that most affect the health of children in the European Region. At the Fourth Ministerial Conference on Environment and Health in 2004, ministers agreed to give priority to four regional priority goals for Europe (5):

- regional priority goal 1: prevent and significantly reduce the morbidity and mortality arising from gastrointestinal disorders and other health effects, by ensuring that adequate measures are taken to improve access to safe and affordable water and adequate sanitation for all children;
- regional priority goal 2: prevent and substantially reduce health consequences from accidents and injuries and pursue a decrease in morbidity from lack of adequate physical activity, by promoting safe, secure and supportive human settlements for all children;
- regional priority goal 3: prevent and reduce respiratory disease due to outdoor and indoor air pollution, thereby contributing to a reduction in the frequency of asthmatic attacks, to ensure that children can live in an environment with clean air; and
- regional priority goal 4: reduce the risk of disease and disability arising from exposure to hazardous chemicals (such as heavy metals), physical agents (such as excessive noise) and biological agents and to hazardous working environments during pregnancy, childhood and adolescence.

The European Commission enables EHPRs to be implemented through its Directorate-General for Health and Consumers. In support of the European environment and health process, the European Commission identified the need to develop and strengthen policy actions to reduce the risk of disease and disability arising from agents in the environment in Europe and is co-funding this activity of the WHO Regional Office for Europe.

## Methods

A team of WHO technical experts carries out each EHPR at the request of the health ministry of the country concerned or the responsible national authority for health. It takes the form of semistructured interviews with national technical representatives and policy-makers.

The EHPR is made up of the steps described below.

1. The standardized methods for the review developed at the beginning of the process are applied to all Member States.
2. Consultations are held with the head of the WHO country office and assistance and advice are sought on timing and the personnel involved.
3. Prior consultations are held with the environment and health focal point or project counterpart within the Member State.
4. Relevant policies, information, evidence and data are collected and analysed; and the national counterpart organizes the WHO field visit.
5. The field trip by the WHO technical team to the country takes place; interviews are conducted with preselected representatives of various sectors and institutions.
6. A draft report is compiled, summarizing the information collected during the field visit.
7. A final report with recommendations for action is submitted back to the counterpart, the head of the WHO country office and interviewees.
8. The final conclusions are presented to policy-makers at a national workshop.

All the EHPR final reports will be collated into a single report to be presented at the WHO Fifth Ministerial Conference on Environment and Health to be held in Parma, Italy in 2010.

## Structure of the report

The status of the environment and health situation in Malta summarized in this report reflects the situation in the first decade of the 21st century and can be considered as a national baseline analysis after the commitments taken at the Fourth Ministerial Conference on Environment and Health in Budapest in 2004. The cut-off date for the information and data summarized is June 2009.

The report has six chapters. The first two chapters describe the health characteristics of Malta's population and the major environment and health risks in Malta. Chapters 3–6 describe the institutional set-up in environment and health, the legal framework under which environment and health policy is implemented, the functioning of intersectoral collaboration mechanisms and the tools available for the operation of environment and health services (monitoring, environmental health impact assessment, capacity-building and communication). Recommendations are formulated based on the assessment and are presented at the beginning of each chapter.

The report focuses on the health system review and emphasizes the stewardship function of the health sector in environment and health.

## 2. Health priorities

### Conclusions

- Cardiovascular diseases are the main causes of death in Malta, followed by cancer, respiratory diseases and external causes of death. The death rates from some causes are higher than the European Union (EU) average in some age groups.
- The proportion of Malta's population that is overweight and obese is steadily increasing and is the highest in Europe.
- The leading causes of death from unintentional injuries are falls, followed by road traffic injuries, poisoning, drowning and fires.
- An increased prevalence of childhood asthma has been registered in Malta.
- The WHO estimate of the environmental burden of disease for Malta is 14%.

The life expectancy at birth in Malta in 2007 was 80 years, an increase from 76 years in 1990. In 2007, the gap between the life expectancy for men (77.6 years) and women (82.3 years) was 4.7 years (16).

Infant mortality has fallen steadily in recent years: the WHO Health for All (16) database shows a decline from 9.5 in 1990 to 6.4 in 2007 (Table 1). However, infant mortality in Malta is still considerably higher than the EU average of 4.6 in 2007. Since abortion is illegal in Malta, this figure includes deaths due to congenital anomalies. The figure also includes all infant deaths after 22 weeks of gestation or birth weight less than 500 grams, whereas other European countries use less than 24 weeks of gestation or less than 1000 grams.

Table 1. Infant mortality (deaths per 1000 live births) in Malta and EU average, 1970–2007

	1970	1980	1990	2007
Malta	27.7	15.5	9.5	6.4
EU average	–	143	9.9	4.6

Source: WHO Health for All database (16).

In 2007, diseases of the circulatory system (cardiovascular diseases) were the main cause of death, followed by malignant neoplasms (cancer), respiratory diseases and external causes of death (Table 2) (17).

Table 2. Major causes of death in Malta, 2007

Diseases of the circulatory system	41%
Malignant neoplasms (cancer)	27%
Respiratory diseases	9%
External causes	5%

Source: Malta annual mortality report 2007 (17).

Mortality from cardiovascular disease has decreased both in Malta and in the EurA<sup>2</sup> countries since 1980, in particular among people younger than 45 years old, and the current

<sup>2</sup> WHO designates EurA countries as the reference group of 27 countries with very low child mortality and very low adult mortality. EurA comprises Andorra, Austria, Belgium, Croatia, Cyprus, the Czech Republic, Denmark, Germany, Greece, Finland, France, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco,

rates in Malta are lower than the EurA average. However, among people 45–59 years old, the decline has stagnated since the mid-1990s, and the current rates are at the EurA average for men and above it for women. For people older than 60 years, the death rate is declining, but Malta’s population has a higher rate than EurA populations in general (18).

Ischaemic heart disease is the single biggest killer in Malta, causing 21% of total deaths in 2007. Men and women older than 30 years in Malta have a higher risk of dying from it than the EurA average, and even though the rates in Malta are decreasing, this unfavourable excess mortality remains. Deaths from cerebrovascular diseases are also declining. Malta has a lower death rate than the EurA average among people younger than 60 years but a higher rate among those older than 60 years.

Cancer causes more than one fifth of all deaths in Malta. In general, Malta’s rates are falling and are below the EurA average. The exceptions are people aged 15–29 years and women aged 60–74 years; increasing trends for both groups have already surpassed the declining EurA averages.

The risks of dying from cancers of the lip, oesophagus, stomach, colon and rectum, bladder, lymphoid and haematopoietic tissue and prostate are decreasing in Malta, and the current rates are similar to or lower than the EurA averages. The mortality rates for liver and skin cancer are also below the EurA average but are increasing.

The death rates for cancer of the pancreas, cervix and ovaries have stagnated or even increased in Malta, and the current rates remain higher than the EurA average. The death rates for breast cancer and cancer of the uterus are also above the average, although declining and approaching the EurA average.

Developments in all these types of cancer have affected death rates among older women, especially those 60–74 years old. Trends in mortality from cancer of the larynx, trachea, bronchus and lung differ for men and women. For both sexes, Malta’s rates are below the EurA average, but the male rate is decreasing and the female rate is increasing in accordance with previous trends in smoking.

Table 3. Standardized death rate per 100 000 population, all ages, 2005 or latest available year

Cause of injury	Malta	WHO European Region	European Union (EU 27)
Road traffic injuries	4.5	13.9	10
Fires and burns	0.4	2.6	0.8
Poisoning	2.2	12	2.2
Drowning and submersion	0.9	3.8	1.4
Falls	8.4	6.5	6.5

Source: *Progress in the prevention of injuries in the WHO European Region – Malta (19)*.

As mentioned above, injuries are the fourth commonest cause of death in Malta. Rates for all injuries, both intentional and unintentional, are lower than the European Region average and are about half the EU average (Table 3). Mortality due to external causes halved in Malta between the mid-1980s and the mid-1990s but increased again from the mid-1990s

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the Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

and is now again declining. The leading causes of unintentional injuries are falls, followed by road traffic injuries, poisoning, drowning and fires. Although death rates due to falls are higher than those of the European Region and the EU, mortality from road traffic injuries is clearly lower than both these averages (16).

According to the latest figures published by Malta's Occupational Health and Safety Authority, between October and December 2008 no fatalities at work were reported (compared to three fatalities in the same period of 2007). However, 820 people had an accident during work between October and December 2008. This figure refers to all claims by injured people under the Social Security Act and includes claims for less than three days of injury benefit. The number of accidents decreased by 17.5% from the fourth quarter of 2007 to the fourth quarter of 2008. Many of the accidents at work occurred in the economic sectors of manufacturing, construction, transport, storage and communication. In the period under review, 47% of the accidents at work involved people younger than 35 years of age (20). Data on accidents at work have to be interpreted with caution, as employees could underreport work accidents if they fear losing their employment or could overreport them to claim benefits.

Similar to other countries in the European Region, overweight and obesity remain major public health concerns in Malta. The proportion of overweight residents (body mass index (BMI) 25.0–29.9) has been increasing in recent years. In 2005/2006, 31% of the girls and 31% of the boys aged 13 years and 28% of girls and 32% of boys aged 15 years were reported to be overweight or obese. The proportion of overweight and obese adolescents had increased since 2001/2002 in both age categories and for both girls and boys (except for 13-year-old boys) (21). Malta has the highest prevalence of overweight and obesity among children in the WHO European Region.

According to the national Health Interview Survey in 2002, 40% of men and 29% of women were overweight (BMI  $\geq 25$ ) and 25% of men and 21% of women were obese (BMI  $\geq 30$ ) (22).<sup>3</sup> In 2008, 45% of men and 28% of women were overweight, and 24% of men and 21% of women were obese.

Data on physical activity are also lacking, but the few available sources suggest that the prevalence of regular physical activity could be very low for most of the population. This would contribute to the burden from obesity, heart disease and other related risks, including hypertension, diabetes and cancer. The environmental situation relating to access to physical activity in Malta remains an important issue in addition to the inherent cultural and educational factors.

Leukaemia is the most frequent type of cancer among children in high-income countries. It is a subject of considerable public concern, especially in the areas perceived as having an excessively high incidence of leukaemia and in relation to putative environmental causes such as radiation and chemicals. In Malta, the standardized annual death rate from leukaemia is 45 per million children younger than 15 years, above the European Region average (23). The results from the International Study on Asthma and Allergies in Children show a clear increase in the prevalence of asthma among children 5–8 years old in Malta from 7% in 1994 to 15% in 2001.

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<sup>3</sup> These are the national, uncorrected figures covering a population older than 16 years of age. The adjusted figures to allow comparison with other countries are quite different for pre-obese.



Malta has a low incidence of tuberculosis as a result of good surveillance and control strategies. However, people from countries in which tuberculosis is endemic migrating to Malta represent an at-risk population that requires attention.

WHO estimates that the environmental burden of disease in Malta is 14% of the total burden. In accordance with this, Malta's profile of the environmental burden of disease is characterized by a major burden of cardiovascular diseases and unintentional injuries (24).

### 3. Environment and health priorities

#### Conclusions

- Malta has practically 100% household supply with potable water in both urban and rural areas, and all schools have access to a continuous safe drinking-water supply. More than 98% of households are connected to public sewerage; the rest are provided with cesspit emptying facilities.
- Potable water supply is in accordance with EU standards. However, some drinking-water sources have high levels of nitrate and chloride.
- The microbiological parameters of drinking-water meet all requirements.
- Rainwater is not fully exploited as an alternative water source for secondary uses such as flushing etc.
- Compliance with mandatory requirements for bathing water quality in coastal zones improved considerably between 2005 and 2007.
- The number of motor vehicles per person remains very high, leading to road crashes, air pollution, noise and insufficient physical activity.
- Road traffic injuries have increasingly been recognized as a national priority, but deaths from road traffic injuries are still a major public health concern.
- Both children and adults in Malta engage in less physical activity than the European Region average. Many efforts are being made to promote physical activity and healthy diet and nutrition for preventing obesity.
- Concentrations of particulate matter with an aerodynamic diameter of less than 10  $\mu\text{m}$  ( $\text{PM}_{10}$ ) and ozone ( $\text{O}_3$ ) are still high, but concentrations of sulfur dioxide ( $\text{SO}_2$ ) and nitrogen dioxide ( $\text{NO}_2$ ) are below the EU annual threshold values.
- Electricity generation largely requires the combustion of fossil fuels, contributing significantly to air pollution and the emission of greenhouse gases. However, power stations began to use low-sulfur fuels in 2003.
- The introduction of lead replacement petrol reduced the concentrations of benzene and lead in air.
- Waste dumping sites not equipped with any control system such as gas management systems have been shut down.
- Implementation of actions to reduce the exposure of the population to ultraviolet radiation in Malta is high.
- Many efforts are being made to improve food safety. Most of the related illnesses are of foodborne origin rather than waterborne origin.
- Road traffic is the main contributor to noise pollution.
- Children and adolescents are recognized as a priority in environment and health and occupational health.
- Although the public and government institutions increasingly recognize that disease prevention and health promotion should be in focus, the actual focus is still on health care.
- Environment and health remains a niche in the political decision-making process.

#### Recommendations

- Promotion of the capture and use of water captured in rainwater cisterns for specific appliances (such as toilet flushing) is to be encouraged further and accompanied by adequate information on safety risks and the health protection measures to be followed.

- As laying a secondary water network to supply households is not economically feasible, it is recommended that increasing water catchments for agriculture and groundwater recharge be further considered.
- Further investment should be made to control and reduce the use of nitrate through awareness-raising campaigns for farmers and regular monitoring of the use of fertilizers.
- Water safety plans should include the design and enforcement of protection zones to avoid groundwater being contaminated from agricultural contaminants such as nitrate.
- Concerted efforts are needed for preventing obesity comprising both diet and nutrition and increased physical activity. Further efforts are required to increase physical activity at school, at leisure and in transport (walking and cycling).
- The ongoing reform of the public transport system is commendable and could consider emphasizing healthy alternatives, such as rental services for electric bikes that can be used in hilly areas.
- The plan of government institutions using electric cars should be further developed and adopted as soon as possible.
- The Department for Health Promotion and Disease Prevention could further strengthen the prevention of home and leisure injuries.
- Workers working at construction sites need to be better training and informed to prevent falls.
- An indoor air quality survey following up on those done in 2001 and 2003 is of utmost importance for analysing trends in indoor air pollution in schools. Funds should be found for this survey.
- More prevention campaigns are needed in occupational health, such as on falls at workplaces.
- More and improved specialist training in occupational health is needed.
- Noise prevention (ambient noise and residential noise) should be scaled up both from the health and the environment side.
- A better balance could be sought between implementing the EU agenda and ensuring a focus on specific national priorities. Exchange between other small-island countries or small EU countries could be beneficial.
- A report summarizing the results of a public health survey assessing and describing the public health situation in Malta including environment and health would be beneficial to better map public health priorities and concerns.
- Health promotion and disease prevention require more financial support.

The following chapter describes the most relevant environment and health priorities for Malta. With the support of the European Commission and in collaboration with partners from 18 Member States, including Malta, the WHO Regional Office for Europe has developed ENHIS (25), which has enhanced the availability and comparability of information on environment and health across the Region.

The system focuses on the health issues identified in the Children's Environment and Health Action Plan for Europe as priorities for pan-European action, particularly its four regional priority goals. The information covers health issues related to the environment, environmental issues affecting children's health and actions aimed at reducing or preventing health risks (25,26).

## Access to safe and affordable water and adequate sanitation

Access to a regular, clean and safe drinking-water supply, to wastewater treatment and sanitation and to safe bathing water are essential factors in public health.

Malta has an improved supply of safe water in both urban and rural areas. According to the official data reported by Malta to the WHO/UNICEF joint monitoring programme and used in the ENHIS fact sheet, 96% of the population in rural areas had access to an improved water supply in the home in 2004.

All schools (100%) have access to a continuous safe drinking-water supply (tap water).

All schools and child-care institutions have access to:

- a continuous sanitation infrastructure
- a sanitation system with uninterrupted access to water
- soap for children
- toilet paper for children
- regular collection and removal of solid refuse
- separate toilets for boys and girls
- basic personal hygiene on the curriculum.

On a Mediterranean island with an average annual rainfall of only 578 mm and with rain rarely falling during the summer months, the availability of potable water has always been a challenge. The biggest consumer of water is agriculture (38%). Malta's drinking-water production is based on about 45% groundwater (coming mainly from a freshwater bubble floating in sea water) and 55% reverse-osmosis desalinated water, from coastal waters.

Local legislation requires every building to have a rainwater cistern. The domestic sector has not yet fully exploited rainwater for secondary uses. Although the use of rainwater should be promoted further, this should be complemented by educational campaigns for the general public on the health risks and limitations of using rainwater.

Drinking water in Malta is mainly regulated through local legislation transposing the EU drinking-water directive. The national water legislation originally transposing the EU drinking-water directive had to be amended in 2008, as the first transposition only referred to potable water, whereas the EU legislation was referring to all water.

The Water Services Corporation is responsible for providing drinking-water in Malta. The main parameters of concern monitored in drinking-water are nitrate and chloride.

High-quality desalinated water is mixed with groundwater to meet EU drinking-water quality standards. In 2005 and 2006, nitrate levels exceeded EU standards in 9 of 13 pumping stations used by the Water Services Corporation; the highest values reported reached 168 mg/l (27).

Nitrate in drinking-water predominantly originates from the use of fertilizer in agriculture leaching into the groundwater. Soil cover in Malta is relatively thin and poor in organic content. Further, Malta has no naturally occurring formations that contribute towards nitrate content in groundwater. Thus, nitrate contamination in groundwater is largely

attributed to anthropogenic activities, such as agricultural practices through applying nitrogenous fertilizers on arable land, contamination from human or animal wastes and refuse dump runoff. The properties of the underlying strata affect the movement of these pollutants below the surface. The nitrate concentration varies seasonally and by location, with maximum concentrations corresponding to the rainy season (October to March) as a result of the leaching of nitrates in the unsaturated zone. The responses are more direct in the perched aquifers because of the karstic nature of the upper coralline limestone than in the sea-level aquifers, where changes are more subdued.

The reduced use of fertilizer with a high concentration of nitrate under the supervision of the Malta Resources Authority and the implementation of the EU Nitrate Directive 91/676/EEC will reduce nitrate in groundwater. However, the current efforts need to be sustained and possibly increased to further reduce nitrate concentrations in groundwater. Another possibility is further supporting increases in the very low level of organic farming (27).

Groundwater in Malta has generally high concentrations of chloride as a result of the hydrogeological characteristics of groundwater, high competition for available resources and excessive extraction of groundwater and subsequent seawater intrusion. Generally, chloride concentrations in the perched aquifers are significantly lower than the mean sea-level aquifer, and these lower values result from the topographical nature by which the aquifer is largely protected from seawater intrusion. However, relatively higher chloride concentrations have occasionally been registered, especially at two pumping stations (Bingemma and Mizieb). These are attributed to periods of increased extraction followed by seawater intrusion, as the top of the confining clay layer at these stations lies below the mean sea level (28).

Chloride and sodium concentrations in drinking-water have been reduced, but this still requires further improvement. Analysis of pesticides in groundwater has shown that 98% of the samples were free of pesticides.

Microbiological parameters in drinking-water supply systems in Malta have constantly met the requirements, and no waterborne disease outbreaks have been reported in recent years.

The national microbial failure rate of the water supply system (based on *Escherichia coli*) is below 1%. Foodborne diseases are not generally related to water quality. However, contamination could occur due to poor cleaning of ice machines or through the use of non-potable water for food and ice production.

The reverse-osmosis plant is the main consumer of electricity in Malta. However, the plant's proportion of total electricity consumption has been reduced from 20% to 4%. The Water Services Corporation has recently modernized and improved the energy management of the reverse-osmosis plants and water quality by replacing membranes with financial support from the EU.

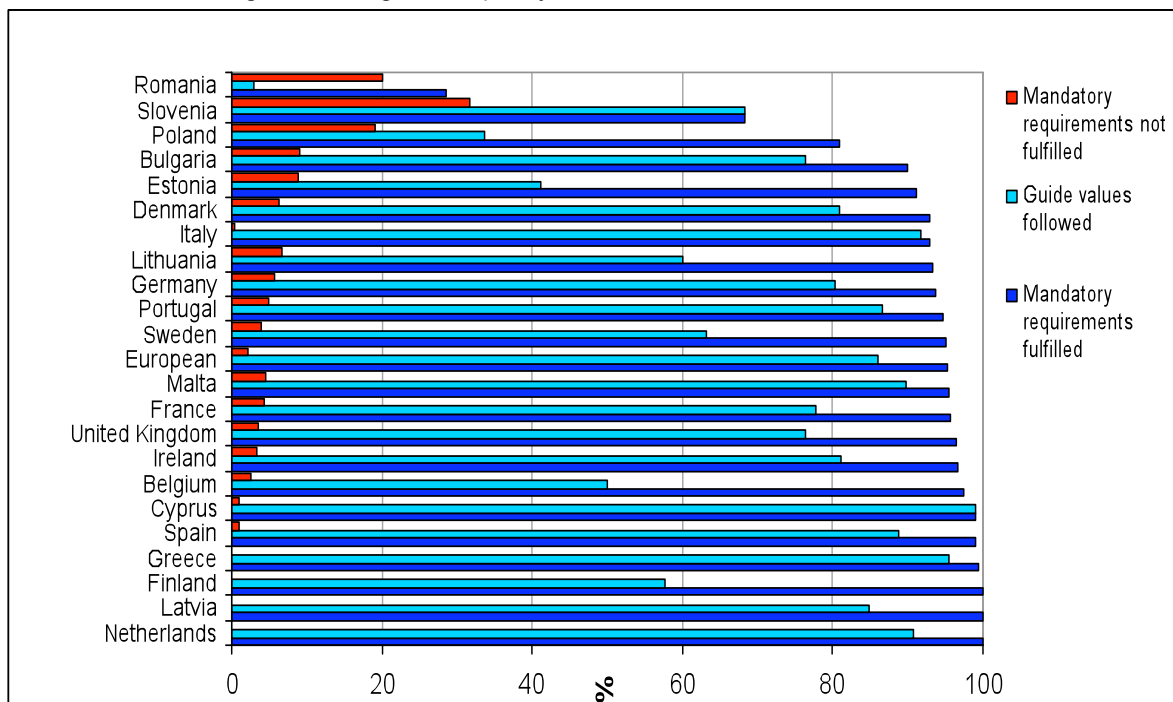
Malta is almost totally served by a sewerage system. In remote places, the Water Services Corporation collects sewage from communal cesspits that are not connected to the sewerage network. This service is free of charge. Moreover, the plan covering the end-of-pipe sewage treatment, the Sewerage Master Plan for Malta and Gozo (1992), is being implemented. By 2010, the completion of the third and largest sewage treatment plant will enable all wastewater to be treated before discharge into the seas. The plan serves as a guide for infrastructure development related to recycling, reuse and treatment of

wastewater. Improvements have already been registered, with 98% of Malta's beaches certified as Class 1 under the Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona Convention) during 2004.

The percentage of the population connected to wastewater treatment facilities was only 13% in 2001, the lowest in the WHO European Region. In the meantime, however, two wastewater treatment facilities have been constructed and commissioned, one in Gozo and the other in northern Malta. The third and largest treatment plant at Ta' Barkat is being constructed.

High bathing water quality is crucial for public health and the environment, and the EU Bathing Water Directive and the Barcelona Convention have set quality standards. The related EU targets are for all bathing waters to comply with mandatory values in the Bathing Water Directive and to increase the quantity of bathing waters complying with guide values in the Directive (Fig. 1).

Fig. 1. Bathing water quality for coastal zones in the EU, 2007



Source: *Bathing water quality (29)*.

In 2005, only 40% of the coastal zones complied with the mandatory requirements set by the EU. However in 2007, compliance with EU mandatory standards reached 95%, and compliance with the more stringent guide values increased from 84% to 90%. In 2007, most of Malta's bathing water sites continued to be classified as Class 1 or 2 under the Barcelona Convention, and two sites were classified as Class 3. Both Class 1 and Class 2 sites comply with the Barcelona Convention, since while Class 2 sites comply with mandatory criteria, Class 1 sites fulfil additional non-mandatory standards.

In 2008, five health warnings were issued due to contamination by faecal coliforms. After remedial work on the sewage network causing the contamination, the Department for Environmental Health monitored water quality at the affected sites daily. In these cases, beaches can open again only if the quality has been ensured for three consecutive days.

## Reducing the health effects of accidents and injuries and enhancing physical activity

As mentioned in the previous chapter, unintentional injuries are a leading cause of morbidity and mortality among children and adolescents in the Region. Malta's mortality rate due to road traffic injuries is lower than in other countries in the European Region, but this is the second most important cause of fatal accidents.

With about two motor vehicles for every three residents in Malta, the number is high, with negative effects on human health, the environment and the economy due to increased road crashes but also pollution, congestion, lack of active transport, loss of natural areas, increased land take-up and increased generation of waste. The number of registered motor vehicles increased by 3% between 2006 and 2007 (27).

The ENHIS analysis shows that the high numbers of unintentional injuries and road traffic injuries are increasingly being recognized as a priority at national level. ENHIS has formulated an indicator used for monitoring the implementation of 10 policies aimed at preventing road traffic injuries among children and young people.

The indicator reveals that Malta is within the range of countries with the highest commitment towards preventing road traffic injuries. Malta shows high commitment in preventing other injuries as shown by another indicator developed for ENHIS (based on 12 national policies). However, a specific assessment undertaken by WHO on the effectiveness of interventions aiming at reducing unintentional injuries shows that Malta has no formal consolidated national policy for preventing injuries. Malta reported having implemented 45% of 69 interventions (19). Although ENHIS shows high commitment, the specific assessment shows areas that need increased investment, both in policy and interventions.

The Ministry of Education, Culture, Youth and Sport has initiated an intensive educational programme on both home and sea safety among schoolchildren aged 9–15 years. The programme covers more than 20 000 students. Parents and teaching staff are attending lectures on strategies for improving home safety. The sea safety campaign is being carried out in collaboration with the Malta Maritime Authority. Safety events have taken place in several schools in collaboration with safety or rescue providers. These events provide information to parents on how to assess risks in their homes and make them a safer place for them and their children (30). The programme has been shown to increase knowledge, but the impact has not yet been sufficiently evaluated.

A safe environment that encourages personal mobility and physical exercise is important for health and preventing obesity and overweight (31). The most recent self-reported data in the Health Behaviour in School-aged Children survey for 2005/2006 show that 11-year-old, 13-year-old and 15-year-old boys and girls in Malta are below the average of countries for physical activity at the recommended level (11 years: girls 18%, boys 27%; 13 years: girls 14%, boys 20%; 15 years: girls 13%, boys 19%) (21). Further, as shown in the previous chapter, Malta's population as a whole has the highest prevalence of overweight and obesity in the European Region.

The Department for Health Promotion and Disease Prevention has implemented a physical activity initiative throughout Malta and Gozo. The CAQLAQ (Move for Health) initiative encouraged people of all ages, including children, to be more active on a daily basis. Walks were organized in conjunction with schools and local councils, and resource materials were prepared to support the initiative. Participants in these organized walks were given water to

drink and sunscreen as protection from the harmful effects of the sun.

A project was piloted in a boys' secondary school, where the boys learned the importance of eating healthily and how to prepare their own healthy food. Based on the concept of the health-promoting school, the learning was supplemented by involvement of the whole school, including teachers, parents, the canteen management and the community surrounding the school. The boys were also encouraged to increase their physical activity. The project was intended to be disseminated to other schools in the next school year. Various efforts are being made to promote physical activity and prevent obesity (see the next chapter under "Other sectors"). These investments need to be scaled up, especially with regard to physical activity.

### **Ensuring environments with clean air to reduce respiratory diseases**

Multiple factors interact to determine respiratory health, including indoor and outdoor air pollution. Malta is above the average level of countries most affected by a high prevalence of asthma. From 1997 to 2001, only two cases of postneonatal death due to respiratory causes could be ascertained among children (32).

PM<sub>10</sub> concentrations in 2006 were measured at four real-time air quality monitoring stations (Floriana, Kordin, Msida and Zejtun). During 2006, the EU threshold of 50 µg/m<sup>3</sup> was exceeded at three stations, and the concentrations exceeded the limit value on about 30% of the measured days, which is clearly above the EU limit of a maximum of 10% of days measured. Only one station exceeded the 50 µg/m<sup>3</sup> limit on two days.

The national average SO<sub>2</sub> concentration declined by 41% between 2005 and 2006, from 9.4 µg/m<sup>3</sup> to 5.5 µg/m<sup>3</sup>, but the annual average concentration of O<sub>3</sub> increased by 19% between 2005 and 2006, from 85.9 µg/m<sup>3</sup> to 102.2 µg/m<sup>3</sup> respectively. In terms of annual averages by locality, as in 2005, rural areas were the most affected by O<sub>3</sub> in 2006, with Gharb on the island of Gozo registering the highest value (125.4 µg/m<sup>3</sup>).

Finally, the national average NO<sub>2</sub> concentration of 25.4 µg/m<sup>3</sup> in 2006 remained well below the 40 µg/m<sup>3</sup> EU annual limit value for human health protection, although the concentration had increased by 12% (from 22.8 µg/m<sup>3</sup> in 2005) and by 13% between 2004 and 2005.

Electricity generation in Malta largely requires the combustion of fossil fuels, which contributes significantly to air pollution and emissions of greenhouse gases.

Malta's greenhouse-gas emissions increased by 49% between 1990 and 2007 and derive largely from the energy (including transport) and waste sectors. The energy sector (including transport) was the main contributor (89% of total emissions in 2007) to Malta's greenhouse-gas emissions in 2007. The second largest contributor was the waste sector (6.6% of overall emissions in CO<sub>2</sub> equivalents for CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, hydrofluorocarbons and SF<sub>6</sub> without land use, land-use change and forestry) followed by agriculture and industrial processes, which together contributed about 2% of total emissions in 2007 (33).

Emissions per unit of gross domestic product (GDP) in billions of euros at 2000 prices decreased by 18% between 1990 and 2007, possibly reflecting a degree of decoupling of emissions from economic development over the whole time period, although fluctuation was significant over shorter time ranges. Per capita emissions grew by 33% in this period



to 7.25 tonnes per person in 2007, although this trend seems to have stabilized in recent years. Despite this increase, Malta still had relatively low greenhouse-gas emissions per capita in 2006 compared with the EU-27 average (10.4 tonnes per person) (27).

Since April 2004, the two power stations on the island have used low-sulfur fuel containing less than 1% sulfur. This has dramatically improved air quality, as verified by the national air monitoring network. Further, respiratory problems among children who attend a school near the power stations have declined.

The introduction of lead replacement petrol considerably reduced benzene and lead concentrations. According to the National Statistics Office, leaded petrol was phased out in January 2003 and was replaced by lead replacement petrol, which now has a benzene concentration less than 1% of that of unleaded petrol. SO<sub>2</sub> concentrations declined when low-sulfur fuel was introduced for electricity generation in April 2004.

The Clean Air Act was enacted in 1967 and is considered outdated. An intersectoral consultative group set up by the health-related divisions of the Ministry for Social Policy, Health, the Elderly and Community Care with the mandate of revising the legislation under the more recent Public Health Act recently identified several sources of air pollution that are not covered by current legislation and recommended establishing an Air Quality Advisory Board. A single act cannot cover all the various aspects of air quality; however, regulations governing the control of the various sources will be drafted.

Old waste dumping sites that were not equipped with any control system, such as a waste gas management system, were shut down. Gaseous emissions from these sites will be extracted and treated, and the sites, Maghtab, Qortin and Wied Fulija, will be rehabilitated and returned to beneficial use.

However, the population is still very much concerned about air pollution due to construction activities, road traffic and power stations. Transport-related air pollution is a major area of concern.

The Malta Environment & Planning Authority has launched a public participation exercise to work on a holistic air quality action plan to be in place by 2011 that will identify key strategic measures that need to be implemented to improve air quality. Air quality plans will regulate action in case of future exceedances. Although this is not yet in place, the national air quality plan will include a strategy for implementing short-term action plans in areas where limit values are exceeded.

The WHO Tobacco Control Database (34) and the information summarized in the related ENHIS fact sheet (35) show that Malta is implementing all policies to ensure smoke-free public places in accordance with the WHO Framework Convention on Tobacco Control. In fact, Malta was the second country of the 195 eligible parties to ratify the WHO Framework Convention for Tobacco Control, on 24 September 2003 (36).

Regulations introduced in Malta in 2004 ban smoking in any enclosed private or public premises that are open to the public except in designated smoking rooms approved by the Superintendent of Public Health (this will no longer be allowed in 2013). This was a firm step forward towards providing cleaner indoor air; however, this does not affect exposure to environmental tobacco smoke in private homes.

There are only self-reported data on exposure to environmental tobacco smoke from the

Health Interview Survey carried out as part of the European Health Survey System every five years (2002 and 2008), and the current questionnaire does not specifically ask about involuntary exposure.

Only 5% of the children 0–14 years old are living in homes using solid fuels, so this is not a significant health issue in Malta (26).

Nevertheless, little information is available on indoor air quality. Indoor air quality surveys following up on those done in 2001 and 2003 are of utmost importance for analysing trends in indoor air pollution in schools. Funds should be made available for these surveys (37).

Further efforts to further develop the public transport system will help promote the use of public transport. Bus services are perceived as functioning poorly. A government-led public transport reform aiming at improving the transport network and making it more environmentally sound is underway. This should make public transport a more attractive alternative to private car use.

### **Reducing disability and disease arising from exposure to hazardous chemicals, physical and biological agents and hazardous working environments**

Children are particularly vulnerable to damage related to ultraviolet radiation: much exposure to ultraviolet radiation occurs in childhood and thus determines the risk of severe diseases such as malignant melanoma, skin cancer and leukaemia. It is particularly important to increase efforts to promote protection from excessive sun exposure and banning the use of sun beds for young people. In Malta, the age-standardized rate of leukaemia among children younger than 15 years is higher than in most other countries. However, implementation of action to reduce the exposure of the population to ultraviolet radiation in Malta is high.

An initial evaluation of knowledge of the effects of sun exposure on skin was carried out in May 2002 and revealed a high level of sun risk awareness, with high scores in knowledge of the effects of sun exposure on skin, skin cancer and sun protection. The Department for Health Promotion and Disease Prevention and the Department of Dermatology at Sir Paul Boffa State Hospital have implemented health promotion campaigns to increase knowledge of the risks of exposure to ultraviolet radiation among children and adolescents.

The Occupational Health and Safety Authority launched a construction safety campaign in 2007 by focusing on safety conditions at work. A lack of basic precautions such as providing first-aid material, safety signs and site hoarding was detected. Although this campaign detected general improvements in construction site safety compared with the overall picture obtained by a similar study two years previously, it still revealed some disconcerting facts, such as the inadequate protection in place against the risk of falls from heights, and falls represent a large proportion of fatal accidents, mainly at construction sites. They often affect illegal workers, who do not receive sufficient information on the risks.

The Occupational Health and Safety Authority has actively participated in the European Weeks for Safety and Health at Work. These have focused on a particular theme, chosen by the European Agency for Safety and Health at Work in consultation with its

administrative board and national focal points, and disseminated information. The theme chosen for 2006 was Safe Start, the risks to which young people might be more susceptible due to their age, lack of experience and possibly immaturity on their part as well as abuse from the employer.

Many old factories built under British rule have roofs built with asbestos that have to be replaced. The Occupational Health and Safety Authority cooperates with the Malta Environment & Planning Authority to ensure that asbestos is removed according to the standards.

Although only 10% of the complaints reaching the Department for Environmental Health focus on food, much effort is put into food safety. This is due to the large amount of EU legislation on food safety that has to be implemented but also due to the high risk perception of food-related outbreaks among the population. Malta has many food establishments compared with its size. Food-related outbreaks have been analysed for a long time and still represent one of the most analysed areas in public health. In Malta, the Infectious Disease Prevention and Control Unit (previously the Disease Surveillance Unit) within the Department for Health Promotion and Disease Prevention investigates all cases of foodborne illnesses, including sporadic cases. Until 2003, salmonellosis was responsible for most identified foodborne illness. However, during 2007, as in the previous years, the incidence of *Campylobacter* infections was higher than that for salmonellosis. Specifically, in 2007 the unit investigated 92 cases of foodborne illnesses attributable to *Campylobacter*, 8 cases attributable to *E. coli*, 80 cases attributable to *Salmonella*, 8 related to scombrototoxin and 68 cases for which the contaminant was unspecified. The incidence of *Campylobacter* infections in Malta is lower than the European Region average but needs to be decreased further. The incidence of salmonellosis has been fluctuating since 1992 and rose again in 2008. The reasons are not clear. No effect of seasonality could be found for *Campylobacter*, whereas salmonellosis varies by season. Contamination by *E. coli* is mostly of foodborne origin, but no specific food sources have been identified. The main sources for *Salmonella* are chicken and, only occasionally, infected eggs. Foodborne diseases mostly affect children and older people due to their increased vulnerability. The main sources of foodborne illnesses are improperly cooked food and cross-contamination in the food preparation area; waterborne illnesses are quite rare.

Foodborne diseases are seldom due to imported food. However, one outbreak was registered on 31 December 2007 from seafood imported from France contaminated with norovirus. Several people and households were affected. A small outbreak was registered due to turkey meat and sausages originating in Italy and imported from Germany. The barbecue meat was not cooked adequately, and the affected people were infected with various strains of *Salmonella*.

There is very little evidence that climate change has increased infectious diseases in Malta. The Infectious Disease Prevention and Control Unit is assessing the situation in foodborne and vector-borne illness, including *Salmonella*, chikungunya, typhus and West Nile virus. A team of experts from the European Centre for Disease Prevention and Control is assisting the Unit in this assessment. Although the West Nile virus can be found in Malta and needs to be further studied, its emergence is probably not related to climate change.

The high population density in Malta with its highly consumption-oriented society is resulting in ever increasing amounts of municipal waste. Each household created about 650 kg annually in 2006, 26% higher than the EU27 average of 516 kg and 15% higher than the average of 567 kg for the EU15 countries plus Iceland, Liechtenstein, Norway and

Switzerland.

Municipal solid waste represents the second largest waste stream deposited in waste management facilities (comprising 8.4% of total waste in 2006). The municipal solid waste arriving at the main facilities decreased slightly (less than 1%) between 2004 and 2006, from 242 116 tonnes in 2004 to 240 606 tonnes in 2006 (38).

In Malta, road traffic is the main contributor to noise, especially in towns with busy main roads used extensively throughout the day and most of the night. Road traffic noise is particularly acute at peak hours during the week, in large industrial areas and near the airport. It also varies seasonally in certain areas, since there is more road traffic on the roads leading to the beaches in summer and more road traffic on country roads in winter. A 2005 noise study tour carried out by the Occupational Health and Safety Authority identified the construction industry as one of the sectors emitting the highest noise levels – up to 89 dB(A).

Malta has no nuclear power station, and the main sources of ionizing radiation are medical devices and industrial applications. About 150 sites in Malta use ionizing radiation sources: 80–90 dentists, public and private hospitals, industrial applications and a single radiotherapy department. Users are responsible for radioactive equipment while in use. The staff members of the health care facilities process medical waste with short half-life themselves. Malta has no central storage place for radioactive material, meaning that sealed radioactive sources with a long half-life are to be returned to the supplier. However, a plan has been drafted for establishing a central storage place. The location has not yet been determined. In general terms, WasteServ, a parastatal company, is also responsible for all kinds of waste.

There is no pesticide production in Malta but minor production of biocides. The main problems and challenges related to pesticides in Malta are therefore to change the mentality of farmers so that they do not use illegal products or carry out illegal practices.

## Summary

The environment and health priorities summarized here correspond with the main complaints and concerns of the population. Air pollution is often discussed in the local councils, and waste management is also a popular issue with the public and the mass media. Increased land use and the construction of industrial plants are common public concerns.

Children and adolescents are recognized as a priority in environment and health and occupational health. In general policy terms, children are recognized as an important part of the family.

In addition to the several prevention programmes initiated by the educational sector relating to preventing injuries, the occupational sector has also been emphasizing the importance of preventing injuries among young people.

Despite the increasing recognition of the importance of preventing disease, health care has higher priority in the health sector, although disease prevention is acknowledged more and more. This increased recognition is reflected in increased budget allocation for specific topics, such as climate change, air quality and transport-related activities.

Environment and health remains a niche in the political decision-making processes. Although society is increasingly recognizing the importance of the environment and environmental protection, health costs due to environmental exposure are still not sufficiently recognized as an interdependent factor.

A recurrent problem mentioned by many professionals in environment and health is the difficulty in setting national priorities while the focus is often on implementing EU policies necessary for fulfilling EU requirements. A better balance is needed between implementing the EU agenda while ensuring a focus on specific national priorities.

## 4. Institutional set-up

### Conclusions

- The Department for Environmental Health of the Public Health Regulation Division within the Ministry for Social Policy, Health, the Elderly and Community Care is the main institution responsible for environment and health in Malta.
- The establishment of a department specifically focusing on environmental health has further reflected the importance of environmental risk factors to health at the national level. Malta's Interministerial Committee on Environment and Health is responsible for the NEHAP, which was completed in 2006.
- Qualified personnel in environment and health are lacking. Long recruitment procedures increase the problem of recruiting adequate numbers of staff members. The Public Health Laboratory is also relatively understaffed.
- The prevention of noncommunicable diseases is gaining more importance as a priority in health promotion.
- Nutrition is a priority of the Department for Health Promotion and Disease Prevention. Promotion of physical activity is gaining more importance, and an officer has been employed to specifically promote physical activity.
- HIV data is gathered through the statutory notification of cases by clinics, private physicians and laboratories.
- The Occupational Health and Safety Authority does not have sufficiently qualified personnel to analyse the psychosocial parameters of work safety.
- The role of physicians in the environment and health process is not well defined; they are mainly seen as the interface with civil society but have no specific involvement in environment and health awareness.
- Many sectors, bodies and institutions cover environmental protection and management. The shift of responsibility for the environment dossier to the Office of the Prime Minister, however, has helped to integrate the functioning of all services responsible for environmental management.
- The current plan by the Tourism and Sustainability Unit under the Office of the Prime Minister to develop an overview of all activities and programmes carried out in accordance with the sustainable development strategy is a good approach.
- The Malta Environment & Planning Authority is the competent agency responsible for protecting the environment. Waste is the largest working area within the Malta Environment & Planning Authority in environmental management. The Malta Environment & Planning Authority needs more personnel in environmental protection and management.
- The coordination of policy on climate change prevention, promotion and information among the sectors is not yet fully operational.
- Both the Malta Environment & Planning Authority and the Malta Transport Authority have been responsible for transport-related issues since the Authority was created in 2002, and the respective competencies are not always clearly defined.
- The education sector is emphasizing physical activity, healthy nutrition and preventing injuries.
- Sports facilities in schools are being made available to the general public before and after school hours, a very positive initiative.
- Social inclusion is being emphasized more and more in promoting physical activity.
- Veterinary laboratory services require more human resources.

- Local governments are delegated responsibility for implementing environment and health measures and would benefit from increased resource allocation (capacity and expertise as well as financial resources).
- Youth involvement and participation in issues of public concern are being steadily improved and promoted.
- Malta has many environmental NGOs but only one association dealing specifically with environment and health.
- The involvement of NGOs in public consultation processes has increased in recent years.

### **Recommendations**

- The Department for Environmental Health would benefit from additional staff, including a specialist on indoor air quality.
- Exchange and collaboration between the Department for Health Promotion and Disease Prevention and the Department for Environmental Health can be strengthened further.
- It is recommended that the health sector be routinely involved in carrying out environmental impact assessment.
- The Occupational Health and Safety Authority could undertake further proactive surveillance of workplaces to prevent accidents at work, although Malta rates higher than the EU average in the ratio between proactive and reactive inspection (40:60 ratio).
- The recruitment of more qualified staff for analysing psychosocial parameters at work is recommended.
- Physicians should ideally be more actively involved in action to prevent disease. Better information generated by government authorities dealing with environment and health and direct collaboration with medical societies would help in this task.
- Better representation by the transport and agricultural sectors and local government on the Intersectoral Committee to Counteract Obesity is recommended.
- The new NEHAP should be fully implemented with the participation of NGOs.
- Despite the increased integration of all services responsible for environmental management, more integration is recommended. For example, the Department for Environmental Health and the Department for Health Promotion and Disease Prevention should improve the coordination of environment and health promotion activities.
- The number of staff members working on environmental management within the Environment Protection Directorate of the Malta Environment & Planning Authority should be increased.
- The responsibility for issues related to water quality should be further streamlined.
- Tests on groundwater parameters should be carried out independently from water service providers.
- The application of sanitary regulations in constructing new buildings should be better defined and delineated.
- Better definition and delineation of the competencies of the Malta Transport Authority and the Transport Planning Department of the Malta Environment & Planning Authority and reinstating regular meetings and exchange of information will strengthen cooperation between the sectors.
- It is recommended that the assessment report of the Valletta Controlled Vehicle Access be published as soon as possible.

- Better use of the Urban Improvement Fund intended for local communities could promote sustainable transport and better use the facilities for pedestrians instead of using them for providing parking spaces. The promotion of active transport should be increased, with a particular focus on walking as a convenient and healthy mode of transport.
- The reform of the public transport system will attract the interest of more customers.
- Stronger representation of the environment sector on the Board of the Malta Environment & Planning Authority is recommended. The reorganization of the Malta Transport Authority and strengthening its interaction with other ministries and bodies should be given priority.
- A poison-control centre needs to be established.
- Using the Global Physical Activity Questionnaire would certainly be very helpful in the more detailed assessment of physical activity levels among adults in Malta.
- More synergies and cooperation between the education sector and the Department for Health Promotion and Disease Prevention would be beneficial.
- Further financial and technical support would help municipalities in implementing the requirements of EU regulations at the local level.
- Experience gained by youth representatives by participating in national and international forums should be transferred to other young people.
- Further institutionalization of the participation of NGOs in decision-making processes is recommended.

## **Sociopolitical situation, political system and infrastructure**

Malta is situated in the centre of the Mediterranean Sea close to Sicily. It embraces three islands: Malta, Gozo and Comino. With a population of 409 000 (2007) and a total land area of 316 km<sup>2</sup>, it has the highest population density in the EU, with 1291 people per km<sup>2</sup> in 2006 (16,39).

About 98% of the population is Roman Catholic. More than 90% of the population lives in urban areas. Malta has no formal administrative regions. There are 68 local councils with limited jurisdiction. Malta gained independence from the United Kingdom in 1964. Maltese is the national language (also an official EU language), although English is also still used in official communication. Since 1999, irregular immigration to Malta has doubled due to an influx of undocumented migrants from Africa by sea, which is of great concern. The main sources of income are manufacturing and services, the latter relying mainly on tourism. In 2003, the rate of registered unemployment in Malta was 5.7%, well below the EU average of 13.9%. However, 28% of women of working age are in the workforce, the lowest percentage in the EU. The health sector is one of Malta's largest employers, with 7% of the total workforce. The EU accession process brought about new legislation in public health, health and environmental protection.

The 2005 census provides a detailed snapshot of population change and internal migration. It indicates that overall, Malta's population grew by 26 830 (7%) between 1995 and 2005, a slowdown from the 9.5% growth from 1985 to 1995. The census indicated a continued trend for migration from Malta's older urban centres.

Following the same trend as other EU countries, Malta has shifted towards a more service-oriented economy in recent years, which could indicate a move towards cleaner economic growth depending on the performance of the individual sectors. Between 2006 and 2007,



production of goods fell from 24% of GDP to 23%. In 2008, the gross national product per person was US\$ 16 680.

Between 2006 and 2007, planning permits granted for housing increased by 9%, growing at a slower rate than the 15% of the previous year. In 2007, 90% of dwelling permits were for apartments, which increased by 4% over the previous year.

Of total government expenditure in 2005, 14.6% was spent on health, and the total expenditure on health was 8.4% of GDP in 2005 (16).

## Health sector

### Ministry for Social Policy, Health, the Elderly and Community Care

The Ministry for Social Policy, Health, the Elderly and Community Care is responsible for health. One parliamentary secretary for health within the Ministry is responsible for health-related questions. Beside health, this Ministry (through a second parliamentary secretary) is responsible for older people and community care. The Ministry is also responsible for social services, labour and occupational health and safety, including the Radiation Protection Board.

The health-related divisions of the Ministry (Health Care Services; Public Health Regulation; Resources and Support; and Strategy and Sustainability) have been undergoing organizational changes since 2004. The intention was to strengthen its role in health protection and its regulatory and monitoring functions and to differentiate the role of policy-making and regulation from that of providing services (39).

Health care in the public sector is highly centralized and regulated. Decentralization of the public health care system has been high on the agenda since the early 1990s. Health care is now provided through both a statutory and a private system. The quality of care is affected by a certain lack of standards and procedures in some areas, administrative issues and a less than optimal gatekeeping system, which promotes excessive utilization of secondary care services. There is room for improved collaboration between the private and public sectors and better regulation of the private sector (39).

### Public Health Regulation Division

The Public Health Regulation Division is the main institution responsible for public health in the country. It is organized in five departments:

- Health Promotion and Disease Prevention
- Health Care Services Standards
- Environmental Health
- Nursing Services Standards
- Medicines Authority.

### Department for Environmental Health

The Department for Environmental Health was created in 2007 as part of the restructuring of the Public Health Regulation Division. It is the main institution responsible for

environmental and health in Malta. The establishment of a department specifically focusing on the environmental determinants of health has further reflected the importance of environmental risk factors for health at the national level.

The Department for Environmental Health is responsible for programmes that promote the attainment of the highest standards of public health and hygiene. It addresses risk factors associated with environmental hazards and is responsible for safeguarding the health and well-being of the public by enforcing national and international public health regulations. Regional offices operate in the different parts of the country: six in Malta and one in Gozo. However, the aim is to further centralize all environmental and health facilities in one location. Due to the organizational changes, environmental health officers (previously known as health inspectors) in the regions are being trained in new responsibilities (for example, *Legionella* audits and equipment).

The Department is subdivided into a number of working areas:

- environmental health policy coordination
- environmental health inspections
- complaints and citations
- food safety and secretariat of the Food Safety Commission
- drug control
- Public Health Laboratory
- port health (including airport services)
- burials administration.

The main responsibilities of the Department's Health Inspectorate are:

- **Enforcement:** Enforcing public health laws and regulations through advice, education, persuasion and legal action if necessary.
- **Environmental issues:** Tackling complaints of nuisances such as infiltration, leaking cesspits, accumulations of refuse, stagnant water and other issues related to the environment; field monitoring of bathing areas, including sampling seawater; monitoring the quality of the public water supply from reservoirs through regular sampling; treating rat-infested areas; supervising burials, the repatriation and transfer of human remains and the general management and upkeep of government cemeteries; and supervising disinfection.
- **Food-related issues:** Inspecting food premises to ensure compliance with the Food Safety Act and regulations issued pursuant to the Act; monitoring imported and exported foodstuffs and pharmaceuticals; sampling food, drinks and water; ensuring the quality of food items intended for sale; monitoring the best-before or use-by dates and the labelling and presentation of prepackaged foods; investigating and following up food poisoning incidents by monitoring the hygiene and health conditions of food handlers and the state of hygiene of food preparation areas and by sampling suspected food items; and inspecting public and private institutions such as schools, hospitals and homes for older people regarding food preparation and/or presentation and the general standard of hygiene.
- **Public health risks:** Taking action to prevent and control infectious diseases, dealing with various health hazards and taking remedial action for their abatement and contributing to the immunization programme, including enforcing the legal provisions.

The Department of Environmental Health employs about 260 people, including 80 environment and health officers responsible for environmental monitoring and inspection. Nine senior principal environmental health officers have different roles and positions: one each for administration; internal audits and training; the Food Safety Commission secretariat and Food Safety Unit; legislation; and liaison with the Director and two each for food safety and risk management and for environment and health risk management issues (except food safety) but including bathing water, potable water, replies to the Malta Environment & Planning Authority, indoor air quality and noise, *Legionella* and public swimming pool audits. The post of Manager of Health Inspectors is vacant and to be filled, and the Director of the Department is filling this position. An environment and health degree (at diploma, degree or master level) is required for the personnel working in the Department. Since few students have taken courses on environment and health in recent years, qualified personnel for new recruitment are lacking. The large number of staff reaching retirement age in the Department is increasing the difficulties in getting qualified personnel. Protracted recruitment procedures are further increasing the problem. The Public Health Laboratory is the most severely affected institution in this regard and also has a high turnover rate.

The Port Health Services are responsible for controlling communicable diseases, checking importation of food, ensuring ship sanitation, inspecting warehouses and transferring human remains. They form part of a committee for implementing the International Health Regulations and represent the focal point for the International Health Regulations. About 90% of the imported food comes from EU countries and is called “distributed food”. For food items imported from non-EU countries, before the inspection the Port Health Services checks all bills related to the food items and all information, such as on genetically modified organisms or aflatoxins. Based on this information, the decision is taken whether to inspect or not. Inspections are performed in warehouses rather than on the ships to have a better overview of the products imported.

The Public Health Laboratory, under the Department for Environmental Health, is responsible for undertaking microbiological, chemical and radionuclide analysis of food and environment and health media (drinking-water, bathing water, indoor air etc.). Since Malta joined the EU, the Public Health Laboratory has been accredited for 10 biological methods and is seeking further accreditation for other biological and chemical parameters. The Laboratory is the national reference laboratory for 7 microbiological and 10 chemical parameters in food and feed. The microbiology section was refurbished in 2005, and the chemistry section is in the final stages of renovation. The Laboratory employs 24 people, including support and management staff (12 in the microbiology section, 8 in the chemistry section and 4 support). Given the large volume of analysis to be performed, the Laboratory is understaffed. Selection processes for vacant positions are taking place. However, the complicated and protracted recruitment procedures delay the recruitment process. When the Laboratory cannot perform analysis, it has an agreement with laboratories in other countries to cover analysis (such as dioxins).

The Public Health Laboratory provides testing and support services to the Health Inspectorate, the Department for Health Promotion and Disease Prevention and other government departments requiring assistance. The Laboratory is assisting the Department for Environmental Health in determining priorities for monitoring and surveillance.

The Department for Environmental Health is responsible for drinking-water and bathing water quality, indoor air including environmental tobacco smoke, residential noise and food safety. The priorities are drinking-water and bathing water and food safety. The issue

of noise is expected to be scaled up when the Malta Environment & Planning Authority provides noise maps. The Department for Environmental Health will be responsible for drafting the regulations relevant to residential noise.

In the past three years, the Department for Environmental Health has commissioned two studies on indoor air in schools, but no follow-up studies were possible due to financial restraints. The Department would like to hire one additional staff member specializing in indoor air. Unfortunately, this is on hold due to lack of funds.

The Department makes recommendations to the Malta Environment & Planning Authority on the terms of reference for environmental impact assessment for major projects, reviews environmental impact assessment regarding the health effects on the general public and makes related recommendations.

The Department for Environmental Health cooperates closely with the Malta Environment & Planning Authority. The Director of the Department for Environmental Health, the Director of the Environment Protection Directorate of the Malta Environment & Planning Authority and responsible officers from both entities meet monthly on environment and health management. These meetings are not required by law and are kept informal, but minutes of the meetings are taken.

#### Department for Health Promotion and Disease Prevention

The Department for Health Promotion and Disease Prevention is responsible for preventing illness and promoting health to improve the health and well-being of Malta's population. The Department provides leadership in promoting health to reduce and delay the onset of illness and is responsible for promoting healthy lifestyles among the population. The Department works in partnership with other departments, ministries and external stakeholders to tackle the determinants of illness, especially to reduce the disease burden caused by noncommunicable diseases. The Department is also responsible for prevention, field investigation and control of communicable diseases. Prevention activities related to environment and health are rather limited, and the main focus is on food hygiene. Activities for promoting physical activity are also in place. Nevertheless, the directors of the Department for Health Promotion and Disease Prevention and Department for Environmental Health regularly discuss environment and health topics. In specific cases, however, joint campaigns and initiatives are organized in cooperation with the Department for Environmental Health, such as a joint campaign on climate change on World Health Day 2008.

The Department is strengthening its capacity and action on preventing and controlling noncommunicable diseases. It has drafted a strategy on noncommunicable diseases that is at the consultation stage. The priorities for noncommunicable diseases were set based on mortality and morbidity data. In 2009, the priorities set were nutrition and physical activity due to the high prevalence of obesity.

The Department has been in existence since 2004 and has 28 staff members. The Department has three units:

- Health Promotion Unit
- Infectious Disease Prevention and Control Unit
- Noncommunicable Disease Prevention and Control Unit.

## 1) Health Promotion Unit

The Health Promotion Unit provides a helpline for smoking cessation, nutrition and physical activity, women's health (including breastfeeding and preventing breast cancer) and sexual health, including sexually transmitted infections, and other topics such as preventing cancer and prison health. It is also responsible for developing information campaigns on these issues and on healthy living and older people by cooperating with the Civil Protection Department, police and others. The Unit has also been involved in preventing drug- and alcohol-related injuries.

The Health Promotion Unit has published a guide on implementing smoke-free workplaces. Preventing home and leisure injuries has lower priority, mainly due to lack of human resources.

The Health Promotion Unit is the main institution promoting healthy eating and nutrition. Two nutritionists from the Unit are responsible for nutrition. They also consult with the Intersectoral Committee to Counteract Obesity (see later). The Unit is responsible for drafting and reviewing relevant legislation and for implementing disease prevention activities. The main basis for current activities on nutrition is the 1990 food and nutrition policy. The Unit has proposed that this policy be revised and that an action plan for implementation be drafted. A high-level decision on this is expected soon.

The Unit has organized many activities. It collaborates with voluntary organizations such as CARITAS Malta, which organizes healthy eating talks at the community level to give advice on healthy eating habits. Unit experts give nutritional advice to the general public, including parents, and answer questions relating to diet and nutrition. Various institutions consult these experts to obtain expert opinion on the nutritional quality of the menus served. Upon request from schools, Unit nutritionists carry out activities that help teach children healthy eating habits. They are also participating in the Nutrition Friendly School Initiative, which aims at counselling parents on issues related to nutrition and teaching children about healthy eating habits.

The Unit has offered a weight reduction programme since 1995. Personnel trained by the Unit mainly carry out this programme in primary health care centres. However, the weight reduction programme does not involve physical activity counselling due to lack of staff in this area. An annual report is prepared on the average weight loss and on the people participating in the programme. In addition, the Unit has drafted a proposal for an obesity clinic and has advised on the terms of reference for nurses working in health care centres and in charge of dietary advice.

The Unit has set up a helpline for answering questions on diet and nutrition. The use of the helpline varies during the year but peaks after the Christmas period when people seek advice on lowering their serum cholesterol levels and blood pressure, managing their blood sugar levels and losing weight. Despite general nutritional campaigns, the Unit focuses on specific nutritional questions. Initiatives include an EU-driven campaign to reduce salt intake (40), breastfeeding events and food safety weeks undertaken in cooperation with the Infectious Disease Prevention and Control Unit. A campaign to promote intake of fruit and vegetables was to be launched during 2009.

Obesity prevention and weight reduction has been predominantly tackled from a diet and nutrition perspective. However, since about mid-2007 work on promoting physical activity was given more prominence, becoming part of the portfolio of the programmes of the Unit.

One staff member started working mainly on promoting physical activity. In 2008, a project was set up to offer free aerobics classes in cooperation with the Malta Sports Council. Eighteen aerobics classes of 16 sessions each were held in 6 different localities throughout Malta. In all, 389 people participated, mostly women. The aim was to stimulate more physically active lifestyles. The project was extended for 2009, but discussions were being held to determine whether they will continue to be publicly subsidized. The Unit organized activities for the celebrations of the Move for Health Day (a fun run in 2008 and promoting walking among non-sports-oriented people in 2009) and prepared guidelines on physical activity for professionals (physicians, teachers and gym instructors, etc.). A brochure with recommendations aims at harmonizing recommendations on physical activity and providing general practitioners with general information to promote physical activity among patients. General practitioners can then adapt the information. An additional project subject to consultation was to focus on promoting aerobic (cardio) activities for men. Numerous television and radio advertisements promoting physical activity reflect the increased recognition of the importance of physical activity for health promotion.

The promotion of physical activity is increasingly viewed in terms of its relevance to changing transport policies. The Unit is part of a joint WHO and EU project aiming at developing an overview of all policies on physical activity, nutrition and obesity, including all transport policies, that can promote the integration of the use of public transport and physical activity. Malta also participated in the Shape Up Europe Project.

The Unit works with the Intersectoral Committee to Counteract Obesity in developing healthy environments to make the healthier choice the easier choice and to have the healthy choice available more easily. For example, they lobby with food vendors to provide a healthy option.

## 2) Infectious Disease Prevention and Control Unit

The Infectious Disease Prevention and Control Unit is the main institution in Malta dealing with the surveillance, prevention and control of infectious diseases. Data are collected from various sources, including physicians, laboratories and a surveillance system. The Unit is responsible for managing outbreaks of infectious diseases and providing data on infectious diseases in Malta and internationally. The Unit mainly deals with foodborne and waterborne illnesses, HIV and vector-borne diseases. It is responsible for investigating malaria, West Nile virus, *Salmonella*, *Campylobacter*, leishmaniasis, *Listeria*, *Shigella*, *Escherichia coli* and others. HIV data are gathered from the clinics. Gynaecologists and general practitioners notify the Unit of cases of infectious illness.

Personnel at the tuberculosis surveillance section within the Infectious Disease Prevention and Control Unit have been very active in instituting control and screening measures among immigrants. Two nurses are working with relevant nursing organizations to ensure that people at risk are administered DOTS.

The Unit cooperates with the European Centre for Disease Prevention and Control, which is supporting the Unit in investigating the presence of vector-borne diseases and parasites in mosquitoes. In this regard, a survey on mosquitoes will be undertaken and the samples will be sent abroad.

The Public Health Laboratory performs most analysis of water quality and foodborne and waterborne diseases. In every outbreak, the Unit cooperates with the Food Safety Unit of

the Department for Environmental Health. The risk assessment, either in public places or in private households in case of contamination, is performed jointly. The Unit is mainly notified of outbreaks by private households, clinical consultants, general practitioners and hospitals. The surveillance team verifies and investigates the nature and type of the outbreak and how many people are involved. If the outbreaks affect a large population group, a cohort or case-control questionnaire survey is implemented. The Unit also cooperates with the veterinary services.

In the framework of Malta's first Food Safety Week in 2008, the Unit cooperated with the Health Promotion Unit in developing an information brochure on hand and food hygiene. The European Food Safety Authority and the Department for Environmental Health granted €10 000 for this purpose. The second Food Safety Week took place from 26 October to 2 November 2009.

Together with representatives of the Department for Environmental Health, the Infectious Disease Prevention and Control Unit forms part of the national committee for implementing the International Health Regulations.

### 3) Noncommunicable Disease Prevention and Control Unit

The main activity of the Noncommunicable Disease Prevention and Control Unit in 2008–2009 was developing a new strategy on noncommunicable diseases.

#### Strategy and Sustainability Division

The Strategy and Sustainability Division of the Ministry for Social Policy, Health, the Elderly and Community Care has an overarching view on policy and sustainable development. Its main function is to coordinate within the Ministry and between national and EU institutions on all questions regarding transposing EU policies into national policies on public health. It also coordinates with all other ministries. Network meetings of all officers in charge of EU affairs take place once a month. This Division gives priority to EU affairs. There is no capacity for scrutinizing additional matters.

The Division includes the Department for Health Information & Research. The Department is responsible for gathering and approving all health statistics in Malta. The Department cooperates with academic services in analysing health data and with other institutions requesting their support in analysing correlations between health data and other data. The Department provides statistical analysis of health and environment data and cooperates with the Malta Environment & Planning Authority. The Department is also responsible for carrying out the Health Interview Survey, done in 2002 and 2008. The Department is also planning to implement a future European Health Examination Survey in Malta.

#### Occupational Health and Safety Authority

The Occupational Health and Safety Authority is responsible for ensuring that the physical, mental and social well-being of all workers in all workplaces is promoted and safeguarded by whoever has such a duty. The Authority was created in 2002 and is under the Ministry for Social Policy, Health, the Elderly and Community Care. The Authority reports to the Parliamentary Secretary under the Ministry. The Authority's functions are completely centralized, as it has no regional or local structures as for the Department for Environmental Health. However, the Authority uses networks, such as those of the labour

unions, for local contacts. For example, the Authority encourages these local contacts to invite the Authority to give a presentation on specific topics.

The Board of the Authority has nine members and is based on a tripartite approach representing sectors and stakeholders, as suggested by the International Labour Organization and the EU: the Ministry for Social Policy, Health, the Elderly and Community Care, the Ministry of Finance, the Economy and Investment, an occupational health and safety specialist, a workers' representative, representative of the employers and the Director of Industrial and Employment Relations (ex officio) as the representative of the industrial and employment relations. However, the Chief Executive Officer of the Authority has executive power. In total, the Authority has about 25 employees, including technical and administrative staff.

An evaluation group acting on behalf of the European Commission evaluated the Occupational Health and Safety Authority in 2009. The preliminary conclusions were as follows. The Authority is in compliance with the common principles of labour inspection of the Senior Labour Inspectors' Committee. The evaluation group also found many commendable examples of innovation and good practice that would be of particular interest to other EU countries. Further, the Authority's management team is actively developing the necessary organization and using the limited resources as efficiently and effectively as possible. Inspectors are well prepared and highly qualified; their competence and their work confirms that the selection and training arrangements in place are well targeted and thorough. Inspectors also approach their work with a positive attitude and communicate effectively with the duty holders. The relationships with the social partners are based on a concrete and positive consensual approach. The Authority's five-year strategy is suitably placed to address the future challenges according to a prioritized national programme of work. The evaluation group also commended the Authority's goal of achieving zero preventable accidents at work. The high quality and strong commitment of the Authority's management and staff, deemed fundamental for an effective inspection system, have achieved the required level of success. The evaluation group highlighted the Authority's need for more inspectors and greater funding, as this would allow it to carry out the full range of duties expected of a national occupational health and safety enforcement entity; this apparent lack of resources is slowing down the development of several important initiatives, including setting up a formalized and consolidated system for health surveillance.

The Authority's financial resources are threefold – an annual allocation from the Ministry of Finance, the Economy and Investment, the Authority's own revenue from fees for services and funds from foreign external assistance. The main legal basis of the Authority is the Occupational Health and Safety Act of 2000. It stipulates the duties, role and functions of employers and employees and the administration, role and functions of the Authority. Based on this Act, EU directives have been transposed into national regulations (for example, in relation to construction, the Seveso II Directive, etc.). Of particular relevance are the General Provisions for Health and Safety at Work Places Regulations of 2003, which extends the Act and regulates the carrying out of risk assessment and the involvement and participation of workers on occupational health and safety matters at workplaces.

In recent years, the Occupational Health and Safety Authority has been involved in enforcing occupational health and safety regulations, training programmes, providing information and fulfilling various international obligations, including reporting duties and transposing new legislative instruments.



The technical operation section covers occupational radiation protection, machinery, equipment and plant installations, chemical and biological protection, contamination and quality assurance and workplace inspections. All sections investigate occupational accidents.

The priorities of the Authority are:

- awareness-building, information, education and training;
- ensuring compliance with existing legislation;
- legislative reform;
- consolidation of resources; and
- relationships with local entities and international institutions.

The Authority has 15 occupational health and safety officers and 3 additional managers. Five of the officers are specialists in various fields (one occupational medicine, one engineering, one in chemistry and biology and two in radiation protection); the rest of the officers have a general background. However, no inspector has specific training in health and toxicology. The Authority investigates complaints and accidents and carries out proactive surveillance through specific campaigns, such as surveillance of construction sites, hotels, manual handling, ergonomics, etc.

Officers of the Authority have the authority to enter any workplace without prior notice. They can take photographs and issue orders verbally or in writing to safeguard occupational health and safety, and every person must obey such orders immediately until an officer or the Appeals Board revokes them. Officers can take samples, stop equipment, and close down a factory workplace or parts of it when they see serious risks. The Act lays down the physical parameters that would establish reason to close a workplace. Inspectors may close a workplace for non-physical parameters. The level of risks encountered on site and the extent of protective measures in place determine the type and degree of action officers take.

Internal briefings occur regularly within the Authority with the aim of achieving a more uniform approach to enforcement policies. Training is carried out using checklists to ensure uniform scoring methods and a consistent approach in inspections.

When measures are ordered, they are noted in a written report to the employer and a time frame is given for action (immediate, weeks etc.). An internal system prompts the next check or another inspection, makes a reminder and/or initiates court proceedings if necessary etc. If follow-up inspection takes place and the measures have not been instituted, new orders may be issued or the case referred to the courts.

In accordance with the Act, employers are required to perform their own monitoring, which is double checked by the Occupational Health and Safety Authority. The Authority collects all information on occupational injuries reported by the social security system and the employers. In accordance with a 1986 act, employers are required to notify the Authority of any accident that results in the death of or severe injury to a person. However, determining the main causes of death and disease due to occupational hazards is rather difficult due to a lack of comprehensive data, especially underreporting by employers and the association between ill health and work being overlooked or missed.

The employer must assess the risk of a workplace. There is no standardized procedure, but three standards have to be fulfilled: it has to be (1) suitable, (2) sufficient and (3) follow a systematic approach. The Authority has published many guidelines on risk assessment based on the guidelines issued by the European Agency for Safety and Health at Work. Although many efforts are undertaken to make them available and to promote them on the Internet, the Authority cannot guarantee that the guidelines are being followed.

Employers are required to inform employees about existing health risks. Every Authority inspection first enquires about the type and amount of information the employees have received (training, how often, quality, information, supervision etc., which are also the main issues assessed in case of accidents). Then they focus on the specific topic or complaint. Psychosocial parameters are checked to a limited extent, as the Authority does not have suitably qualified personnel to do this.

As defined by the Act, the Authority is responsible for carrying out research. Funds have been granted for implementing a research project on statistics on injuries, ill health and mental health and the cost of occupational health and safety to the country, including to the health care system.

### Health care workforce

The general population holds family doctors in high regard. In the primary care teams, physicians and nurses provide both curative and preventive services.

Physicians acknowledge environment and health but do not generally discuss it in an institutionalized manner at medical congresses and within the Medical Association of Malta. Physicians treating symptoms mostly deal with environmental determinants in cases of chronic disease. Counselling patients on the environmental risk factors of health should be an important aspect of the training and practice of family doctors, and physicians and nurses should take preventive action to reduce exposure to unhealthy and dangerous living conditions.

Regardless of the constraints in the system, disease prevention activities are increasingly applied but should be strengthened further. However, there are scope and time constraints to providing sufficient services related to environment and health.

General practitioners should be further sensitized and informed about infectious diseases. They need better training on the causes of illnesses, both infectious and noncommunicable diseases. General practitioners seldom send stool samples for analysis and infrequently notify the Infectious Disease Prevention and Control Unit of possible disease outbreaks.

### Environment sector

Many sectors, bodies and institutions cover environmental protection and management. The Tourism and Sustainability Unit under the Office of the Prime Minister has had responsibility for environment and tourism since 2008. However, the Office of the Prime Minister has no parliamentary secretary for the environment. The Malta Environment & Planning Authority is the main agency responsible for environmental protection, regulation, monitoring and enforcement.

The Tourism and Sustainability Unit is responsible for all issues related to EU environmental policies and multilateral agreements. The Unit relies on the expertise of the Malta Environment & Planning Authority but is the competent authority for transposing international regulations and agreements and the counterpart in international conventions, forums etc. Although the lines of communication in environmental health are very strictly structured, the lines of communication in multilateral affairs are easier. The establishment of the Malta Environment & Planning Authority under the Office of the Prime Minister has helped to integrate the functioning of all services responsible for environmental management. Further integration is still needed, however. In the framework of the sustainable development strategy, information on specific responsibilities in Malta is still lacking. The Tourism and Sustainability Unit is developing a plan for an overview of all activities and programmes carried out in accordance with the sustainable development strategy.

### Office of the Prime Minister

The Prime Minister is directly responsible for the following areas:

- environment and planning: Malta Environment & Planning Authority
- local government
- sustainable development
- information
- tourism: Malta Tourism Authority.

### Malta Environment & Planning Authority

The Malta Environment & Planning Authority is the national agency responsible for protection, regulation, monitoring and enforcement in environment and spatial planning. The Authority was established in 2002 from a merger of the former Planning Authority and the Environment Protection Department. It operates under the legal mandate of the Environment Protection Act (2001) and the Development Planning Act (2001).

The Malta Environment & Planning Authority has three directorates: the Development Planning Directorate, the Environment Protection Directorate and Directorate for Corporate Services. The main decision-making body providing strategic guidance within the Authority is the Board. The 15 members include representatives from government ministries, members appointed by the Prime Minister and by the opposition leader and members representing commerce, social and community affairs and the environment. In addition, the Authority has several subsidiary boards and committees that assist the Authority in fulfilling its legally mandated functions and responsibilities. The health sector is also represented on the Board.

The Authority is responsible for establishing long and short-term objectives and strategies in the environment, for setting environmental standards, guidelines and regulations and for controlling and managing activities affecting the environment through a licensing and permit system. It is also responsible for promoting and controlling proper land development, both public and private, in accordance with approved policies and plans. The Authority also serves as the national land surveying and mapping agency.

The Authority employs about 430 multidisciplinary personnel full time, including more than 120 specializing in various fields such as architecture, spatial planning, law, the natural and social sciences, communication, business, information technology, cartography and geographical information systems. Of the 430 staff members, however, only about 70 work in the Environment Protection Directorate. The Authority has high turnover.

As a national environmental, planning and cartographic agency, the Authority provides the following services:

- preparing various land-use and environmental plans to guide development;
- providing regulatory services and issuing permits in spatial planning, biodiversity management and protection, waste, water, air quality, climate change, chemicals management, minerals, cultural heritage and environmental impact assessment;
- enforcing environmental and spatial planning regulations through inspection and direct action and monitoring, preventing and controlling pollution;
- providing digital mapping, geographical information system, spatial and land information systems and land surveying services;
- providing advice to the government on environmental and spatial planning policy;
- reporting to the European Commission and various international convention secretariats on behalf of Malta;
- developing and managing internationally funded projects in environment and land-use planning; and
- conducting environmental awareness-raising and promoting environmental education.

### *Environmental Protection Directorate*

The Environmental Protection Directorate is involved in formulating, implementing and enforcing environmental legislation and policy and in integrating environmental considerations into other areas of government policy.

The core strategic goals of the Directorate are:

- playing a key role in formulating environmental legislation and policy;
- implementing environmental legislation and policy standards through plans, guidelines, incentives, voluntary agreements, permits, project assessment, enforcement and other measures;
- raising environmental awareness, disseminating environmental information and providing a platform for involving citizens and civil society in environmental decision-making;
- championing environmental objectives and integrating them into all aspects of public policies, plans, programmes and projects; and
- achieving superior performance, well-being of staff and high levels of corporate and social responsibility.

The Directorate is organized in units.

Unit A is responsible for environmental permits and compliance auditing of industrial and waste management installations. The Unit manages integrated pollution prevention and control, European Pollutant Release and Transfer Register, volatile organic compounds, small and medium-sized enterprises, better regulation, transfrontier shipments of waste and urban wastewater treatment. Unit A contributes to developing EU legislation, providing

guidance to industry on best available techniques and emission limits and developing better regulation initiatives.

Unit B (Environmental Assessment Unit) coordinates the Environmental Protection Directorate's assessment of development projects and role on related matters. In particular, the Unit manages: the environmental impact assessment and appropriate assessment processes, technical assessment of environmentally relevant development proposals and processing of outside development zone applications. Among other related functions, the Unit is also the primary liaison for the Environmental Protection Directorate with the Development Planning Directorate, with the Natural Heritage Panel of the Heritage Advisory Committee and with the strategic environmental assessment audit team and represents environmental interests in planning-related forums and in formulating environmentally relevant legislation, policy and operating procedures.

Unit C coordinates activities, policy and strategies related to the Authority's response in ecosystems management, nature protection, genetically modified organisms and biosafety. This includes, among others, issues related to the EU Habitats Directive and the Natura 2000 Network of Protected Areas, the National Biodiversity Strategy and Action Plan, terrestrial and marine protected areas, habitat and species protection and management, nature permit applications and processes (including the Convention on International Trade in Endangered Species of Wild Fauna and Flora) and implementing and following up EU-funded projects related to biodiversity and nature protection.

Unit D coordinates the Authority's input in air quality, waste management, radiation, noise and soil. The work of Unit D also includes administering the transfrontier shipment of waste, registering packaging and the producers of waste electrical and electronic equipment and managing the air quality monitoring network.

Unit E coordinates the Authority's input in climate change, energy, water, marine strategy and coastal zone management. Unit E is also responsible for administering the national emissions trading scheme and coordinates the input of the Environmental Protection Directorate on the EU Seveso II Directive.

Within the Director's office, the EU and Multilateral Affairs Unit coordinates the Authority's deliverables with an EU and multilateral content, including coordinating projects financed under internationally funded instruments in which the Authority is a beneficiary or service provider, and improving the environmental performance of internationally funded programmes, coordinating input to Malta's position on the EU environmental *acquis communautaire* and policy and on EU obligations in which the Authority has competence, coordinating multilateral environmental agreements in which the Authority officers are focal points and coordinating overseas missions by Authority officials to maximize business value.

The Policy Coordination Unit is responsible for state of the environment reporting, sustainable development along with several cross-cutting matters. It is the focal point for environmental health at the Malta Environment & Planning Authority, and as such is responsible for coordinating the environment sector input into environment and health activities in Malta. The Unit was under the Office of the Director-General of the Authority and moved to the Environmental Protection Directorate at the end of 2008. Its role is evolving in accordance with the needs of the Environmental Protection Directorate.

Within Unit E, the team working on air quality consists of four people: one person responsible for implementing the EU Air Quality Directive and the National Emission Ceiling Directive, one person working on the EU Large Combustion Plant Directive and reviewing environmental impact assessment regarding air quality and enforcing regulations regulating volatile organic compounds from petrol stations, one person for real-time air quality monitoring and reporting to the EU and one technical officer responsible for the monitoring stations. Additional general staff from the Malta Environment & Planning Authority are supporting the team in installing diffusion tubes for air quality measurements.

The Malta Environment & Planning Authority is solely responsible for monitoring chemicals in the environment. The responsibility for managing and legislating on chemicals has been transferred to the Malta Standards Authority.

The Malta Environment & Planning Authority forwards complaints about noise levels to the Department for Environmental Health.

Waste is one of the largest working areas of the Malta Environment & Planning Authority in environmental management, mainly due to the large number of EU directives in this field. The Authority is responsible for providing the government policy assistance, for transposing EU regulations into draft national policies and for most of the general implementation of the directives but is not responsible for operating waste-management facilities. It is responsible for implementing all requirements set for waste management by the *acquis communautaire*. Some competencies in waste are shared with other institutions, such as WasteServ Malta Ltd under the Ministry for Resources and Rural Affairs, the implementing agency for waste management. The Authority is responsible for regulating the transport and shipment of hazardous waste. It also collects all data on waste, but the National Statistics Office publishes them online in the annual State of the Environment Indicators web site and the new web portal <http://www.ambjent.mt>.

The Policy Coordination Unit is responsible for collecting relevant environmental data and preparing a three-yearly state of the environment report, which is posted on the Authority web site together with datasheets containing key indicators. These indicators are updated every year. The Authority is responsible for reporting all data on the environment to the European Commission, the European Environment Agency and all other relevant international bodies. A project funded by the EU Structural Funds programme on environmental data monitoring has just been approved and will start shortly.

The Authority is also involved in a project aiming at implementing the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. The objective is to create a web portal collecting data from various sources. A pilot phase focusing only at air and water quality, waste and bathing water data has been initiated with the support of the Department for Environmental Health, the Malta Resources Authority and the National Statistical Office.

The Climate Change and Marine Policy Unit was set up in January 2008 as part of the restructuring of the Environmental Protection Directorate. The Unit is the focal point for the United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa.

Malta ratified the United Nations Framework Convention on Climate Change in 2004 as a non-Annex I country and the Kyoto Protocol in the same capacity in 2001. As a non-

Annex I country, Malta's main obligation is the periodic submission of national communications to the Conference of Parties to the Convention. Malta submitted its first national communication to the United Nations Framework Convention on Climate Change in April 2004. Pursuant to its current Convention status, Malta has no emission limitation or reduction targets for greenhouse-gas emissions for the first Kyoto Protocol commitment period (2008–2012).

Malta has been a member of the EU since 1 May 2004 and therefore needs to comply with all relevant EU legislation. Decision 280/2004/EC, in particular Article 3(1), sets out the requirements for individual countries reporting greenhouse-gas emissions and removals to the European Commission. The Climate Change and Marine Policy Unit is responsible for compiling the inventory of greenhouse-gas emissions. This involves collecting data, estimating emissions and removals, verifying the data and reporting. This inventory process covers the energy, transport (including land, maritime and aviation), industrial, waste-generation (including solid and liquid), agriculture and land-use sectors. The main sources of emissions are electricity generation, road transport and waste. The Unit also compiles the biennial report on climate change policies, measures and projections required under Article 3(2) of Decision 280/2004/EC of the European Parliament and of the Council of 11 February 2004 concerning mechanisms for monitoring community greenhouse-gas emissions and for the implementation of the Kyoto Protocol. In the future, this report and the inventory of greenhouse-gas emissions will be used to monitor Malta's compliance with its targets under the EU's new effort-sharing decision, which allows a 5% increase by 2020, over 2005 emissions, from all sectors except those within the scope of the EU Greenhouse Gas Emission Trading Scheme. In the Conference of the Parties at Poznan in December 2008, Malta announced its intent to move to Annex I under the United Nations Framework Convention on Climate Change.

As a non-Annex 1 party, Malta prepared its first national communication to the Conference of the Parties of the United Nations Framework Convention on Climate Change in 2004. In 2008, United Nations Development Programme funds were made available for developing the second national communication strategy due by mid-2009. The project components are: (1) compilation of the yearly inventory of anthropogenic greenhouse gas emissions by sources and removals by sinks for the period 2001 to 2006; (2) a fresh analysis of potential measures to abate greenhouse gas emissions in Malta, including projections of emissions to 2025; (3) a fresh assessment of the potential effects of climate change on vulnerable areas of Malta and on cross-cutting socioeconomic issues and the assessment of implications of adequate adaptation measures; (4) compilation of an updated national action plan for Malta to meet its international obligations in respect of climate change issues, to decrease vulnerability and to prepare adaptation measures; and (5) preparation of the second national communication of Malta and submission to the United Nations Framework Convention on Climate Change (41,42). Adaptation to climate change is a relatively new concept, and there has thus been more focus on mitigation lately. The Malta Environment & Planning Authority is the project manager, and the University of Malta is coordinating the preparation of the communication. One of the main problems in carrying out these studies is the lack of data, especially at the national level, as almost all data are at the global or regional level.

Attempts are being made to integrate climate change into the existing policies of other authorities to ensure that the various sectors mainstream climate change policies. A first attempt is being made to undertake a climate check for the National Water Catchment Management Plan to be prepared in accordance with the EU Water Framework Directive. The Malta Environment & Planning Authority and the Malta Resources Authority are

preparing this Plan as joint competent authorities for the EU Water Framework Directive. In addition, there is scope to integrate climate change within the planning system and the application process for new development.

In pursuing the obligations under the United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, the Malta Environment & Planning Authority attends the EU working party meetings on international environment issues to monitor progress. Attempts are being made to tackle desertification through other measures that concern adaptation to climate change and sustainable water use. The attempts to draft an action plan on desertification have not yet been successful.

The Department for Health Promotion and Disease Prevention of the Public Health Regulation Division is responsible for heat-wave warnings. The Meteorological Office of the Malta International Airport provides meteorological services and issues forecasts of the ultraviolet index that are communicated to the public through the Internet, the mass media and educational material in hotels (43). In addition, the Meteorological Office notifies the health authorities whenever the agreed-upon criteria for high ambient temperatures and high stress indices are reached.

In recent years, the Malta Environment & Planning Authority has succeeded in promoting better cooperation and exchange of data between authorities and sectors. However, much more could be done in this respect, especially in mainstreaming adaptation, given that it is a relatively new subject.

The Malta Environment & Planning Authority prepared a proposal for a project that included developing a national strategy on climate change. The initiative to obtain EU funds for this project did not succeed. The Climate Change and Marine Policy Unit has contributed to organizing a national conference on the effect of climate change on health held in April 2009.

In marine policy, the Climate Change and Marine Policy Unit is transposing the EU Marine Strategy Framework Directive. The Directive calls for several actions, including assessing the marine waters and then developing a marine strategy not only for waters under national jurisdiction but even at subregional levels to achieve good environmental status. The Directive introduces 11 descriptors for defining good environment status in marine waters including health-related ones, such as the quality of fish for human consumption. The Unit is following the technical work to develop the methods for such descriptors at the EU level.

The long-term objective is to work towards increased integration for water and marine policy and to ensure that climate change issues are mainstreamed in national policies.

### *Development Planning Directorate*

Within the Development Planning Directorate, the Plan Making and Policy Development Unit of the Forward Planning Division is responsible for planning, transport and the cultural heritage and for drafting the relevant strategic policies. The Unit has four full-time and two part-time staff members. The major committal document for planning is the Structure Plan, which entered into force in 1992. As the Structure Plan was designed for a period of 20 years, it is being revised. The Plan gives strategic direction for the spatial development of all national infrastructure and has to be approved by the Board of the



Malta Environment & Planning Authority, the responsible minister and the Parliament. The minister also approves the local plans.

The Plan Making and Policy Development Unit has been responsible for reviewing the Structure Plan, and the review took place in three different phases. During the first phase, about 20 studies were developed assessing the current situation, the need for improvement and the trends for the future in various spatial planning areas (retail, housing etc.). None of the studies directly analysed the health component of the planning projects, but health was represented through various health-relevant constructions (recreational areas, health infrastructure, schools etc.). The review considered the need to adapt structural development planning to a change in the age structure of the population and therefore to a greater need in the future for infrastructure for older people.

The review was undertaken in collaboration with various sectors and stakeholders and underwent public consultation. Each paper required agreement among all stakeholders and a national consensus.

During the second phase, a specific paper on strategic growth was developed. Three scenarios on where Malta would be in 20 years were elaborated. The first scenario assumed that Malta would not change in terms of demand for land but that demand in employment and housing would grow. The second scenario followed a conservative approach trying to restrict development. The third scenario was conceived as a pro-development scenario and focused on developing women's workforce participation in Malta based on the EU Lisbon Strategy and the implications for land use etc. Each scenario underwent sustainability impact assessment for social, environmental and economic aspects, including road traffic, social dimensions and land use. Based on the assessment, Malta chose to follow the third scenario, taking into account the need to regenerate especially the more highly industrialized area of the country and the need to regenerate the port area. The third and final phase is focusing on developing and adopting the new plan.

As a result of the above-mentioned baseline studies, the Plan Making and Policy Development Unit has also developed an issues paper analysing cross-cutting relationships between the various development areas. For example, balancing better and more effective use of the sea versus the impact on the quality of water that this increased use might produce.

Spatial planning distinguishes between the development zone, which comprises about 21% of the island and where most of the development should take place, and the rest of Malta. Development in the outside development zone has been possible with the necessary justification, such as landfills, sewage-treatment plants, shooting ranges etc. that are not desired near urban areas. The Structure Plan sets the strategic direction for both zones and organizes development within seven local plan areas. Each area has a local plan that translates the strategic direction into the local setting. The local plans are valid for 10 years. The plans specify, for example, strategic gaps: areas where no building is allowed, green spaces and areas reserved for housing.

During the review of the Structure Plan, some new aspects gained importance, such as the increased importance of retail trade. The local plans will have to provide supplementary guidance on how to best integrate retail trade into urban planning. As required by law, local plans undergo public consultation. Although the general public participates strongly in local plan issues, the degree of participation in strategic issues is less intensive, and public interest and feedback is limited to a few specific strategic issues and policies. NGOs

mostly comment on issues of cultural heritage, environmental protection and the quality of life in general. In contrast, local plans attract the interest of many residents, often causing a heated public debate. The discussions and complaints often focus on the – real or perceived – lack of green and open spaces and the increasing number of high-rise buildings.

The Malta Environment & Planning Authority is responsible for issuing building permits and therefore constantly monitoring the development of the housing stock. About 2000 new households are formed every year. About 10 000 permits are issued per year for new housing units, although this figure fell by almost half in 2008, but about 30 000 vacant dwellings can still be used (about 50 000 dwellings are vacant). These figures indicate that Malta has the capacity to fulfil its housing needs based on existing land allocation.

In addition to the Structure Plan and local plans, several supplementary planning guidance documents have been approved, including one on the accessibility of buildings to disabled people.

The Transport Planning Unit in the Forward Planning Division is responsible for strategic transport planning and acts as an interface to the Malta Transport Authority. The Unit was created in 1992. When the Malta Transport Authority was set up in 2002, the Transport Planning Unit became the link between the Malta Environment & Planning Authority and the Malta Transport Authority. The Transport Planning Unit had previously done all road planning. Although the Malta Transport Authority is now responsible for road planning, the Transport Planning Unit is still responsible for strategic planning involving roads. It assesses local plans regarding transport and makes proposals for improving roads. In recent years, the size of the Unit has steadily been reduced (five employees). Following internal priority-setting within the Malta Environment & Planning Authority, staff members have been shifted to the Building Permit Department.

The Transport Planning Unit is also responsible for drafting policies related to promoting sustainable transport (there is very high dependence on private cars), reducing road traffic, promoting public transport and restraining the use of private cars. It develops the plans and advocates with other relevant agencies for implementing them. It is also responsible for assessing the safety of roads, both the effects of road traffic and in terms of safety of access.

The Transport Planning Unit had a major role in introducing the Controlled Vehicle Access system in Valletta. To restrict car access to Valletta, an access charge has been in place since 2007, consisting of a parking charge controlled by a camera system. Cars entering the city are charged for the time spent in Valletta. The first 30 minutes are free and each subsequent hour is charged at €0.80; peak hours are not charged differently. The rationale behind the scheme was to reduce the use of cars in cities based on the idea that space is not free. The scheme is based on the experiences of Edinburgh, London and Stockholm and was introduced as a direct political decision with no referendum. At the same time, electric taxis were introduced inside Valetta to facilitate movement within the inner city.

Both initiatives form part of a white paper (2005) on Valletta and Floriana that includes a park-and-ride scheme and new pedestrian areas in Valetta, with slight variation in implementation of the original policy document, for example, regarding park-and-ride access charges, which have been modified since then, so that passengers travel for free.

Valletta benefited from a reduction in road traffic by implementing the above-mentioned plans. Areas just outside Valletta, however, still the high road traffic density. The Malta

Transport Authority conducted an evaluation, the results of which have not been published yet. Road traffic counts performed by the Transport Planning Unit indicate that road traffic has not decreased around the city. Before 2002, the Malta Environment & Planning Authority carried out regular traffic counts; now the Malta Transport Authority performs ad hoc irregular counts, and continuous data time series are therefore not available. The results are available to the Transport Planning Unit on request.

The Transport Planning Unit and the Malta Transport Authority form part of the Transport and Civil Engineering Programme standing committee and have regular biweekly meetings to coordinate actions and plan future activities. Due to the reshuffling of staff and cuts in human resources within the Malta Transport Authority, the committee had not met for five months at the time the EHPR was done.

In 1989 and 1998, the Transport Planning Unit implemented household travel surveys. The results indicated that reported walking was very low. In 1998, data were also collected on cycling, showing that cycling was perceived more as a leisure activity than a means of transport. Cycling and walking could be improved by improving infrastructure but, overall, cycling and walking are not strategic priorities. A follow-up survey was not possible due to lack of funds. The Unit participates in both the UNECE/WHO Transport, Health and Environment Pan-European Programme (THE PEP) and the national transport, health and environment committee. As part of this participation, the Unit helped to organize a workshop relating to the health effects of transport on children in Malta in 2004.

In conclusion, the structural rearrangements between the Malta Environment & Planning Authority and its Transport Planning Unit and the Malta Transport Authority have made the distribution of mandates and competencies appear somewhat unclear.

On a general level, the Malta Environment & Planning Authority is being reformed. Due to the large number of new construction sites, a balance needs to be re-established between the development planning and the protection of the national territory and thus also within the authority responsible for it. Until now, however, no concrete arrangements have been made.

The Board of the Malta Environment & Planning Authority seems to be essentially designated for planning questions. Stronger representation of the environment sector is desirable.

### Department of Information

The Department of Information under the Office of the Prime Minister is tasked with providing the public with up-to-date, comprehensive and meaningful information on government policies, services and activities and on matters of public interest and promoting a proper image of the public services and the country. It promotes public participation in the decision-making process.

### Malta Tourism Authority

The Malta Tourism Authority is under the Office of the Prime Minister. The Authority has a policy advisory function: it drafts policies, monitors the input of other ministries on tourism and advocates for other sectors to include tourism on the agenda.

An interministerial committee on tourism chaired by the Prime Minister with other sectors on board discusses issues in which the Authority needs the support of other sectors. Most issues are related to economics or transport. In the environment, the Authority has been heavily involved in bathing water quality and environmental upgrading programmes, such as the Blue Flag beach programme. The Authority created the link between environmental management and tourism development.

## Other sectors

### Ministry of Education, Culture, Youth and Sport

Through its Directorate for Educational Services under the Education Division, the Ministry of Education, Culture, Youth and Sport is tackling the prevention of obesity through physical activity, diet and nutrition at schools. Physical activity has been lower on the priority list of the education sector for some time, but efforts are being made to increase the amount and importance of physical activity in the schools. Given the rather short school days (08:30 to 14:30), implementing additional hours of physical activity during the school day is very difficult. Primary schools dedicate 90 minutes to physical activity weekly and secondary schools 45–90 minutes, depending on the type of school, based on the national school curriculum decided by the government.

Nevertheless, numerous initiatives have been started in cooperation with all other relevant sectors to increase the amount of and the opportunities for physical activity. Pilot projects have been implemented in cooperation with the Malta Sports Council (see below) aimed at increasing after-school activities.

In cooperation with the police, the Department for Health Promotion and Disease Prevention and local councils, a pilot walking-bus initiative in one primary school has promoted walking and cycling. The initiative also addressed road safety issues. This initiative was recognized as an important programme to be further promoted by the Malta Sports Council, but continuation is unclear.

The Ministry of Education, Culture, Youth and Sport in collaboration with the Ministry for Resources and Rural Affairs is addressing nutrition at school by implementing a milk scheme partly subsidized by the EU. The schools previously covered all milk costs. A school fruit and vegetable scheme is to be implemented in cooperation with the Ministry for Resources and Rural Affairs (as paying agents), the Ministry for Social Policy, Health, the Elderly and Community Care and the Ministry of Finance, the Economy and Investment. The EU is also co-financing this scheme. This scheme is fully financed for all primary schools as beneficiaries and will be offered to students from preschool to primary grades, in public and non-public schools.

A Task Force for Appropriate School Nutrition Environments also addressed diet and nutrition, including school administrators, nutritionists and others. The task force produced a report on healthy eating and gave an overview of what is being sold in school tuck shops. The results laid the foundations of the Healthy Eating Lifestyle Plan committee, which developed the HELP policy.

The Ministry of Education, Culture, Youth and Sport is also targeting the food offered in school tuck shops in secondary schools (students 11–15 years old), for example, by providing a list of healthy foods to be sold. The Ministry, through conditions of tenders and contracts, aims to ensure that healthy foods are sold in schools. In some cases, parents

and students run the shops themselves. However, tuck shops represent a large source of income for schools, and implementing the initiative can therefore be difficult. The sale of soft drinks in public schools is banned, however.

Through the HELP project, the Ministry of Education, Culture, Youth and Sport is involved in additional initiatives promoting mostly healthy eating and, to some extent, physical activity. The HELP project targets the curriculum, aiming at empowering children to make healthy choices, for example, through healthy eating sessions that involve parents. A whole week is routinely dedicated to diet and nutrition with the participation of nutritionists, parents and significant others.

In some schools children eat breakfast, but usually only lunches brought from home are eaten at school. Through information events, parents are informed about what the lunch should contain (for example, no sweets or soft drinks). Many schools, both private and public, formally adopted this policy following the launch of the HELP project in 2007. In most cases, the parents comply with these recommendations.

The Ministry has also setting up a BMI surveillance system in secondary schools and plans to introduce this as a regular audit system (see the chapter on monitoring).

The School Health and Safety Unit within the Directorate for Educational Services has taken a leading role in how messages related to health and safety are disseminated among young people. This unit is only responsible for the 130 public schools but also offers its services to the 55 church-run schools and about 30 private schools on request. The Unit is represented on the Interministerial Committee on Environment and Health (NEHAP Committee) and working on action related to regional priority goal 2.

This Unit has an annual rolling programme in which several specially appointed teachers deliver an educational programme to all primary and secondary schoolchildren, covering topics including home safety, safety at sea, Internet safety, electricity, fire, exposure to ultraviolet light, ergonomics regarding heavy school bags and road safety. In 2009, the topics chosen were road safety for cycling, walking, home safety, electricity and medicine. One topic was also gardening, and the Unit involved the parents in a programme. Environmental aspects, how to use safe energy and the negative effect of pollution have mostly been included in the lessons on home safety. In this regard, however, there has been no cooperation with the Department for Environmental Health.

Twelve teachers in Malta and Gozo headed by one health and safety officer instruct on health and safety issues in kindergartens and primary schools (children aged 3–10 years). These teachers visit schools to implement training. A similar programme exists for secondary schools, this time covered by specially appointed in-house health and safety teachers. The training is adapted to the various age groups, also covering healthy lifestyle issues such as drugs, smoking, alcohol and anorexia. In total, there are 60 health and safety teachers.

Awareness-raising and informative sessions on the same topics are also carried out with parents. For example, parents are made more aware of potential hazards in the home and how to identify them and subsequently reduce or eliminate them. The Unit is also actively engaged in providing professional staff development sessions in which teaching staff and other staff members are trained in hazard awareness and preventing injuries among children. Training is carried out on the theoretical and practical aspects of fire safety,

especially in school laboratories. Schools implement emergency evacuation exercises planned by this Unit and report on this three times each year.

An exhibition on health and safety is organized on the first day of school to promote health and safety among students, parents and teachers.

A programme on disease prevention for health and safety teachers has been implemented in cooperation with the Department for Health Promotion and Disease Prevention. Such sessions are also provided on request free of charge in private schools, where growing interest has been noted in recent years.

An intensive educational programme on home and sea safety targets about 5800 students aged 9–11 years and 16 000 aged 12–15 years, their parents and teaching staff. The sea safety campaign is being carried out in collaboration with the Malta Maritime Authority. Safety events, in collaboration with safety or rescue providers, have taken place in several schools. These events provide information to parents on how to assess risk in their homes and make them a safer place for them and their children (30).

A project was initiated for low academic achievers who are vulnerable to taking up high-risk occupations. The project trains in basic health and safety laws, hazard mitigation and other related issues.

The School Health and Safety Unit is also responsible for carrying out health and safety risk assessment of school buildings and playgrounds. Physical aspects such as roof quality, water safety, electricity, windows, desks, flooring as well as biological aspects such as mould and moisture are considered. Standard procedures for controlling and ensuring safe travel to school are also being developed.

The Occupational Health and Safety Authority inspects schools in relation to hazards for workers, and the School Health and Safety Unit addresses the hazards that are particularly relevant for children. There is no formal system of exchanging information between the two institutions.

In 2007, the School Health and Safety Unit set up a database based on reporting accidents occurring in schools. Surveillance of school-related accidents is strongly encouraged.

The following motivational awards are given to schools:

- Health and Safety Best Practice Award: awarded to schools undertaking projects to promote health and safety; and
- Certificate of Merit: awarded to all schools satisfying health and safety criteria during inspections, with three safety levels, with only about 60% of schools being awarded this certificate by attaining the highest safety level.

In recent years, the Unit has increased its participation in international projects. Funds from the EU Grundtvig programme and Leonardo da Vinci programme have supported the implementation of two projects: first-aid training in schools implemented by the Malta Red Cross Society aiming at training all health and safety teachers; and “Tandems go”, aiming at analysing the development of health and safety measures during the past 50 years. The Unit is a member of the Steering Committee of the European Child Safety Alliance and of EuroSafe. Additional international support would be beneficial.

The School Health and Safety Unit plans to establish a health and safety centre that would create opportunities for practical experience and training.

### *Malta Sports Council (Kunsill Malti għall-iSport)*

The Parliamentary Secretary of Sport under the Ministry of Education, Culture, Youth and Sport is responsible for the Malta Sports Council and appoints the nine members of the Board.

The Council was set up through the Sports Act in 2002 and is the national authority for sports.

The Council administers various sports complexes, including the university complex, the national pool, the athletic stadium, a horse racing course and a golf course. A new complex was being finalized in 2009, and there are plans for another complex to be developed through public-private partnership by 2012.

The main objectives of the Council are to promote sports across the population and to draft relevant legislation. It acts as an advisory body and as a consultant to government on sports policy. Fifteen people are employed full time, and about 130 part-time coaches are engaged with the Council.

The Council collects data on physical activity and sports. A new survey is being developed in conjunction with the National Statistics Office. The Council recognizes the importance of collecting more thorough information, including the economic effects of sports. The Global Physical Activity Questionnaire would be a useful tool.

The Council is developing a coaching policy to ensure that all coaches have the proper education to cover social aspects. It also has the mandate of assessing plans for the construction of all public and private sports facilities.

*Re-shaping sport (44)* is the main strategy document. An appointed sports development commission is carrying out an evaluation process based on this document. A new document is expected to be finalized soon.

To increase accessibility to sports facilities, an agreement was signed in February 2009 with the Directorate for Educational Services under the Ministry of Education, Culture, Youth and Sport stipulating the transfer of responsibility of sports facilities within school premises to the Council outside school hours, to be used for school programmes and by the public.

As of October 2008, the Council had a Sport Promotion Unit with a small staff complement. A pilot project is being implemented to promote more physical activity and sports in schools. This programme adds to the curricular physical education by promoting various activities, tournaments and festivals and aims to reach all students.

The Council is working with eight associations to promote activities before, during and after school in secondary schools. Part-time coaches are being engaged to provide specific sports activities.

The Council is operating 13 programmes stressing social inclusion (Sports Buzz) in a particularly challenging area of Malta. The Girls on the Move programme is aimed to

address the observed lower prevalence of physical activity among girls. The Summer on the Move programme is also involving parents. The Council has also been instrumental in developing a walking-bus pilot project.

## Ministry for Infrastructure, Transport and Communications

The Ministry for Infrastructure, Transport and Communications is responsible for coordinating urban development projects and for the Information and Communication Technology Strategy.

The Ministry's responsibilities include:

- Malta Transport Authority
- Water Services Corporation
- Enemalta Corporation.

### Malta Transport Authority

The Malta Transport Authority comprises two boards appointed by the Minister for Transport, Infrastructure and Communications. In accordance with the Malta Transport Authority Act of 2000, the legally mandated functions of the Authority are:

- to plan, provide, secure and promote the provision of a properly integrated, safe, economical and efficient transport system by road;
- to occupy, plan, design, construct the provision of the system and also to provide services for such purposes and to manage and control the necessary works;
- to establish a code of standards and specifications to be maintained and complied with in the execution of any works connected with roads;
- to test, register and license motor vehicles and the drivers;
- to regulate, manage and control the road traffic and the transport of persons and goods;
- to train people engaged or to be engaged in the public transport services and to promote the welfare of such people; and
- to compile and keep up-to-date records of such data as it may deem appropriate in connection with its functions.

The Malta Transport Authority was created in 2002 in a merger of various institutions. As a follow up of the Transport Charter and later the UNECE/WHO Transport, Health and Environment Pan-European Programme (THE PEP) commitments, a Transport, Health and Environment Committee was set up on the initiative of the health-related divisions of the Ministry for Social Policy, Health, the Elderly and Community Care in collaboration with Malta Environment & Planning Authority and the Malta Transport Authority. Malta Transport Authority representatives are involved in the WHO/European Commission project on nutrition, physical activity and obesity. Due to the ongoing restructuring, a Malta Transport Authority representative has yet to be appointed to the Intersectoral Committee to Counteract Obesity.

There has been more political commitment recently for supporting a shift away from private transport to public transport by developing the public transport reform and for implementing travel surveys.

Road traffic counts and travel surveys are an area for improvement. Both the Transport Planning Unit of the Malta Environment & Planning Authority and the Malta Transport



Authority have requested funds to implement road traffic counts and travel surveys. The Malta Environment & Planning Authority has carried out two surveys.

A stringent reform of public transport is a necessary first step before tackling other areas. This reform will examine challenges and areas for improvement and will mostly focus on developing better public transport. The change includes renewing the very old bus fleet according to new EU standards. It also comprises increasing the accessibility of buses (for example, introducing low-floor buses, as the current ones are hard to access for people with health problems or disabilities) and reducing the burden on the Valletta bus terminal since all buses go through Valletta, making trips unnecessarily longer. Night service and connections between lines will be improved. The introduction of electric mini-taxis as part of the access limitation approach into the capital has been very successful. A feasibility study on introducing a new light-rail system is foreseen.

The policy proposals elaborated so far do not seem to include promoting cycling and walking as alternative modes of transport. Cycling lanes have been created in some areas but are not so popular due to safety concerns and lack of continuity.

The local councils are responsible for constructing and maintaining sidewalks. They are often very narrow, poorly maintained and discourage walking. The Malta Transport Authority should enforce a width of 1.3 metres.

The current main strategy builds on strengthening alternatives to private transport rather than taking more stringent measures to reduce car use. Finally, the strategy does not take up the question of parking policies at workplaces. The predominant approach is to consider the minimum number of parking spaces required at the workplace rather than restricting the number of parking places to encourage the use of alternative means of transport as well as walking and cycling where possible. For example, introducing electric taxis in the hilly but nevertheless quite compact centre of Valletta along with the access restrictions somewhat promotes the notion that walking is too inconvenient even for very short trips in the old centre and that a more “convenient” means of transport is an absolute necessity. Various counterparts concluded during the EHPR that walking needs to be especially more strongly promoted as a convenient and healthy mode of transport.

The Malta Transport Authority is represented on an intersectoral committee on climate change and energy and has proposed new measures to reduce carbon emissions under the climate change policy.

As described above, the Malta Transport Authority forms part of the Transport and Civil Engineering Programme standing committee with the Transport Planning Unit of the Malta Environment & Planning Authority. The committee had been set up to support the collaboration between the two institutions, but it has not met for some time.

### *Water Services Corporation*

The Water Services Corporation is also a major actor in environment and health. It is responsible for abstracting groundwater, producing desalinated water and delivering potable water to consumers. It is also responsible for monitoring and quality control.

## Enemalta Corporation

Enemalta is Malta's main provider of electricity, main importer and consumer of fossil fuels and main producer of greenhouse-gas emissions. Its activities significantly affect air pollution and climate change issues in Malta. The report on programmes and measures of the Malta Environment & Planning Authority contains details of recent mitigation measures undertaken by both these agencies.

## Ministry for Resources and Rural Affairs

The Ministry for Resources and Rural Affairs has the following portfolio:

- climate change
- veterinary services
- agriculture
- waste management
- construction and maintenance
- building industry
- animal welfare.

The Ministry is the main actor for policies related to climate change. The Malta Environment & Planning Authority provides technical expertise on climate change and reports to the Ministry for Resources and Rural Affairs. Together with many other sectors, the Ministry forms part of an intersectoral committee on climate change and energy.<sup>4</sup> This committee was responsible for drafting the climate change strategy that is under consultation on the web.

A draft energy policy was finalized in 2006. The draft energy policy proposes several measures on energy efficiency in transport aimed at promoting the use of public transport to improve energy efficiency. Following public consultation, the proposal for an energy policy for Malta was presented to the Cabinet of Ministers in April 2009. Like many other strategies, developing it has taken some time (45).

Through its Animal Health and Welfare Directorate, the Ministry is responsible for animal health and animal welfare. Through the Food Health and Diagnostics Directorate, the Ministry is responsible for veterinary public health, animal feedstock, veterinary medicines and residues and laboratory analysis. The International and Legal Coordination Directorate is responsible for coordinating international and local legislation, import controls, food of animal origin and animals.

The Veterinary Services Department is responsible for monitoring food of animal origin from farm to fork and is represented on the Food Safety Commission. The Veterinary Services Department is responsible for implementing the code of conduct of the Food and Agriculture Organization of the United Nations.

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<sup>4</sup> The committee is chaired by the CEO of Enemalta, and the members are: Ministry for Resources and Rural Affairs; Permanent Secretary within the Ministry for Resources and Rural Affairs; Director of Environment Protection, Malta Environment & Planning Authority; Director (Energy) within the Malta Resources Authority; a senior academic within Malta University's Department of Engineering; Chief Technical Officer of Enemalta; a consultant in environmental law; an independent chief engineer; and the Vice President of the Catholic Church's Environment Commission.

Veterinary services have their own laboratory, but although the output is high, the laboratory has insufficient staff members to keep up with the demands required by law.

The Ministry is also in charge of rural development policy regarding reducing nitrate pollution from fertilization. Many resources have been put into this programme through EU funding and various rural development programmes.

### Malta Resources Authority

The Malta Resources Authority is under the Ministry for Resources and Rural Affairs. Malta's Parliament created the Authority through the Malta Resources Authority Act of 2000. The Malta Resources Authority has wide-ranging responsibilities essentially involving the regulation of water and energy utilities, industrial enterprises exploiting resources such as oil exploration, quarry operators and private abstractors of groundwater, retailers, operators and tradespeople in the regulated sectors.

The Authority has the following functions:

- to regulate, monitor and keep under review all practices, operations and activities relating to energy, water and mineral resources;
- to grant any licence, permit or other authorization, for carrying out any operation or activity relating to energy, water and mineral resources;
- to ensure fair competition in all such practices, operations and activities;
- to establish minimum quality and security standards for any of the said practices, operations and activities and to regulate such measures as may be necessary to ensure public and private safety;
- to secure and regulate the development and maintenance of efficient systems to satisfy, as economically as possible, all reasonable demands for the provision of the resources regulated;
- to carry out studies, research or investigation on any matter relating to the resources regulated; and
- to provide information and issue guidelines to the public and to commercial and other entities on matters relating to energy, water and mineral resources.

The Water Directorate of the Malta Resources Authority regulates water resources. It is responsible for regulating water and wastewater operations. The Department for Environmental Health regulates drinking-water.

One of the main duties of the Malta Resources Authority is stewardship of groundwater resources through appropriate monitoring and management of this resource. The EU Water Framework Directive establishes requirements for monitoring and surveillance of groundwater quality, and the Authority is responsible for implementing these programmes. The Malta Resources Authority retains data on groundwater sources and data on water supply in individual villages and towns provided by the suppliers. These data may be shared with other relevant authorities.

The Malta Resources Authority receives customer complaints on the operations of service providers and may act as an arbitrator in such situations.

The Energy Directorate of the Malta Resources Authority covers all aspects of energy except some issues of energy efficiency such as energy abatement, which the Office of the

Chief Executive Officer deals with directly. This Directorate is the contact point for all energy-related issues with the EU and is responsible for transposing the EU energy-related policies into national regulations. The Energy Directorate is a member of an intersectoral committee on climate change and energy and of the Interministerial Committee on Environment and Health (NEHAP Committee).

The liquefied petroleum/propane gas (LPG) market is being liberalized. The promotion of LPG as a cleaner fuel compared with diesel oil is being promoted. LPG is used at the residential level and in the hospitality sector and some manufacturing industries. The Malta Resources Authority has been in contact with the UKLPG (a trade association for LPG in the United Kingdom) to adapt the LPG codes of practice to the local scenario. Such codes cover the use of LPG in various aspects that include bulk storage, pipe networks, LPG as a prime mover fuel, cylinder storage and use. These 21 codes of practice are on the web site of the Malta Resources Authority for public consultation. Legislation covering the LPG market has been passed, and this will be followed by other legislation covering bulk storage and auto-gas.

The Energy Directorate of the Malta Resources Authority covers all issues regarding fuels – importation, fuel stations and new applications – and reacts to complaints about illegal storage or illegal quality of fuels.

One person on the team is responsible for renewable energy. The government has issued a rebate scheme for investment in renewable energy sources: use of solar panels and methods for improving energy efficiency such as better insulation and double-glazing. The Malta Resources Authority studied the implementation of renewable energy and estimated the proportion of total energy needed renewable energy could cover under different policy scenarios. The study has not been published yet, however. The government has drafted a strategy providing input for tariffs and incentives in this area. The strategy has been posted on the Internet for public consultation and comments. Another scheme on energy-efficient goods has been put in place that subsidizes buying more energy-efficient products.

The Malta Resources Authority is analysing the feasibility of offshore wind farms on shallow reefs in a study on wind energy. The Institute for Sustainable Energy of the University of Malta has contributed to this subject with additional research (46).

The Malta Resources Authority is working together with the Ministry of Finance, the Economy and Investment and plays an advisory role in tax incentive measures. No regular cooperation mechanisms exist, but an informal collaboration approach has a long-standing tradition. The Malta Resources Authority also administers the rebate scheme on agro-fuel components, which are tax exempt. In Malta, biofuels are derived from waste oil.

The Malta Environment & Planning Authority is responsible for the EU Greenhouse Gas Emission Trading Scheme in Malta.

As Malta had only one energy producer and one importer until very recently, collecting data was relatively easy. Since the market was liberalized in accordance with EU requirements, more importers exist. However, in accordance with EU regulations, all suppliers are required to provide the relevant data about quality, mechanism etc. as part of the licensing process. The Malta Resources Authority is responsible for issuing licences for energy producers.

## Malta Standards Authority

The remit of the Malta Standards Authority is to effectively coordinate standardization and related activities to meet Malta's needs in accordance with European and internationally recognized standards and practices that enhance economic efficiency and international competitiveness and fulfil Malta's requirements for consumer protection and for a safe and sustainable environment. One of its four Directorates, the Regulatory Affairs Directorate, covers foodstuffs, chemicals, cosmetics, consumer products, industrial products and pesticides with respect to aspects ranging from product safety to energy efficiency to ensuring a level playing between field economic operators. The Directorate is responsible for reporting on the EU Registration, Evaluation, Authorization and Restriction of Chemical Substances (REACH) regulation.

The Regulatory Affairs Directorate plays a role in the technical evaluation of EU legislation during transposition and implementation and in giving guidance to economic operators, such as preparing guides on good hygiene practices. This Directorate also advises various ministries, including the Ministry for Social Policy, Health, the Elderly and Community Care, particularly on issues relating to labelling and chemical risk (additives, contact materials and contaminants). Since February 2008, this Directorate has also been responsible for pesticides.

The Malta Standards Authority is led by a council comprising representatives from public and private entities chaired by an appointee of the Minister of Finance, the Economy and Investment.

Within the Authority, the Regulatory Affairs Directorate has a very broad remit of action. It is the national competent authority on product sectors ranging from toys to type approval of motor vehicles and pyrotechnic articles. It is responsible for implementing REACH and manages an E-REACH committee with various stakeholders (Malta Environment & Planning Authority, customs, public health and occupational health and safety). The Regulatory Affairs Directorate is responsible for all classification, labelling and packaging legislation. The Directorate will also be responsible for the Classification, Labelling and Packaging of Substances and Mixtures Help Desk to be set up shortly. Chemical notification is carried out through the European Chemicals Agency in Helsinki.

The main legal binding act for the activities of the Directorate is the Product Safety Act, which coordinates REACH, classification and labelling and so on.

At the time of the review, a project on the national chemical profile was being implemented with the support of the United Nations Institute for Training and Research. An ensuing visit from a delegation of experts from several EU countries to assess the national legislation on industry regarding chemicals was planned for the second half of 2009.

The Market Surveillance Directorate within the Malta Standards Authority works closely with the Regulatory Affairs Directorate but focuses on post-market issues. The Market Surveillance Directorate is in charge, for example, of monitoring crops. As the Public Health Laboratory is not accredited for performing this type of analysis, the samples are sent to Sicily. The data collected are not yet publicly available but will be on the Malta Standards Authority web site soon.

The Pesticides Control Board, under the remit of the Regulatory Affairs Directorate, is responsible for managing pesticides. The health sector was responsible for this in the past. The Pesticides Control Board processes applications for authorization to place products on the market, registers pesticides and draws up and executes an annual monitoring programme for testing pesticide residues in plant production together with the Market Surveillance Directorate. Unlisted products cannot be sold legally. The Board comprises representatives from the educational sector and a representative from each of the following: Department for Environmental Health, Environment Protection Directorate, Malta Standards Authority, Occupational Health and Safety Authority and Water Services Corporation. Any public officer of the Pesticide Control Board has the power to enter and inspect any land, site or building or any means of transport to check that the provisions of the Pesticides Control Act or any related regulation have been or are being complied with. The officers can take samples of any pesticide or of any produce treated or suspected of being treated with a pesticide. This provision applies to any article that may have been in contact with a pesticide. Detailed data on the use of pesticides is available on the web site of the National Statistics Office (47).

The Regulatory Affairs Directorate (pre-market) and Market Surveillance Directorate (post-market) are responsible for chemicals in toys, but no regular testing is done. The manufacturer or importer is responsible for product quality, which must be ensured before market entry. The Malta Standards Authority, through the Market Surveillance Directorate, is then involved in surveillance and checking of products once a product is on the market and in case problems or complaints occur, as specified in EU legislation.

There is no formal poison-control centre, but there are plans for this to be established it at the Mater Dei Hospital (state hospital).

The Standardization Directorate of the Malta Standards Authority also offers EN ISO 14000 certification and, together with the Regulatory Affairs Directorate, gives guidance on how to tackle infestations of plants. These Directorates liaise with the Plant Health Department of the Paying Agency within the Ministry for Resources and Rural Affairs about which products are on the market etc.

The Regulatory Affairs Directorate is also the national counterpart of the European Food Safety Authority. A food consumption survey is underway that will provide a better data background for assessing and managing food risk. The Regulatory Affairs Directorate is seeking funds to survey 600–800 individuals in collaboration with the Health Promotion Unit of the Department for Health Promotion and Disease Prevention.

In general terms, the major challenge of the Regulatory Affairs Directorate in relation to chemical safety is the lack of baseline data and research required in preparing evidence-based policies and action. Persistent organic pollutants in breast-milk and the composition of particles in dust have been identified as necessary research areas.

## Ministry of Justice and Home Affairs

The Ministry of Justice and Home Affairs is responsible for civil protection. Through the Civil Protection Department, the Ministry is responsible for preparedness, preparation and response in case of emergencies. They are responsible for preparing contingency plans for all human-made and natural disasters such as floods, earthquakes, fires, heavy winds,

fireworks factories and radiation and chemicals. The Department has the duty to inform the public in case of an emergency and for training the public in how to react in disasters. The contingency plans follow EU directives. The Department is in charge of rescue on land and fire at sea. The Armed Forces of Malta is responsible for sea rescue. The Department has 150 staff and 75 volunteers, also covering a single unit on the island of Gozo.

Since it was established, the Department has been building on strong cooperation with other European countries and the United States of America. Department staff members have attended several international training courses on disaster preparedness.

The Ministry of Justice and Home Affairs and its Civil Protection Department are members of the Civil Protection Scientific Committee, which includes representatives from various sectors and various stakeholders. They are also members of the Radiation Protection Board and collaborate with Malta Environment & Planning Authority if spot visits are required to assess the danger of fire and radiation.

Through its Police Department, the Ministry is also responsible for enforcing transport and environmental safety measures.

### Ministry of Finance, the Economy and Investment

The Ministry of Finance, the Economy and Investment is responsible for:

- economic policy
- financial regulations
- industry
- consumer protection.

The Ministry of Finance, the Economy and Investment is also a member of the Intersectoral Committee to Counteract Obesity and has been very supportive in the activities initiated for counteracting obesity. It has helped to place obesity on the agenda by emphasizing the economic burden obesity has on society. The Ministry has also been working on economic instruments in environmental management, of which there are about 50. These including the new vehicle registration system based on the pollution potential of vehicles.

### Municipalities

Compared with larger countries in the WHO European Region, municipalities in Malta cover very small jurisdictions and have relatively limited authority and budgets.

The municipalities primarily fund their own activities and receive national subsidies. As municipalities do not determine all their revenue sources, they must fulfil specific expenditure obligations decided by the national government.

Local councils have the main responsibility for common open places such as gardens and parks. They sometimes take on a lobbyist role in environmental and planning projects, often expressing their opinions and concerns about development projects. Local councils are responsible for maintaining roads.

A new scheme with €120 000 has been introduced enabling local councils to apply for sports programmes and the promotion of physical activity, favouring long-term activities. Forty-five councils have applied for this scheme, and the applications were being vetted at the time of the review. Individual projects can be co-sponsored at a maximum of €3000, with the local communities matching this funding.<sup>5</sup>

The Malta Environment & Planning Authority has created an Urban Improvement Fund of about €6 million, enabling local councils to apply for funds towards improving sustainable transport systems and street safety for pedestrians. Municipalities, however, are often more interested in providing more parking spaces.

### Office of the Commissioner for Children

The Office of the Commissioner for Children has the aim of advocating for children's rights and cooperates with various government and nongovernmental bodies focusing on children. This Office was created in 2003 based on the Commissioner for Children Act of 2003. The Commissioner for Children promotes compliance with the United Nations Convention on the Rights of the Child. This Office has been involved in revising the NEHAP and, in this context, has mainly been involved in preventing obesity and safety in school and leisure environments. The Office has been responsible for projects relevant to children's health and well-being.

One such project focused on children's leisure time. Based on Article 31 of the United Nations Convention on the Rights of the Child, referring to the right of children to play, the Office of the Commissioner commissioned a research project in 2006 on children's access and opportunity to play, and the results were published in a report. Discussions were held with children and parents about the need for children to have enough time to play. In addition, they are advocating for safe places and opportunities for playing. One recommendation the Office of the Commissioner for Children has put forward in its work is advocating for opportunities for children to play in both urban and rural areas. The Commissioner has also held discussions with others working in the field, such as the School Health and Safety Unit.

Preventing obesity and ensuring healthy diet and nutrition are other priority areas in the Office's activities. The Commissioner's office has supported the Healthy Eating Lifestyle Plan (HELP) project run by the education sector but is not represented on the Intersectoral Committee to Counteract Obesity.

The Office of the Commissioner is highly involved in open public discussions on various topics such as awareness-raising about the legal age for children to be allowed to work.<sup>6</sup> In view of the 2008 general elections, the Office of the Commissioner for Children published a Manifesto for Children summarizing priorities and concerns that politicians should take on board to ensure a good quality of life for children. The topics of the Manifesto were discussed in open forums. Environment was one topic, and the discussions focused on many topics, including the safety around houses and playgrounds.

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<sup>5</sup> Finland has implemented the same approach in the Finland-on-the-Move programme and has been very successful.

<sup>6</sup> To be allowed to work, children younger than 16 years need permission from the school and the parents' approval. The parents' approval is also needed for children younger than 18 years, and special provisions apply for workers 16–18 years of age under the Health and Safety Act to take their increased vulnerability into account.



The Office of the Commissioner is run by about four full-time staff members and a few part-time personnel and is funded by a government budget under the Ministry for Social Policy, Health, the Elderly and Community Care. The budget and the recognition of the work of the Office have increased over the years.

The Office of the Commissioner is supported by a Council for Children. The Council plays the role of an advisory body to the Commissioner with representatives of ministries and seven members working in the field of expertise of the Commissioner, including four youth representatives. The Council is renewed every year. The Council has three youth representatives, and one will be selected shortly. The main task of the youth representatives is to promote the ideas, messages and activities of the Office of the Commissioner to their peers and to comment about planned activities from a youth perspective (for example, the layout of the Office's web site). The youth representatives on the Council participated in the WHO intergovernmental midterm review on environment and health in Vienna, Austria in 2007 and participated in the youth event attached to it. The same youths were also invited to attend NEHAP Committee meetings. As they are now older than the age permitted, they are not members of the Council anymore. Mechanisms should be put in place to ensure continuity in action between the youths and the transfer of knowledge and experience between them.

### Private sector

Waste management has been reorganized by creating a new parastatal company – WasteServ Malta Ltd. This company is responsible for organizing, managing and operating integrated systems for waste management including integrated systems for minimizing, collecting, transporting, sorting, reusing, utilizing, recycling, treating and disposing of solid and hazardous waste (38). The company also plays an important role in raising public awareness on waste management issues together with promoting changes in social attitudes and behaviour concerning waste management among the general public, especially young people.

The Meteorological Office, which has been part of Malta International Airport since 2002, is responsible for providing weather services, including weather hazard warnings and advisories to the general public, search and rescue operations and the government and its departments.

The Meteorological Office, which is ISO 9000 accredited, is the official source designated by the World Meteorological Organization for collecting and disseminating national climate data.

Cooperation with the Public Health Regulation Division is ongoing, and the Office is working with health officials on several proposals to enhance the communication and early warning of extreme weather events.

### NGOs and civil society

Malta has only one association dealing specifically with environment and health. It does not have NGO status, as this requires financial and human resources that are lacking. SahnAmbjent (Health and Environment) has the objective of promoting environment and

health and functions as a pressure group. They form part of the international network International Society of Doctors for the Environment. The aim is to cover issues that are covered by neither health nor environmental NGOs. It has 25 members, mainly physicians and pharmacists, some of whom are members of other NGOs.

The main activities of SahhAmbjent are educational. An environment and health module was included in the Diploma in Family Practice, a course run by the Malta College of Family Doctors, for the continuing education of family doctors. Several sessions on environment and health are also carried out as part of the Specialist Training Programme in Family Medicine, which started in 2007. Members of SahhAmbjent are providing the courses on environment and health, combining the WHO train-the-trainers modules, originally offered by the Public Health Regulation Division in collaboration with the WHO Regional Office for Europe with data about Malta's reality collected from official entities, researchers and academics. SahhAmbjent would like to extend the courses to nurses and pharmacists. At the time of the review, SahhAmbjent had not organized any public environment and health awareness campaigns.

The involvement of NGOs in public consultation has increased in recent years. NGOs often participate in consultation processes related to land development. However, standardized procedures and initiatives for having NGOs more specifically involved in policy-making processes should be increased.

Some environmental NGOs in Malta, such as Greenpeace, Friends of the Earth and Nature Trust, have integrated health topics into their activities and campaigns. In general, environmental NGOs link environmental risk factors to health outcomes, whereas health-oriented NGOs and associations seldom recognize the impact of environmental factors on human well-being.

Cooperation with civil society and voluntary organizations takes place in health promotion activities. The Department for Health Promotion and Disease Prevention collaborates with voluntary organization such as Caritas Malta in organizing healthy eating talks at the community level.

## 5. Policy setting and the legal framework

### Conclusions

- No new public health strategy has been developed since the national health policy document, *Health Vision 2000*, was published in 1998. The document would have offered an opportunity for an integrated approach to environment and health, but this was not sufficiently integrated into policy.
- The planned strategy on noncommunicable diseases is a good initiative, as noncommunicable diseases have not been sufficiently recognized.
- The current Public Health Act mostly focuses on infectious diseases.
- At the project level, the environmental impact assessment regulations include health as part of the assessment of the likely effects of a proposed project on humans. At the policy level, however, no specific measures are in place to make policies accountable for their health effects.
- There is no overall national policy on preventing injuries. There are only specific national policies for road safety and occupational injuries in the framework of the occupational health and safety policy. Data collection on injuries has only started and is still dispersed.
- Although the Environment Protection Act defines pollution as a possible hazard to human health, the Act does not clearly link the environment and its effects on health.
- Malta has ratified many multilateral environmental agreements.
- The development and approval of policies and strategies is a lengthy process, and policy evaluation generally appears to be lacking. In addition, no formal regular health report is published, whereas a regular report is published on the status of the environment that also contains a chapter on environment and health.
- Even before the NEHAP was published, each sector had obtained endorsement for their action at the Permanent Secretary level, and the NEHAP is being implemented.
- The NEHAP has been an influential tool for formulating and sharing responsibilities in environment and health.
- Various ministries and bodies are responsible for building regulations and sanitation.
- General expenditure on environmental management and protection has increased in recent years.
- Environmental taxation policies have become an increasingly important tool.
- Activities at the local level are being subsidized by public funds, but the funds target very specific topics.

### Recommendations

- Health promotion and prevention and other relevant health issues not covered by the Public Health Act should be addressed, possibly through regulations under this Act.
- A comprehensive public health strategy giving priority to health promotion and disease prevention would be a beneficial guiding instrument. The strategy should link to existing strategies and action plans of the health sector and other sectors relevant to health.
- An environmental strategy linking to health would be beneficial.
- In general, shorter time frames should be established for drafting and approving policies and strategies such as the energy policy, the draft policy on transport of schoolchildren and the adoption of the NEHAP.

- A formal budget allocation for implementing the NEHAP is strongly recommended.
- The possibility of merging local activities supported by both the World Meteorological Organization and WHO should be exploited.
- Support is needed from government to sustain and enhance the collection of climate data and to disseminate timely information and alerts issued by the Meteorological Office to all relevant authorities.
- It is recommended that the Food and Nutrition Policy (1990) be updated.
- The development of national policy on preventing unintentional injuries deserves greater attention.
- A national action plan on desertification to be elaborated in cooperation between the environment and the agricultural sectors would be beneficial to increase awareness and coordinate actions towards mitigating climate change.
- Policy documents equipped with the right implementation structure would facilitate transforming theory into action.
- Evaluation of policies should be given a stronger focus. For example, evaluating the environmental tobacco smoke regulation would be beneficial to better understand the changes in exposure to environmental tobacco smoke.
- Support is required from WHO and other relevant institutions to provide Malta with tools to estimate the economic effects of various types of health behaviour and health risks such as smoking and obesity.
- Physical activity needs to be in focus in addition to classic sport, and links between the sports, health promotion and transport-related sectors need to be strengthened.
- Health promotion deserves more financial support.
- Malta would benefit from more human resources with specific training in applying for EU funds.

Environment and health policy in Malta is implemented under the umbrella of several national acts and policy programmes and has adopted EU norms, standards and procedures in many fields.

As the EU norms and standards have largely been ratified and transposed already, this section will mostly address selected national legislation, regulations and decrees associated with environment and health. However, the EU framework has been transposed into national law in almost all these areas for which EU regulations and guidance exist.

Soft laws are also important policy tools that need to be addressed. The term soft law refers to quasi-legal instruments that do not have any legally binding status and are therefore weaker than traditional law (hard law).

## **Health policies related to environment and health**

### **Public Health Act**

The Public Health Act is the main legislation regulating public health. The Public Health Act gives the minister the right to issue subsidiary legislation on various health-related issues. An act requires a majority in parliament to pass; every act gives the responsible minister the possibility to create subsidiary legislation through regulations. The minister presents a draft regulation to the Cabinet, and once the Cabinet approves it, a legal notice is then published in the *Malta Government Gazette*. Following publication, the minister tables a copy of the new subsidiary legislation in Parliament. The parliamentary approval of an act is a much longer procedure initiated by the presentation of a bill by the minister concerned (48).

The current Public Health Act focuses mostly on infectious diseases.

### Strategy on noncommunicable diseases

The Department for Health Promotion and Disease Prevention has drafted a strategy for preventing and controlling noncommunicable diseases. The objective of the strategy is to develop a vision for the long-term prevention of noncommunicable diseases, stressing the need to promote a healthy lifestyle. The strategy has been sent for consultation to several stakeholders. The strategy will be finalized through thematic discussion workshops, which will lead to an action plan.

### Health vision 2000

The Health Vision document drafted in 1995 and revised in 1998 called for an interministerial working group to discuss a health in all policies approach. The working group has not been established, but as part of EU accession, an informal network of the directors for EU-related affairs of various ministries was created that is used for interministerial exchange, including a health in all policies approach by reviewing other ministries' policies on health.

*Health vision 2000* listed coronary heart disease, stroke, lung cancer, breast cancer, diabetes, mental health and road traffic accidents as priorities. Asthma was subsequently added to the list. Smoking, obesity, high blood pressure, high serum cholesterol and inadequate physical activity were identified as the most important risk factors (39). The achievements and effects of the document have not been formally evaluated. An update based on evaluation would be beneficial for drafting a public health strategy.

### National Environment and Health Action Plan

The first NEHAP in Malta was launched in 1997. Although the challenges have been and continue to be great and much needs to be done, most of the targets committed to then were reached. During the Fourth Ministerial Conference on Environment and Health in Budapest in June 2004, health and environment ministers reaffirmed the relevance of national environment and health action plans as an effective mechanism for environment and health policy-making and commended the continuing efforts to implement and evaluate them.

The NEHAP has been revised. The revised NEHAP for 2006–2010 is intended as a policy framework document for implementation across government departments and major sectors. National and local authorities other than those responsible for environment or health are responsible for many of the actions proposed in the NEHAP, and implementation therefore requires ongoing advocacy and continued collaboration with other sectors. To this end, an Interministerial Committee on Environment and Health, chaired by representatives from the ministries responsible for health and environment, was set up with representation by key actors, including young people. The main role of the Committee is a collaborative one in assisting the Ministry for Social Policy, Health, the Elderly and Community Care in reviewing and implementing this action plan. Sharing the vision across the various sectors through this Committee facilitates sectoral commitment towards reaching a number of measurable objectives and identified common goals as listed

in the table of actions. The Department for Environmental Health leads the NEHAP process in close cooperation with the Malta Environment & Planning Authority.

The process of revising Malta's NEHAP involved consultation with the major players in environment and health in Malta:

- Ministry for Social Policy, Health, the Elderly and Community Care
  - Parliamentary Secretary for Health
  - Office of the Director General (Public Health Regulation)
  - Department for Environmental Health
  - Department of Health Information & Research
  - Department for Health Promotion and Disease Prevention
  - Directorate for Policy Development and EU Affairs
  - Department for Programme Implementation and Monitoring;
- Office of the Prime Minister
  - Malta Environment & Planning Authority
  - Local Government Unit
  - Tourism and Sustainable Development Unit;
- Ministry for Resources and Rural Affairs;
- Commissioner for Children;
- Ministry for Infrastructure, Transport and Communications
  - Malta Transport Authority;
- Ministry of Education, Culture, Youth and Sport
  - School Health and Safety Unit
  - Directorate for Educational Services, including the School Resources Management Department;
- Ministry for Justice and Home Affairs
  - Civil Protection Department;
- self-regulators of industry (such as the Malta Chamber of Commerce, Enterprise and Industry); and
- National Youth Council.

The participation of NGOs in the NEHAP consultation process was minimal.

The NEHAP had already been revised under the previous health minister but had not gone through the approval phase. Due to changes in minister, the NEHAP was on hold for some time and, in order to be up to date, it had to be redrafted and is pending approval.

The priorities identified in the new NEHAP include protecting public health by ensuring clean indoor and outdoor air, preventing accidents and injuries and reducing obesity by providing supportive environments. The NEHAP introduced two new sections on chemicals and climate change. The main objectives of the NEHAP are:

- to continue to ensure, by establishing appropriate government mechanisms and a stepped-up intersectoral approach, that decisions and long-term strategic planning affecting the natural environment, and through it health, are taken not merely based on economic factors alone but also with full consideration of potential environmental health effects in accordance with the requirements of sustainable development; and

- similarly, to ensure that decisions on economic development are taken in full knowledge of their environmental implications and potential effects on health through effective consultation.

On the recommendation of and in agreement with WHO, the revision of Malta's NEHAP was to include the commitments to implement the Children's Environment and Health Action Plan for Europe.

The revision of the NEHAP has shown that many activities on environment and health have been implemented in recent years and that the NEHAP has been an influential tool in formulating, sharing responsibilities and implementing the NEHAP. Although the Ministry for Social Policy, Health, the Elderly and Community Care and all sectors involved in the NEHAP formally approve it, the NEHAP does not have any formal budget allocation from the government or the ministries involved. Activities planned as part of the NEHAP often form part of the work plans of the respective sectors and partners involved. However, professionals involved in implementing the targets set by the NEHAP and other national and international commitments often lack human resources for implementing the targets set.

To be more supportive of the NEHAP process, some sectors and institutions represented in the NEHAP Committee, such as the Office of the Commissioner for Children, need to be more involved in and informed about the activities of other members of the Committee. For example, the Office of the Commissioner for Children can be very effective at awareness-raising activities. However, to be able to transmit the right message, it needs to be involved in the activities planned by other institutions relevant to environment and health.

## Environmental policies

Malta has no environmental strategy, plan or policy. Malta has various policies outlining areas relevant to environmental management and protection. The most important act for environmental protection is the Environment Protection Act and several specific regulations and acts transposing the EU directives. Malta has nevertheless ratified and adhered to several multilateral agreements and EU conventions focusing on environmental protection and management.

Although the Environment Protection Act mentions health regarding the effects pollution can have on human health, the relationship between health and environment is not clearly stated or addressed by any environmental policy. In political discussions, however, health seems to be considered a good rationale for environmental protection and increased efforts for environmental management.

## Environment Protection Act

The enabling act for environmental protection is the Environment Protection Act of June 2002. Pollution is defined as “the direct or indirect introduction by man into the environment of substances, organism, genetic material or energy that cause or are likely to cause hazard to human health, harm to living resources or to ecosystems, or damage to amenities, or interfere with other legitimate uses of the environment”.

The Act states that the government is required to ensure that information on the environment is disseminated and that the public participates in decisions that affect the environment. The government takes responsibility for applying the polluter-pays principle and the precautionary principle to avoid environmental pollution.

The Act calls for the Malta Environment & Planning Authority and the National Commission on Sustainable Development to implement tasks. It regulates the establishment of an environmental fund by the Malta Environment & Planning Authority and the right to inform the public about the environmental condition of the country.

Although the Act defines pollution as a hazard to human health, the Act does not clearly link the environment and its effect on health.

### Other legal instruments

Malta has many other regulations that protect the environment. Legal instruments have long been the mainstay of Malta's environmental policy, and the EU environmental *acquis communautaire* has expanded this body of legislation to about 250 legal instruments under the 2002 Environment Protection Act. Malta's entry into the EU, and thus the transposition of the EU *acquis communautaire* into Malta's legislation, has led to the publication of many subsidiary legal instruments.<sup>7</sup>

Malta has ratified many multilateral environmental agreements and is a party to many multilateral environmental agreements since before it joined the EU. Malta had fewer obligations to comply with. EU membership, however, required Malta to adopt more stringent obligations.

Between 2005 and 2008, 64 proposals for new environmental legislation were being discussed within the EU, including communications from the European Commission. The main matter is the energy and climate package, which was agreed in December 2008.

Between 2005 and 2008, 54 pieces of legislation transposing EU legislation were published in Malta. In addition, several amendments to existing regulations were adopted during 2008 (27).

### Strategy for Sustainable Development

The process of developing a Strategy for Sustainable Development was launched in 2002 before Malta joined the EU. The Cabinet recently approved a revised version of the Strategy, and the Prime Minister will launch this in the near future (49). In 2002, a Commission for Sustainable Development was created. The Commission, however, has not met since before March 2008, when general elections took place. The environment, the economy and society are major elements of the Strategy, which also contains sections on cross-cutting issues and on implementation. Health is only mentioned to a limited extent, and there is no specific chapter on environment and health. Health is represented through the Strategy and Sustainability Division of the Ministry for Social Policy, Health, the Elderly and Community Care and the Department for Environmental Health. The Strategy

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<sup>7</sup> For an overview of relevant policies and legal regulations, see: <http://www.mepa.org.mt/eu-legal-instruments>.



is considered to be an innovative approach towards integrating sectors into sustainable development and indicates that this should be monitored annually.

### Multilateral environment agreements

Malta has signed the following multilateral environmental agreements:

- United Nations Convention on the Law of the Sea;
- International Convention on Civil Liability for Oil Pollution Damage;
- International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage;
- Convention on the Prevention of Marine Pollution by Dumping of Wastes at Sea and Other Matter;
- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade;
- Stockholm Convention on Persistent Organic Pollutants;
- Geneva Convention on Long-range Transboundary Air Pollution;
- EMEP Protocol to the Convention on Long-range Transboundary Air Pollution;
- Treaty Banning Nuclear Weapon tests in the Atmosphere, in Outer Space and Under Water;
- Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-bed and the Ocean Floor and in the Subsoil Thereof;
- Convention for the Protection of the Mediterranean Sea against Pollution;
- Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean;
- Protocol for the Prevention and Elimination of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft or Incineration at Sea;
- Protocol Concerning Cooperation in Combating Pollution of the Mediterranean Sea by Oil and other Harmful Substances in Cases of Emergency;
- Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources and Activities;
- Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean;
- Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal;
- Vienna Convention for the Protection of the Ozone Layer;
- Montreal Protocol on Substances that Deplete the Ozone Layer;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;
- United Nations Framework Convention on Climate Change;
- Kyoto Protocol to the United Nations Framework Convention on Climate Change (Malta is a signatory to both the United Nations Framework Convention on Climate Change and the Kyoto Protocol and has ratified them both. Malta's current status under these legal instruments is that of a non-Annex I party. In the Conference of the Parties at Poznan in December 2008, Malta announced its intent to move to Annex I under the Convention. "Non-Annex I parties" are mostly developing countries that are not formally required to reduce greenhouse-gas emissions.") (41,50,51);
- Decision 280/2004/EC of the European Parliament and of the Council of 11 February 2004 concerning a mechanism for monitoring community greenhouse gas emissions and for implementing the Kyoto Protocol;
- United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa; and
- Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters.

Additional specific strategies focusing on environmental management include the Waste Strategy and the Climate Change Strategy. Both strategies have been published for public consultation.

## Environmental Impact Assessment Regulations

The Environmental Impact Assessment Regulations of 2007 regulate environmental impact assessment, and the Malta Environment & Planning Authority is responsible for the Regulations. The Regulations acknowledge health, but the involvement of the health sector in the environmental impact assessment process is not sufficiently formalized. The Malta Environment & Planning Authority selects official consultees on a case-by-case basis.

## Health and environment policies related to the regional priority goals

### Water and sanitation

The legal instruments on bathing water quality cover the whole population and especially potentially highly affected population groups, including children. The policy compliance and enforcement are defined and reported according to legally binding predefined criteria. The information on bathing water quality is to be made available to the general public. In case of non-compliance, measures are taken to prohibit bathing. Penalties for infringing the legal provisions may also apply.

The main national instruments governing drinking-water and bathing water are:

- Management of Bathing Water Quality Regulations (2008);
- Swimming Pools Regulations (2005) and Swimming Pools (Amendment) Regulations (2008);
- Control of *Legionella* Regulations (2006);
- Registration of Cooling Towers and the Evaporative Condensers Regulations (2006);
- Water Policy Framework Regulations (2004), transposed from the Water Framework Directive (2000/60/EC);
- Quality of Water Intended for Human Consumption Regulations (2009); and
- Registration of Private Water Supplies Intended for Human Consumption Regulations (2004).

The main EU and international instruments governing drinking-water and bathing water are:

- Council Directive (EC) 2006/7/EC of 15 February 2006 concerning the management of bathing water quality and repealing Directive 76/160/EEC;
- Council Directive (EC) 2006/118/EC of 12 December 2006 on the protection of groundwater against pollution and deterioration;
- Mediterranean Action Plan for the Barcelona Convention;
- WHO guidelines for safe recreational water environments; and
- Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (Nitrates Directive).

## Injuries and physical activity

### Child Safety Action Plan

Malta joined the Child Safety Action Plan project as a participating country for the second phase from 2008–2010. Work through the nine-step Child Safety Action Plan development process has begun, and two Child Safety Action Plan assessments that form part of the assessment step in the Child Safety Action Planning process and are used to produce a Child Safety Report Card and Child Safety Profile were underway.

### Driving and traffic regulations

The driving test has become more rigorous and includes a theory test. Traffic-calming measures have been introduced especially near where children gather. Crash helmets and seat-belts are obligatory for both front and rear car occupants. Speed limits have been in existence for several years, but more recently there has been a greater drive towards enforcement together with the introduction of speed cameras. The speed limit is 60 km/h on main roads outside urban centres.

### Manifesto for Children by the Office of the Commissioner for Children

The Manifesto for Children by the Office of the Commissioner for Children, which reflects the situation at the time it was published in February 2008, identified the provision of safe environments where children can play and participate in outdoor activities as a priority. It stated that “Efforts enabling children to enjoy their right to open spaces are currently underway, in developing more child-friendly open spaces in both urban and rural areas. This work should be further developed, increasing access to the countryside. This could partly be achieved through walking paths that link urban and rural areas when this is ecologically sound.”

### Healthy Eating and Lifestyle Plan

The Healthy Eating Lifestyle Plan (HELP) (52) entered into force in January 2008, for due implementation by schools in Malta and Gozo. The main goals of this Plan are “to ensure that Maltese schools deliver a holistic education; to make provision for the setting up of the necessary frameworks, resources and support needed by Maltese schools to help students adopt healthier patterns of living.”

### National Sports Strategy 2007–2010

In relation to schools, the policies set the requirements for the quality of outdoor areas for physical activity in schools and ensure universal accessibility to open spaces for physical activity. The policies target the whole population. Although the strategy is legally binding according to predefined conditions, no measures are in place for ensuring compliance. Further, no measures are in place for making the policy accountable for its health effects.

### *Physical activity in the school curriculum*

Schools in Malta follow a national curriculum determined by the government. In public primary schools, each class is scheduled for one lesson (45 minutes) per week with a class teacher and one lesson per week with a physical education teacher, totalling 90 minutes of physical activity per week.

Secondary schools have 45–90 minutes of physical activity, depending on the type of school. At this level, students may opt for a physical activity option and will have four lessons (180 minutes) per week of physical education.

### *Reshaping sports*

*Re-shaping sport (44)* is the main strategy document of the Malta Sports Council and was published in 2007. An appointed sport development commission is reviewing the document to assess the achievements reached so far. A new document is expected to be finalized soon.

### *Soft drinks in public schools and food advertising*

The selling of soft drinks in public schools is banned. Vending machines, available only in certain secondary schools, have to offer healthy items.

School principals are not allowed to accept any sponsorships that include advertising unhealthy foods.

## Air quality

### *Tobacco (Smoking Control) Act*

The following specific regulations fall under the Tobacco (Smoking Control) Act:

- Tobacco Products (2003);
- Labelling of Tobacco Products Regulation (2004);
- Smoking in Public Places (Amendment) Regulations (2004);
- Labelling of Tobacco Products (Amendment) Regulations (2004);
- Smoking in Premises Open to the Public Regulations (2004, amended in 2010, amendment enters into force in 2013); and
- Ban on Advertising and Promotion of Tobacco Products Regulation (2005).

### *Clean Air Act*

The Clean Air Act of 1967 is outdated and will be repealed. Recommendations have been made by the Clean Air Consultative Group, an ad hoc working group made up of representatives from all the relevant sectors, including the environment, planning, health, industry, transport and other sectors appointed by the Director General of Public Health Regulation for new legislation under the Public Health Act. The draft legislation, which suggests the appointment of an advisory board, is pending cabinet approval.

### WHO Framework Convention on Tobacco Control

Malta ratified and signed the WHO Framework Convention on Tobacco Control in 2003, and the Smoking in Public Places Regulation entered into force in 2004 and was amended in 2010.

### Smoking in Public Places Regulations

The new Smoking in Public Places Regulations entered into force fully in April 2005. This makes it illegal to offer a service to smokers and nonsmokers from the same outlet. Smoking is allowed only in specifically designed negative-pressure rooms that ensure that smoke does not escape towards the nonsmoking area. This will no longer be allowed in 2013. Nonsmokers cannot be asked to come in contact with smokers at any time. Both the owner of the outlet and the smoker are liable for a fine, with subsequent suspension of licence from one week to one month. The Regulations also prohibit advertising tobacco products in the mass media and sponsoring any sports-related event. Further, the Regulations prohibit the sale of tobacco products to people younger than 18 years of age and do not allow any sweets in the form of tobacco-related products.

### Air Quality Framework Directive

The EU Air Quality Framework Directive is being implemented in Malta.

Malta has transposed various EU environmental legislation and committed to limit the emissions to the air resulting from various sources:

- Large Combustion Plants Directive;
- National Emission Ceilings Directive;
- Integrated Pollution Prevention and Control Directive;
- Ambient Air Quality Assessment and Management Regulation; and
- the EU Greenhouse Gas Emission Trading Scheme.

Malta is implementing the EU Air Quality Framework Directive and its daughter directives at the national level. Based on the first daughter directive 1999/30/EC on long-range trans-boundary air pollution, air quality plans are being developed to tackle areas in which the limit values of pollutants regulated by this Directive have been exceeded. An action plan will be outlined as part of the air quality plan. The air quality plans will be sent for consultation to relevant stakeholders, and the general public can also contribute to this holistic plan. The Clean Air Consultative Group will also be consulted during the review of the plan. The Office of the Prime Minister will give the final approval. The approval of the Transport Authority, as one of the key actors, will also be required.

A document jointly prepared by the Malta Environment & Planning Authority and the transport sector but not yet released to the public will elaborate on transport measures that can be taken to minimize air pollution. The document does not require formal approval by the health sector, but it will be asked to review the document and comment.

## Physical, chemical and biological agents and occupational health

### Occupational Health and Safety Authority Act

The Occupational Health and Safety Authority Act was published in 2000 and entered into force in 2002. It regulates the responsibility of the Occupational Health Safety Authority and stipulates the role and functions of employers, employees and the public administration. Based on the Act, EU directives have been transposed into national regulations, such as those relating to construction, the Seveso II Directive and others. Of particular relevance are the General Provisions for Health and Safety at Work Places Regulations of 2003 that extend the Act regarding risk assessment.

### Improving quality and productivity at work: Community strategy 2007–2012 on health and safety at work

The Community strategy on health and safety at work for 2007–2012 aims at reducing occupational accidents and diseases in the EU overall by 25%. It sets out a series of actions at the EU and national levels in the following main areas:

- improving and simplifying existing legislation and enhancing its implementation in practice through non-binding instruments such as exchange of good practices, awareness-raising campaigns and better information and training;
- defining and implementing national strategies adjusted to the specific context of each Member State that should target the most affected sectors and companies and fix national targets for reducing occupational accidents and illness;
- mainstreaming health and safety at work in other national and European policy areas (education, public health, research) and finding new synergies; and
- better identifying and assessing potential new risks through more research, exchange of knowledge and practical application of results.

The Occupational Health and Safety Authority has also elaborated its own national strategy: Consolidating Achievements and Engaging Further Commitments. This transposes the Community strategy for 2007–2012.

### National Environment Radioactivity Surveillance Plan for Malta (2006)

The Malta Environment & Planning Authority Radiation monitors the environment (surface air, coastal waters and soil) according to the National Environment Radioactivity Surveillance Plan for Malta (2006) and enables alerts in case of emergency. The Plan is operational for air sampling, gamma radiation monitoring and soil and coastal water monitoring.

### Control of Major Accident Hazards Regulation

The Control of Major Accident Hazards Regulation of 2003 (amended 2005) under the Occupational Health and Safety Authority Act is intended to prevent the occurrence of major accidents and to limit the effects on human health and the environment in the event of such an accident by ensuring that the operators of these sites have the necessary controls and procedures in place (27).

The Control of Major Accident Hazard Regulations of 2003 (as amended) requires the creation of a competent authority for implementing the Regulations, including evaluation of safety reports and a policy on preventing major accidents.

### Pesticides Control Act (2001)

The Act provides for the control of pesticides and regulates the duties of the Pesticides Control Board.

### REACH<sup>8</sup>

REACH (Registration, Evaluation, Authorization and Restriction of Chemical substances) is an EU regulation on chemicals and their safe use (EC/1907/2006) that entered into force on 1 June 2007.

### Food Safety Act (2002)

The Food Safety Act of 2002 introduced new concepts into food legislation. The food business operators sometimes do not fully understand them, especially with improvement notices, undertakings, emergency prohibition and emergency control orders. Inspections in food businesses are either scheduled as part of the regular monitoring activities or following a complaint or incident of food poisoning or foodborne illness. Scheduled inspections are followed by an improvement notice that lists the deficiencies noted during the inspection and the risk factor of that business. The next inspection is carried out after a period that is determined by the grade obtained.

### Regulation EC/178/2002

Regulation EC/178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety.

### Regulation EC/852/2004 on the hygiene of foodstuffs

*Commission Regulation EC/871/2001 of 3 May 2001 determining the extent to which applications lodged in April 2001 for import licences for certain egg sector products and poultry meat pursuant to Regulations EC/1474/95 and EC/1251/96 can be accepted.*

### Radiation

- Nuclear Safety and Radiation Protection Regulations (2003)
- Control and Security of High-Activity Radioactive and Orphan Sources Regulations (2006).

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<sup>8</sup> Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.



## Food and Nutrition Policy

The main policy document on nutrition is the Food and Nutrition Policy (1990). The Department for Health Promotion and Disease Prevention has proposed that this policy be revised and an action plan for implementation drafted.

## Solid Waste Management Strategy for the Maltese Islands

The government formulated the Solid Waste Management Strategy for the Maltese Islands and endorsed it in October 2001. An update was published for consultation under strategic environmental assessment in late 2009.

- Council Directive 2006/12/EC of 5 April 2006 on waste.
- Council Directive 2006/66/EC of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC.

## **Transport policies**

### **Malta Transport Authority Act (1990)**

The Malta Transport Authority Act regulates the tasks and the functioning of the Malta Transport Authority.

The Ministry for Infrastructure, Transport and Communications has issued several policy documents that reflect the need for reforming Malta's public transport system, including ones on public transport, taxis and unscheduled public transport. The context of these documents leads to a liberalized public transport sector. Together with the reform of the scheduled bus sector, which was initiated by a presentation of the proposed public transport system and ongoing public participation, the importance of shifting modes of transport will be emphasized.

As mentioned already, the environment and the transport sector drafted a joint document indicating transport plans and programmes with the aim of ensuring compliance with air quality thresholds set by the EU Air Quality Directive. These measures are awaiting endorsement from the Office of the Prime Minister and will undergo Cabinet approval at a later stage.

## **Built environment and urban planning**

### **Structure Plan**

The Structure Plan was adopted in 1992 to provide strategic guidance on land use in Malta.<sup>9</sup> It contains 320 policies on settlements, the built environment, housing, social and community facilities, commerce and industry, agriculture, minerals, tourism and recreation, transport, urban and rural conservation and public utilities. In the past, environment was mainly covered through planning documents. As the plan was adopted

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<sup>9</sup> The Development Planning Act gave rise to the Structure Plan and set up the Planning Authority (now Malta Environment & Planning Authority).

with a validity of 20 years, it is being amended in a thorough three-stage review process and was in the final stage of approval at the time of the review. Although covering the environment in planning policies is important, the importance of environmental protection in its own right must be recognized. Although environment and planning have been integrated under the administrative structure of the Malta Environment & Planning Authority, the legislation is not sufficiently integrated as yet.

Mixed land use is common in urban areas. Infrastructure and urban planning generally follow needs assessment rather than a more restrictive approach focusing on preserving undeveloped areas and open spaces, in accordance with the decision taken during the amendment of the Structure Plan (see above). This has sometimes led, for example, to existing gardens not being preserved but rather green spaces being centralized. Although plans exist to preserve empty green spaces between villages, further efforts are required to demarcate urban settlements by green spaces.

Through the Plan Making and Policy Development Unit, the Forward Planning Division of the Malta Environment & Planning Authority formulates and proposes guidelines and development briefs that, in turn, become planning policies. The Unit is also responsible for processing planning control applications and giving policy guidance on local plans or other policies approved by the Authority or still emerging.

The Ministry for Resources and Rural Affairs is responsible for building regulations, but the Plan Making and Policy Development Unit provides design guidance, such as on requirements for building façades, on what areas are considered as urban conservation areas and so on. The development control guidance specifies how buildings should be designed and constructed, taking into account the minimum percentage of open space belonging to the building, the size of the yards and other requirements. The General Services Board chaired by the Director General of the Public Health Regulation Division authorizes buildings from a sanitary viewpoint.

The building regulations under the Ministry for Rural Affairs and Resources and under the Building Industry Consultative Committee control building materials.

Following a guidance document on the accessibility of buildings for disabled people, the National Commission for Disabled Persons has to clear development plans. The guidance, however, only applies to public buildings, with some restrictions in urban conservation areas where special devices, lifts etc. are considered to distort the historical nature of the buildings. Conflicting cases are dealt with on a case-by-case approach and have to be approved by the Board of the Malta Environment & Planning Authority.

A draft Building (Regulation) Act was published for open consultation in 2009, and the Ministry for Resources and Rural Affairs is to enforce the regulations.

## **Other relevant policies and regulations**

### **Malta Resources Authority Act 2000**

The Malta Resources Authority Act regulates the functioning and tasks of the Malta Resources Authority.

## International Health Regulations

The International Health Regulations (2005), which came into force in June 2007 and which were transposed in Malta in 2008, provide a legal framework for coordinating the management of events that may constitute a public health emergency of international concern and will improve the capacity of all countries to detect, assess, notify and respond to public health threats, including chemicals. The national focal point is the Port Health Unit within the Department for Environmental Health. The Infectious Disease Prevention and Control Unit of the Department for Health Promotion and Disease Prevention is also a member of the national committee for implementing the International Health Regulations.

After WHO sent a questionnaire, this committee has started to review the existing legislation and protocols necessary to fulfil the requirements of the International Health Regulations and to draft a joint national plan. Malta does not yet have a fully comprehensive response plan for emergencies but rather protocols relevant to specific sectors and departments. Concern was expressed about the lack of guidance provided by WHO in this regard and about the June 2009 deadline set by WHO for completing this overview. Additional advice is needed from WHO on interpreting the information requested.

## Economics and finance

Policies and strategies designed to address environment and health conditions must be supported by the necessary resources or an institutional framework that will ensure that these resources can be raised.

Environmental expenditure amounted to €81.8 million in 2007, up by 31% from the 2004 level. The increase reflected mainly capital expenditure. As a share of GDP, general government expenditure for the environment was 1.5% in 2007 (53).

In general terms, Malta may benefit from and relies somewhat on international and EU funding opportunities. EU financial instruments support the implementation of many projects. Bilateral international financing arrangements also support project implementation. The most important sources of funding from the EU directed towards environmental management in 2004–2006 were: Structural Funds, Cohesion Funds, capacity-building projects, improvement of energy efficiency, interregional cooperation, environmental research initiatives, European Regional Development Fund, European Social Fund for education, training and social development projects relating to environmental education, capacity-building and training, European Agricultural Fund for Rural Development and European Fisheries Fund (27).

The EU Structural Funds and European Regional Development Fund are used to achieve EU obligations for infrastructure, especially for sewerage plants. Compared with other countries, Malta's proportion of Structural Funds money spent on the environment is quite large.

The budget of the Malta Environment & Planning Authority for the 2007/2008 fiscal year was €15.8 million; the government financed about one third, and the rest came from the Authority's own sources of revenue, such as permit fees or mapping and land survey services on a commercial basis. However, the budget was reduced in 2008/2009.

The Environment Protection Act requires the Malta Environment & Planning Authority to establish an environment fund. The fund is to be used to finance studies to safeguard the environment and works that may be needed for that purpose, to remedy any harm caused to the environment in connection with any contingency or emergency plan or to finance other activities, including activities organized by nongovernmental organizations, that the minister in consultation with the Authority may prescribe. At the time of the review, however, no information could be obtained on whether the fund has been implemented.

Some projects have been set up mainly for supporting local communities. The Environment Projects in Partnership have the objective of involving NGOs and local communities in environmental protection measures, and the Urban Improvement Fund is supporting local councils in improving environmental and urban conditions, such as paving streets.

Although very small, an increased budget allocation, such as for climate change, air quality and transport-related activities, reflects an increased recognition of disease prevention and especially of the risk factors posed by the environment. Health care, however, still receives the largest portion of the government funds for health. The specific budget for health promotion activities, however, relies on the support of sponsors, accounting for about 10% of the budget. Sponsorships are only accepted if they are in accordance with the policy of the Department for Health Promotion and Disease Prevention.

The involvement of the economic and finance sectors in health-related issues has increased. Economics and finance are specifically involved in the response to pandemic influenza and to preventing obesity. The economic effects of health interventions are increasingly being recognized. However, the use of economic models for disease prevention still need to be further improved and promoted. Best practice results from other countries and international cooperation would certainly be beneficial in addition to models that enable economic estimates.

Economic instruments alter market prices to favour environmentally sound activities. A background study for the state of the environment report analysed existing economic instruments adopted for environmental purposes. The review showed that Malta uses 53 economic instruments, regarding both the direct and indirect use of resources.

Organizations may improve their environmental performance and apply for certification through voluntary environmental schemes. Several companies in Malta are members of international voluntary environmental schemes such as the EN ISO 14000 and the Eco-Management and Audit Schemes. In 2002, the Malta Tourism Authority developed a tourism eco-certification scheme, and at the end of 2007, 13 hotels were eco-certified, down from 21 in 2005. This decline was partly due to more stringent criteria being introduced.

In 2007, the Green Public Procurement Action Plan for 2007–2009 was finalized, aiming to green 50% of government procurement by 2009.

In 2006, the Malta Environment & Planning Authority started on a project to build capacity to introduce the polluter-pays principle through economic instruments to implement the EU environmental *acquis communautaire*. However, this has had varying degrees of success (54). A more coherent approach towards economic instruments is required, since instruments have frequently been implemented in isolation and with reference to individual targets and objectives, often with little regard to the package of

environmental instruments as a whole and its comprehensiveness and coherence with the country's overall strategy for environmental management. Further, shifting towards providing for economic incentives to encourage sound environment management may be more cost-effective in the long term.

An emissions trading scheme will start in 2010 for the aviation and energy sectors, including transport. The Malta Environment & Planning Authority is attempting to link its recommendations to the legal limits of the scheme, but these are not binding for other ministries. The trading scheme does not yet cover other sectors such as waste, industrial processes, land use and forestry and agriculture. Each EU country is to define its own targets. The overall estimate is that Malta generates about 1% of EU emissions, but the vulnerability of this small-island country is probably far greater than in many other countries. A strong strategy covering both adoption and mitigation is therefore needed.

Following the newest developments in Malta's taxation policies, the determinants of environmental pollution are taken more and more into account. Cars older than 15 years that do not comply with the set emission level are taxed at a much higher rate than new vehicles. Incentives have been put in place for the use of electric cars. Electric cars are exempted from taxes and have free access to Controlled Vehicle Access zones in the capital, Valletta. The availability of electric cars is rather limited; the Transport Planning Unit in particular is attempting to find ways of creating a critical mass by promoting the idea of replacing government cars using fossil fuel with electric cars. The Interministerial Committee on Environment and Health discussed this and presented it as an action to be implemented in the revised NEHAP.

Fuel is regulated according to market prices and does not follow any taxation policy. Taxation on fuel may be introduced once a new public transport system is in place. Annual road circulation licences and fees include incentives for the use of cars with smaller engines. Lower taxes are applied to consumer goods with lower energy consumption.

The Ministry of Finance, the Economy and Investment is also represented on the Board of the Malta Environment & Planning Authority. A standing committee between the Malta Environment & Planning Authority and the Ministry of Finance, the Economy and Investment is being created to review and propose market regulations for environmental protection. Environmental policies have economic implications, but economic policies seldom consider environmental concerns.

## 6. Intersectoral collaboration

### Conclusions

- Malta has many intersectoral boards and committees.
- Intersectoral collaboration, however, also relies on informal networking.
- All strategies drafted by an institution undergo public consultation involving all sectors and ministries: for example, energy documents, environment documents and rural development plans.
- The degree of cooperation varies from one environment and health issue to another.
- Good collaboration is ensured at the international level.

### Recommendations

- More formalized procedures for intersectoral collaboration together with better clarification of roles are recommended.
- There is room for more formal collaboration between the Port Health Services and the Malta Maritime Authority.
- Collaboration should be increased between the health and the transport sector in preventing road traffic injuries.
- Better collaboration between the Ministry of Education, Culture, Youth and Sport and the Department for Environmental Health in preventing injuries would be of benefit.
- International support for an economic assessment of obesity would contribute greatly towards further analysing and addressing the obesity problem in Malta.
- The Intersectoral Committee to Counteract Obesity is an excellent platform for promoting intersectoral action. Its impact could be increased by better alignment between the sectors to reach a common understanding and by allocating funds for specific activities.
- The underrepresented sectors on the Intersectoral Committee to Counteract Obesity such as transport, agriculture and local government should be addressed.
- Enhanced cooperation between the health and environment sectors regarding climate change is required.
- Information exchange and collaboration between the Malta Transport Authority and the Malta Sports Council in promoting cycling and walking could be improved; this exchange could also be established with the Intersectoral Committee to Counteract Obesity.

Intersectoral cooperation in Malta is ensured through many appointed intersectoral committees responsible for various health and environment issues. The committees address specific environmental health issues or environment and health indirectly. The committees also function as decision boards, consultative boards or advisory boards.

In addition to appointed committees, collaboration relies much on informal networking, personal communication and contacts. In environment and health, informal mechanisms have been set up for information exchange between the health and the environment sectors. As mentioned previously, the Director of the Department for Environmental Health and officers of the Malta Environment & Planning Authority meet monthly. However, if air quality limit values are exceeded, for example, the Malta Environment & Planning Authority does not automatically inform the Department for Environmental Health.

Information exchange is ensured largely at a personal level. As long as good personal relations exist, this type of exchange works well; however, no provisions exist for changes in personnel or other changes in personal relations.

This also occurs in radiation protection. Although the involved institutions and sectors cooperate well, formalized procedures and the establishment of clear roles are suggested.

All strategies drafted by an institution should undergo consultation involving all other sectors and ministries. The Malta-EU Steering & Action Committee (see below) is an important body in this regard. Intersectoral evaluation is mainly requested for policy positions on EU proposals. Each ministry is entitled to express its view and to comment. For regulations, the body submitting the draft has to list all sectors involved in the preparation process. The ministry proposing the regulations, however, selects the consultees within the sectors. In general terms, it is felt that an interministerial consultation process involving all sectors for all legal drafts would create a heavy administrative burden due to lack of human resources. Nevertheless, the lack of a rigorously structured consultation mechanism cannot guarantee that the relevant sectors are always involved. Experience has shown, however, that for important overarching policies, such as tourism, the health sector has always been involved.

The increasing work initiated by the government on social security, older people and poverty has automatically increased the cooperation between the health sector and the other ministries. Collaboration with the agricultural sector still needs to be improved. The involvement of the economics and finance sector in health-related questions has also increased substantially. For example, economics and finance are involved in planning responses to pandemic influenza and in preventing obesity. The economic effects of health interventions have increasingly been recognized.

The degree of intersectoral cooperation varies from one aspect of environment and health to another. In diet, nutrition and physical activity, for example, the cooperation between the health sector and its Department for Health Promotion and Disease Prevention and the educational or transport and construction sector is rather recent.

### Interministerial Committee on Environment and Health

The Interministerial Committee on Environment and Health chaired by representatives from the ministries responsible for health and the environment was set up, with representation by key players from various sectors including education, tourism, transport, as well as young people. The main role of the Committee is a collaborative one in assisting the Ministry for Social Policy, Health, the Elderly and Community Care in reviewing and implementing the NEHAP.

### Intersectoral Committee to Counteract Obesity

It is commendable that, given the increasing problem of obesity in Malta, special attention is focused on an intersectoral approach to counteracting obesity. Together with all other countries in the WHO European Region, Malta endorsed the WHO European Charter on Counteracting Obesity in 2006. It was felt that a multi-stakeholder approach was necessary to implement the commitments made. The Intersectoral Committee to Counteract Obesity was therefore established in 2007 with the main objective of enhancing intersectoral collaboration in preventing obesity.

The Committee meets about four times per year. Each stakeholder has identified activities and initiatives based on the European Charter on Counteracting Obesity. A strategy on obesity is being drafted for implementing the activities.

The sectors represented on the Committee are:

- public health regulation: health promotion, primary health care and schools health service;
- agriculture;
- finance;
- education;
- public broadcasting authority;
- Malta Hotels & Restaurants Association;
- Malta Environment & Planning Authority;
- Malta Transport Authority (currently no member appointed); and
- Ministry for Infrastructure, Transport and Communications.

Local councils are not yet part of the Committee. Projects have been identified, however, in which cooperation with local councils will require strengthening in the future.

Although it is generally understood that obesity has to be tackled in a multisectoral approach and the Committee has been a useful platform for exchange, the health sector still experiences the need to justify the involvement of other sectors. The health sector could benefit from further support for being better advocates for involving other partners and for being equipped with better arguments for getting them on board. The WHO Workshop on Intersectoral Working in Health held in 2009 was of value in this area. There is a need to better align with the involved sectors and to reach a common understanding on the targets to be reached and the methods to be used. A particularly promising area for action would be the transport sector. Technical discussions between the health and the transport sectors within the Committee have been very fruitful, but implementation is somehow lagging behind due to restructuring of the transport sector. Another challenge is the lack of dedicated funds to carry out specific activities, such as economic assessment of the obesity problem.

### Clean Air Consultative Group

The Clean Air Consultative Group, an ad hoc working group, was appointed to make recommendations for new legislation under the Public Health Act to replace the Clean Air Act of 1967, which is to be repealed soon. The Group comprises representatives from all relevant sectors including environment, planning, health, industry and transport. The Group has aimed to cover all air pollution issues not covered by EU regulations and to draft national legislation.

### Local Committee on Transport, Health and the Environment

The Local Committee on Transport, Health and the Environment was created to tackle air pollution due to transport through a multisectoral approach and was recently formally re-established since it had been functioning mainly on an informal basis. The Committee, which represents the ministries responsible for Transport, Health and the Environment,



proposed short-term action points for inclusion in the NEHAP. Members of the Local Committee are also represented on the Steering Committee of the WHO/UNECE THE PEP, which was recently formally re-established.

### Interministerial working group

*Health vision 2000* called for an interministerial working group to discuss a health in all policies approach. The working group has not been created due to difficulties in identifying high-level officials representing all sectors. However, a network of officers responsible for EU-related matters within all ministries has been set up, and this network is considered to be a good alternative to the planned interministerial working group. The network meets informally monthly.

### Malta-EU Steering & Action Committee

The Malta-EU Steering & Action Committee is a high-level forum in which all government ministries and political parties are represented together with NGOs, civil society and Malta's Permanent Representative to the EU. The Parliamentary Secretary for Public Dialogue and Information chairs the forum. This Committee has been in place since Malta joined the EU. Its functions include acting as an advisory body to the Interministerial Committee on Environment and Health.

### Board of the Malta Environment & Planning Authority

The Board of the Malta Environment & Planning Authority is the main decision-making body providing strategic guidance within the Authority. This 15-member Board includes representatives from government ministries and members appointed by the Prime Minister and by the opposition leader as well as members representing commerce, social and community affairs, health and the environment. In addition, the Authority has several subsidiary boards and committees that assist the Authority in fulfilling its functions and responsibilities in accordance with its legal obligations. The health sector is also represented on the Board.

### Coordinating body of the Malta Resources Authority

The Malta Resources Authority (Water Directorate) provides a standing interdepartmental coordination body.

### Education Health Committee

Representatives of the Student Services Department (Directorate for Educational Services) and Department for Curriculum Management and eLearning (Directorate for Quality and Standards in Education) within the Ministry of Education, Culture, Youth and Sport and the Department for Health Promotion and Disease Prevention from the Ministry for Social Policy, Health, the Elderly and Community Care meet monthly to discuss and coordinate school health activities.

## Radiation Protection Board

The Radiation Protection Board is an intergovernmental body that coordinates and controls all issues regarding ionizing radiation. The work of the Board is not limited to occupational radiation issues but also covers a vast range of other issues including controlling exposure to medical radiation, protecting the environment from radiation sources and Malta's obligations under the Treaty on the Non-Proliferation of Nuclear Weapons. The Board is chaired by the Occupational Health and Safety Authority and has members from the Authority, Environment Protection Directorate (within the Malta Environment & Planning Authority), Department for Environmental Health and Civil Protection Department. The Board was created in 2003 and meets several times a year.

The Board has been responsible for transposing all EU regulations into national regulations. In the future, more activities on prevention will be carried out. The Radiation Protection Board has received support from the International Atomic Energy Agency for implementing training in hospitals but does not provide any training itself. It is obligatory for the Board to be informed each time any kind of radioactive material is to be used. Following such a request, the Board ensures that an inspector in the relevant sector (health, environment etc.) visits the site and issues the licences or clearances for the use of the device. The Board also responds to complaints submitted by the general public. As a coordinating body, the Radiation Protection Board does not carry out any prevention activities or disseminate information material. Each sector and institution involved in radiation protection is responsible for this (such as the Occupational Health and Safety Authority).

## Civil Protection Scientific Committee

The Civil Protection Department chairs the Civil Protection Scientific Committee, which has representatives from various entities. The Committee provides advice to the Civil Protection Department on various matters and emergencies that may arise from time to time. Regular members of the Committee are the representatives of the Ministry of Justice and Home Affairs and the Civil Protection Department, Police, Army, the health-related divisions of the Ministry for Social Policy, Health, the Elderly and Community Care, representatives of Gozo, NGO representatives interested in civil protection (for example, the Malta Red Cross), the Works Department, local councils and representatives of the department responsible for employment. In case of emergencies, the Committee has the right to request the advice of any sector deemed relevant.

## Integrated Pollution Prevention and Control Committee

The Integrated Pollution Prevention and Control Committee was established in 2002 and is chaired by the Malta Environment & Planning Authority. The Committee oversees the definitive establishment of integrated pollution prevention and control installations and the inspection of installations and ensures that the necessary guidance in the legislation is followed. The ultimate aim of the integrated pollution prevention and control is to minimize pollution from various point sources. All installations falling under the relevant regulations will be required to obtain a permit from the Malta Environment & Planning Authority.

## Pesticides Control Board

The Pesticides Control Board was established pursuant to the Pesticides Control Act adopted in 2008. The Pesticides Control Board is responsible for advising the Director of Regulatory Affairs on any matter relating to the registration, restriction, importation, manufacture, sale or use of pesticides, including those used in integrated control management. It also reports to the Plant Health Department of the Paying Agency within the Ministry for Resources and Rural Affairs on any matter relating to regulating, enforcing and monitoring all legislation relating to pesticides or on any matter regarding pesticides and provides advice on measures to be taken on any matter arising from the application of any regulations adopted under the Pesticides Control Act.

## Food Safety Commission

The Food Safety Commission is an independent statutory body, set up under the Food Safety Act 2002 to coordinate the functions of all competent authorities responsible for food safety in Malta. The Commission is chaired by the Director General of the Public Health Regulation Division within the Ministry for Social Policy, Health, the Elderly and Community Care. Represented within the Food Safety Commission are the directors of public authorities responsible for food safety throughout the food chain and covering the areas of risk management, risk communication and risk assessment. These include:

- Department for Environmental Health and Department for Health Promotion and Disease Prevention, Ministry for Social Policy, Health, the Elderly and Community Care;
- Veterinary Affairs and Fisheries Division and Plant Health Department, Ministry for Resources and Rural Affairs;
- Malta Environment & Planning Authority;
- Regulatory Affairs Directorate, Malta Standards Authority; and
- Consumer and Competition Division, Ministry of Finance, the Economy and Investment.

The minister responsible for social policy may further appoint up to three other members. At the time of the review, the Minister had nominated three additional members. The Commission meets every 2–3 weeks.

The Food Safety Commission is the national contact point for the rapid alert system on food and feed safety. The Secretary of the Commission coordinates all necessary actions in cooperation with all relevant sectors. The Commission supervises and implements drinking-water alerts.

The Commission is also responsible for registering all food-handling premises and for issuing food-handler's cards, which includes the training course for food dealers; 3000–4000 cards are issued yearly.

## Climate Change Committee

The Climate Change Committee is under the Ministry for Resources and Rural Affairs. The Committee is chaired by the CEO of Enemalta, the corporation generating all electrical power for Malta. The other members are the Permanent Secretary within the

Ministry for Resources and Rural Affairs, Director of the Environmental Protection Directorate within the Malta Environment & Planning Authority, Director of the Directorate for Energy Resources Regulation within the Malta Resources Authority, a public health medical officer, a senior lecturer within the Faculty of Engineering of the University of Malta, Chief Technical Officer of Enemalta, a consultant in environmental law, an independent chief engineer in the tourism industry and Vice President of the Environment Commission of the Catholic Church's Archdiocese of Malta.

The Commission has been appointed with the following terms of reference (55):

- to assess international obligations and targets for emission limitation;
- to assess effectiveness of existing and planned policies and measures;
- to assess Malta's potential for limiting emissions and associated socioeconomic implications; and
- to develop and assess strategic response scenarios and select preferred options.

### International collaboration

Many of the reviewed institutions have extensive international cooperation. In the area of noise, the Department for Environmental Health is implementing a twinning project with Greece on how to best legislate on residential noise.

Good collaboration is ensured with various neighbouring countries and countries throughout Europe for laboratory analysis. Where the national capacity is not sufficient, the Public Health Laboratory has agreements with other laboratories for performing the necessary analysis.

## 7. Tools for action

### Conclusions

- At the time of the review, the Environment Protection Directorate within the Malta Environment & Planning Authority was greatly understaffed.
- In general terms, the knowledge in health, landscape, economics and geotechnical impact aspects of environmental impact assessment is considered weak in Malta.
- The involvement of environment and health specialists in the environmental impact assessment process has been strengthened since 2005, but it is still not institutionalized; the Malta Environment & Planning Authority selects consultees.
- No regular formal training on environmental impact assessment is available in Malta.
- Health impact assessment is not sufficiently covered at the policy level.
- No annual report is published on the health situation in Malta.
- There is limited standardized data collection for accidents and injuries, and there are no comprehensive data on occupational injuries and mortality.
- There are no published data on obesity and overweight by socioeconomic status.
- Climate change is increasingly being recognized at the public and political levels.
- Air quality monitoring data are available in real time at the Malta Environment & Planning Authority web site. However, there are no panels in the cities informing when air quality limit values are exceeded, particularly for O<sub>3</sub>.
- Malta's population is only limitedly aware and/or concerned about environmental risk factors to health.
- Most disease prevention clips aired on local television stations are not free of charge.
- Although occupational health is well developed at the institutional level, the public health curriculum does not cover it sufficiently.
- The Medical Association of Malta rarely discusses environment and health.
- Research on environment and health at national level has been not sufficiently funded.

### Recommendations

- Health assessment should be made compulsory within environmental impact assessment.
- Health impact assessment should be given more importance within strategic policy assessment.
- Greater attention needs to be given to national surveillance on injuries and to collecting baseline information for implementing evidence-based interventions for preventing unintentional injuries.
- Data are needed for evidence-based policy-making and to improve the development of policy evaluation indicators for all relevant fields related to environment and health.
- Noise maps under the responsibility of Malta Environment & Planning Authority should be prepared as soon as possible; this will facilitate drafting the relevant policies on residential noise by the health sector.
- The Malta Environment & Planning Authority should put in place an automatic system to inform the health sector of any exceeded environmental parameters (air quality, etc.).
- A comprehensive health report mapping the health situation and trends of Malta's population would be of value.

- Developing a system based on a geographical information system would be advisable to reach a lower level of aggregation in order to better associate health data with environmental exposure data.
- Efforts should be stepped up to set up a population-wide injury surveillance system.
- Data reporting to WHO should be centralized through one unit as far as possible, as the many different requests from different units within WHO increase the burden of work on the small team.
- The reporting template developed by WHO for implementing the International Health Regulations needs to be updated, as it leaves too much room for interpretation and is not sufficiently clear.
- A database collecting information on the inspections performed on ships would be a useful tool.
- Anthropometric measures in adults would be a good approach to monitor the health situation of the population regarding obesity and overweight.
- Having a designated institution progressively adopt indicator-based analysis and reporting following the ENHIS methods would be useful.
- Data collection related to occupational causes of morbidity and mortality can be improved.
- Further analysis is required of noise exposure due to air traffic. The noise maps to be prepared by the Malta Environment & Planning Authority could include this.
- Support is needed from the government to sustain and enhance the collection of climate data and to disseminate timely information and alerts issued by the Meteorological Office to all relevant authorities.
- It is suggested that both water suppliers and public health authorities make available data on water quality.
- Better management and quality assurance of data is required.
- Public perception in case of problems with bathing water and drinking-water quality is still a problem and needs to be addressed further.
- Relevant data on environment and health should be collected in one place and by one institution so that it is easily accessible.
- Health and environment data should be easily available to the public and to physicians, for example, by using electronic media in accordance with the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters.
- Occupational health inspectors should get training or have background information in toxicology.
- Training on environment and health for family doctors and general practitioners should be ensured from official sources and not only from NGOs.
- General practitioners may be made more alert to problems involving infectious diseases and outbreaks through better sensitization and information.
- Improved training is needed on health impact assessment at the university and professional levels.
- Research on environment and health should be improved and research positions in this field created at the national level.
- A national biomonitoring programme needs to be initiated.

## **Environmental impact assessment and health impact assessment**

The Environmental Impact Assessment Regulations of 2007 regulate environmental impact assessment, and the Malta Environment & Planning Authority is responsible for the Regulations. Environmental impact assessment is intended to identify, describe and assess

appropriately, in the light of each individual proposal for development and in accordance with the provisions of the environmental impact assessment legislation, the direct and indirect effects on fauna and flora, soil, water, air, climate, landscape and the non-living components of the environment, cultural heritage and humans.

The environmental impact assessment process is not a free-standing process but forms part of the development permit process. Each construction and development project needs a permit independently of whether it requires environmental impact assessment. The Malta Environment & Planning Authority carries out the screening process that determines the need for environmental impact assessment for a specific development proposal, and this decision is made public. For the projects requiring environmental impact assessment, the Malta Environment & Planning Authority conducts the scoping process (determining which aspects of the project the assessment process needs to address) through a consultation process with other government and civil organizations and the general public. If a project is deemed to require assessment, environmental impact assessment is then mandatory.

The environmental impact assessment process takes place along different steps.

The screening phase is an important safeguard of Malta's legislation and follows a screening checklist of technical questions (noise, light, air etc.). According to Malta's legislation, any construction plan can be halted if the impact is considered to endanger the local community. The screening phase determines whether the proposed development should require environmental impact assessment. The first step in the screening phase is relatively simple: vetting against a checklist contained in the Environmental Impact Assessment Regulations. For many development projects, this step is sufficient for determining whether environmental impact assessment is required or whether mainstream development consent procedures are sufficient. For borderline cases or in cases when formal exemption from environmental impact assessment procedures is permitted by law, more detailed screening is required to determine whether the development is likely to have any significant effects that would warrant environmental impact assessment. Detailed screening requires the submission of a project description statement, which is essentially a detailed formal description of the development project, its location and specifications and other information that would enable an informed screening decision. The information obtained through the project description statement is then used to compile a formal screening matrix, which consists of a structured set of technical questions itemizing the likely effects envisaged as a result of the proposed interventions. Prediction of significant effects would trigger environmental impact assessment. The absence of such effects could enable a formal exemption within legally prescribed limits. In extreme cases when the project description statement indicates evidently unacceptable effects that cannot be effectively addressed via an environmental impact assessment, the project can also be directly rejected. In case the decision is made during the detailed screening phase that environmental impact assessment is not required for a development project listed in the Environmental Impact Assessment Regulations, a justification has to be published in two newspapers (one in English and one in Maltese) and in the *Malta Government Gazette* on why environmental impact assessment is not required.

The scoping phase sets the terms of reference of the environmental impact assessment. The project description statement is also used as a basis for scoping. The Malta Environment & Planning Authority requires a project description statement from the developer to consult the public and write the terms of reference. A scoping meeting involving the public and various sectors sets the terms of reference of the environmental impact assessment. The

sectors represented by the participants vary from project to project. The officer responsible for environmental impact assessment within the Malta Environment & Planning Authority is responsible for choosing the participants to be involved. A consultation manual indicating which sectors should be involved in which case was used in the past. It is not clear whether this procedure and document are still in use. Unlike in other European countries, environmental impact assessment in Malta can only commence once the Malta Environment & Planning Authority has drafted the terms of reference. This provides important control on the process, ensuring that environmental impact assessment identifies up front and addresses the significant issues.

Private accredited companies engaged by the developer perform the environmental impact assessment in accordance with the terms of reference. Approved environmental impact assessment consultants must satisfy the requirements stipulated by law and fall under the responsibility of the Registration and Review Board. The Board, which was officially created in October 2008, is independent from the Malta Environment & Planning Authority and under the authority of the Office of the Prime Minister. However, at the time of the review, the Board was not yet operational, and the Malta Environment & Planning Authority was still responsible for licensing ad hoc approval, registering and checking consulting companies or consultants. The Malta Environment & Planning Authority has to approve each professional involved in environmental impact assessment, and the names of every consultant are listed in the environmental impact assessment document together with a declaration confirming that they do not have any conflict of interest. Consulting companies that do not have sufficient in-house technical capacity refer to a network of national and/or international experts.

Before beginning the environmental impact assessment, the Malta Environment & Planning Authority provides the detailed terms of reference to the consulting company. The terms of reference include information on the sectors considered significant in the scoping phase that need to be assessed in the environmental impact assessment. Once the statement is compiled, this is submitted to the Malta Environment & Planning Authority and reviewed by the Authority's environmental impact assessment team, and the statutory consultees are identified at the start of the process. Comments from this initial consultation stage are sent to the consulting company, and the issues have to be addressed in the development projects. Only if all requirements are fulfilled is the environmental impact assessment certified, and then the Malta Environment & Planning Authority prepares a report following a final public consultation phase. An approved environmental impact assessment does not, however, mean that a project will automatically be accepted. The environmental impact assessment must be presented in public, and the relevant public authority must make the decision during a public meeting.

At the time of the review, about four Malta Environment & Planning Authority employees were responsible for all environmental impact assessment, and a further two were responsible for screening all possible projects requiring environmental impact assessment.

Through the officer responsible for the environmental impact assessment, the Director of Environment Protection is responsible for deciding whether to inform other government departments and agencies identified as statutory consultees on individual environmental impact assessment projects. Officers from the health sector consulted for assessing and reviewing the health effects of a project need to be registered as trained in impact assessment. In general terms, knowledge in health, landscape, economics and the geotechnical effects of environmental impact assessment are considered weak in Malta.



Noise impact assessment is often included in the terms of reference set by the Malta Environment & Planning Authority when environmental impact assessment is required.

The Department for Environmental Health of the Public Health Regulation Division is also often involved in giving its recommendations to the Malta Environment & Planning Authority on the terms of reference for environmental impact assessment for major projects, but their involvement is not formally required. If the Department for Environmental Health is not satisfied with the information received or with the possible effects the project will have on the health of the population, it can request additional information from the developer through the Malta Environment & Planning Authority. This review indicates that negative assessment of a project by the health authorities has never been sufficient to stop a project. Projects have, however, been modified to consider health concerns. Major concerns expressed by environment and health officers consulted referred to the construction of high-rise buildings.

The involvement of environment and health in the environmental impact assessment process has been strengthened since 2005. However, national expertise and awareness in this field is still lacking. A major problem is the lack of required data for conducting appropriate health impact assessment. Social impact assessment is carried out more frequently than health impact assessment.

An audit team set up under the Office of the Prime Minister is the competent authority for strategic environmental assessment, which mainly adopts the environmental impact assessment mechanisms for plan, programmes and policies. The Malta Environment & Planning Authority assists the audit team with relevant assessments, but the responsibility lies with the audit team.

At the time of the review, Malta had not yet ratified the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991) and had not yet transposed the Protocol on Strategic Environmental Assessment (Kiev, 2003) into national legislation. However, Malta's regulations have already included the requirements stipulated by the Espoo Convention on preventing the transboundary effects of development projects.

Health impact assessment is not sufficiently covered at the policy level. Although the importance of health impact assessment in the policy development process has been recognized, it still falls to the bottom of the agenda after the financial planning of the activities and priorities. The Strategy and Sustainability Division within the Ministry for Social Policy, Health, the Elderly and Community Care is giving priority to health technology assessment and analysis on health and poverty.

## Monitoring

### Health situation

Malta has no annual report on the health situation of the population. An annual report on environmental and health is prepared, summarizing the activities of the Department for Environmental Health and the complaints received by the general public. Health registries in Malta are available on mortality, obstetrics, cancer, hospital activity and admissions, congenital anomalies and organ transplants. Additional surveys are undertaken to establish the health situation of the population, including the Health Interview Survey. The Health

Interview Survey has been carried out twice (2002 and 2008). Based on the methods of the European Health Survey System, the Survey is planned to take place every five years and is the most regular source of information on the health status of Malta's population (56). The first Health Examination Survey will be piloted in Malta in 2010.

### Water and sanitation

Different actors are responsible for monitoring drinking-water at different stages of water distribution. The water utility company is required to monitor the water utility at the borehole, reservoir and tap level using its own laboratory. A memorandum of understanding governs the relationship between the utility company and the Department for Environmental Health. If the utility company detects contamination, it must inform the Department for Environmental Health about the problem within five days and the remedial measures taken. Exceedance of limit values detected by the Department for Environmental Health at public places (such as hotels or municipal buildings) is reported back to the utility company.

The utility company is regulated by an operating licence issued by the Malta Resources Authority. Private boreholes and private abstractors do not operate under a licence but have to be registered. The government is assessing the registration and notification of groundwater sources to regulate this sector.

In accordance with the EU Drinking Water Directive, the Malta Resources Authority is required to collect samples from all groundwater aquifers. As the Malta Resources Authority does not have its own accredited laboratory, there are tenders to determine the institution that carries out the testing. As water utility companies have their own laboratories, they can participate in the call for tender, resulting in obvious conflicts of interest.

The Department for Environmental Health investigates complaints about drinking-water submitted by the general public or by the utility company and runs an audit monitoring of the water supplied by the water utility every six months by means of 28–30 samples.

Besides the utility company, private water suppliers sell containers of potable water. In accordance with the EU Water Framework Directive, these suppliers have to register the source of water at the Department for Environmental Health. They are responsible for the water quality, and the Department for Environmental Health performs checks four times a year.

Hotels on the coast operating reverse-osmosis plants are obliged to register these plants with the Department for Environmental Health.

The data collected by the main water utility company is not automatically posted on the web. The population has the right to receive the information upon request. The Department for Environmental Health is discussing plans to have all data collected by the private company forwarded to them to analyse them and publish them.

The Department for Environmental Health is also discussing the WHO guidelines on drinking-water quality with the suppliers to establish water safety plans (57).

Private users are responsible for *Legionella* control. The threshold for *Legionella* is set at 1000 per 100 ml of water. If this is exceeded, the Department for Environmental Health

has to be informed immediately. If the exceedance is not notified, the Department for Environmental Health can take legal measures. Previously *Legionella* had to be tested in laboratories outside the country, but the Public Health Laboratory is now accredited for *Legionella* testing. However, this analysis is only performed for the Department for Environmental Health and not for the private monitoring.

The infectious disease surveillance system at the Infectious Disease Prevention and Control Unit within the Department for Health Promotion and Disease Prevention is based on statutory notifications from physicians and laboratories that are required to report suspected or confirmed cases of listed communicable diseases. Outbreaks can thus be detected and investigated. Demographic details of all cases are collected, including age and sex. In confirmed outbreaks, the necessary control measures are undertaken to remove the suspected source.

Active surveillance is carried out for laboratories to identify positive samples that do not reach the notification system.

The water utility laboratory is ISO standard accredited for the chemical parameters and is working to achieve accreditation for the microbiological parameters. However, most of the major chemical parameters are tested at internationally accredited laboratories abroad. The Public Health Laboratory is accredited within the Department for Environmental Health to ISO/IEC 17025 and the scope covers 19 test methods.

The Department for Environmental Health performs two monitoring programmes for service water during the year in collaboration with the regional health inspectors and the Public Health Laboratory. Department staff members collect potable water samples from sources (reverse-osmosis plants, boreholes, pumping stations and reservoirs) and from the public mains system at fixed consumer outlets in every village. These regular weekly samples are collected for microbiological and chemical testing. This is no longer being done, as the Department for Environmental Health is carrying out monitoring on the drinking-water quality at the point of use covering all water quality zones as defined by the water utility.

The laboratory of the Institute of Water Technology carries out routine monitoring as part of its role in the Water Services Corporation. Each month, at least one water sample is collected from each village in Malta and Gozo, and samples are taken from each distribution reservoir and other water sources such as boreholes, pumping stations and reverse-osmosis plants. The samples are analysed chemically and microbiologically. The microbiological parameters analysed are total coliforms, faecal coliforms, faecal streptococci and total bacterial count.

Two major laws and conventions regulate Malta's obligations on the quality of bathing water: the EU Bathing Water Directive and the Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona Convention).<sup>10</sup> The Department for

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<sup>10</sup>Directive 76/160/EEC on Bathing Water Quality defined quality criteria for bathing waters and obliged the member states to monitor bathing sites. This has been replaced by Directive 2006/7/EC, which sets new standards for the monitoring and management of bathing waters and for providing relevant information to the public, taking into account the scientific evidence of recent years. The requirements of the Bathing Water Directive are coherent with Water Framework Directive 2000/60/EC, which established an overall framework for water management. (from ENHIS fact sheet [http://www.euro.who.int/Document/EHI/ENHIS\\_Factsheet\\_1\\_4.pdf](http://www.euro.who.int/Document/EHI/ENHIS_Factsheet_1_4.pdf); see also here on conventions etc.: [http://www.euro.who.int/watsan/20080117\\_10](http://www.euro.who.int/watsan/20080117_10)).

Environmental Health analyses two microbiological parameters and the Malta Environment & Planning Authority three physiochemical parameters. The Department for Environmental Health takes the microbiological samples during the bathing season, starting from the third week of May until the third week of October. Monitoring is performed weekly in 87 monitoring locations in the south, central and north regions and on the islands Comino and Gozo. The public is informed of the monitoring results through panels in five languages, and an information number is provided to call if further information is needed.

In accordance with the Barcelona Convention, the threshold for closing a beach is 1000 faecal coliforms per 100 ml of seawater. This threshold is higher than the limits set by the EU directive. The recommended value is 94% conformity with the indicated parameter.

In the future, intestinal enterococci and *Escherichia coli* will also be analysed.

The monitoring of bathing water quality in swimming pools follows the WHO requirements. Establishments with swimming pools need to have water safety plans, identifying the access, ensuring the appropriate signing and first-aid facilities and recording accidents. The owner is responsible for monitoring microbiological, physical and chemical parameters and is supervised by the Department for Environmental Health.

Beach profiles will be compiled by 2011. Three beach profiles will be required: a general extensive profile, a summary profile to be posted on the web site for the population and a very short profile to be posted on site. The Department for Environmental Health ensures information about bathing water quality by preparing weekly reports and sending them to the local communities. These reports summarize the results of the water monitoring according to the different classification mechanisms used and in accordance with the EU and the Barcelona Convention requirements. These reports contain visual categorizations of the water quality with smiley symbols but also provide the raw data.

A bathing water management committee is being set up chaired by the Superintendent for Public Health or representatives to better coordinate the protection of bathing water quality. The committee will be composed of representatives of various sectors: Malta Environment & Planning Authority, Malta Tourism Authority, Malta Maritime Authority and researchers.

Additional measures to ensure bathing water quality include introducing a buffer zone between the swimming zone and the zone authorized for leisure boat traffic. The Department for Environmental Health is suggesting and discussing this initiative. The Blue Flag beach programme<sup>11</sup> promoting the use of holding tanks can be considered a useful approach.

### Injuries and physical activity

Malta has a limited standardized data collection system for accidents and injuries. The Department of Health Information & Research holds various data related to accidents and injuries in hospital-based information systems, as do the reporting systems of the Occupational Health and Safety Authority. The police are collecting recently improved and more detailed information on road crashes and related injuries in collaboration with the

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<sup>11</sup>The programme is run by the Foundation for Environmental Education, [www.blueflag.org](http://www.blueflag.org).

Malta Transport Authority and the National Statistics Office.

The Department of Health Information & Research has started to create a comprehensive national accident and injury database. This database focuses on leisure and home accidents. A pilot project on data collection has been carried out on the island of Gozo and will now be expanded to the Mater Dei Hospital, where data relevant to injuries will be collected. As Malta's population predominantly uses emergency services in case of accidents and injuries, the Mater Dei Hospital is considered to be the most reliable source of information for injury data rather than primary health care centres. For the future, however, seasonal surveys are planned to be implemented at primary health care centres. The injury surveillance system will focus on collecting the data on the causes of the accident, the objects involved, the parts of the body injured, the time of the accident and follow-up measures. The surveillance system does not seem to have the location of the accident as a routine parameter. The Department of Health Information & Research is also cooperating with the Regulatory Affairs Directorate of the Malta Standards Authority to collect data on home and leisure injuries at the community level. This will not impart information on the location of the accident. Improvements of the system are planned for the future.

Data on work-related accidents, including injuries, fatalities and ill health, are an important tool to assess the current state of occupational health and safety, especially the effectiveness of current measures. Notification of work-related incidents is required under various regulations for which various government entities are responsible. In Malta, data are obtained from various government entities including the Occupational Health and Safety Authority, the National Statistics Office and the Social Security Division.

Occupational injury data is collected from two sources.

- National insurance system: employees pay all national social security contributions to the government through the employer. In case of accidents or illness, the employee addresses the request for compensation directly to the insurance system, which therefore keeps track of all cases of requests relating to occupational diseases and deaths.
- Employers are required to report occupational accidents to the Occupational Health and Safety Authority. The social security system reported about 4000 occupational injuries in 2008 (including minor accidents), but employers only reported about 1000. Data from the social security system are considered more reliable, as it can be assumed that employers underreport incidents. In addition, employers are not required to report minor injuries.

The same reporting system is in place for occupational diseases. However, the underreporting seems to be even higher, as few cases of occupational diseases are reported per year. Physicians do not recognize occupational diseases well, possibly due to insufficient training in occupational health and the lack of specialized occupational physicians. In addition, the heavy bureaucratic procedure for the illness to be recognized as an occupational disease and the need to discuss the case with the employers often leads to underreporting of occupational disease. However, this underreporting is common in many countries. Another reason appears to be the failure of examining physicians to forward the relevant notification forms, a task many physicians perceive as being too bureaucratic. This problem will be addressed further in the coming years.

Comprehensive data on the burden of disease and morality due to occupational settings are therefore not available.

The Department of Health Information & Research has collected data on physical activity and obesity for adults for 2002 and 2008 through the Health Interview Survey. The data collected are self-reported. A report is available for the data from 2002, and the 2008 reports are to be published soon.

Data on sports are mainly based on studies of the Eurobarometer and National Statistics Office. As up-to-date statistics were obtained using general questions, the Malta Sports Council is strengthening the collection of more detailed and relevant information with a special focus on the economic effects of sports. The Global Physical Activity Questionnaire would be useful for developing such a questionnaire.

As part of the initiatives to counteract obesity, the Ministry of Education, Culture, Youth and Sport has implemented a BMI surveillance system in secondary schools based on the guidelines of the United States Centers for Disease Control and Prevention. There are plans to develop this further as a regular audit system. Initial findings show that about 36% of schoolchildren are overweight.

Further, it is recommended that this surveillance system not be the sole evaluation indicator for the HELP programme and other activities to reduce obesity. Intermediate evaluation indicators, for example, related to knowledge on healthy nutrition should be added.

### Air quality

The Malta Environment & Planning Authority is responsible for outdoor air monitoring. The national monitoring system covers two types of monitoring.

Active real-time monitoring takes place every minute, providing average figures for every 15 minutes. These data are available in real time on the web site of the Malta Environment & Planning Authority. This monitoring is carried out at four stations: one road traffic station, one industrial site (at the site of maximum exposure to the pollution from a power plant in Marsa), one urban background station (effect of urban pollution on the health of the population) and one background station in Gozo with the aim of studying the effects of transboundary pollution from other countries. An additional urban background station is planned for the near future. The pollutants monitored in real time are O<sub>3</sub>, SO<sub>2</sub>, nitrogen oxides, carbon monoxide, volatile organic compounds, gaseous mercury, PM<sub>10</sub>, PM<sub>2.5</sub> and meteorological variables. Dust in the PM<sub>10</sub> fraction is also being speciated at specific locations through periodic measurements around the Maltese Islands.

The Malta Environment & Planning Authority manages a passive monitoring system using a passive diffusion tube network in 44 villages in Malta and Gozo. Each village has three monitoring sites representing urban background, rural and road traffic locations. This system has been running since 2002 and enables the time and spatial trends in air pollution to be analysed. The pollutants covered meet EU standards and include NO<sub>2</sub>, SO<sub>2</sub>, O<sub>3</sub>, benzene, toluene, xylene, ethyl benzene and *o*-xylene.

The network on particulate matter monitoring will be extended in the future. Malta has applied to the EU Structural Funds to further develop the monitoring network by purchasing equipment that enables gravimetric measurement of particulate matter,

intercomparison tests, data quality control and using low-volume samples to perform gravimetric analysis and to improve PM<sub>10</sub> speciation.

No real-time information panels are available in cities informing when limit values are exceeded.

The Department for Environmental Health is responsible for monitoring indoor air. However, very little monitoring is done. The Department has completed a second study on indoor air pollution in public primary schools and included 16 public primary schools in 14 localities in Malta and 2 in Gozo.

Indoor air quality was studied in 16 primary schools in Malta. The study was carried out by Netcen (an operating group of AEA Technology plc) and covered the 13.5 months from 2 December 2002 to 13 January 2004. This period was approximately representative of the calendar year 2003. This study continued another study carried out at eight of the sites during 2001–2002.

The pollutants monitored through diffusion tubes were as follows: NO<sub>2</sub>, SO<sub>2</sub> and a group of hydrocarbons: benzene, toluene, ethyl benzene and xylenes (collectively termed BTEX).

The analysis has been linked to the results of air quality monitoring undertaken by the Malta Environment & Planning Authority on the outdoor air in the areas surrounding the schools. The results show low exposure to NO<sub>2</sub>, SO<sub>2</sub>, benzene, toluene and xylenes. Only one school showed high levels of toluene but mainly due to a paint factory near the school. Additional funds have been requested from the government to further study indoor air quality at schools. The funds have not been granted.

## Chemical, physical and biological agents and occupational health

### Food safety

Officials from the Department for Environmental Health within the Public Health Regulation Division inspect food safety. This service monitors operators of all types of food premises: retail outlets, catering establishments, accommodation premises, non-animal food producers and public institutions such as schools and hospitals. The main objective of inspecting food premises (food control) is achieved by using a risk-assessment procedure. The Department carries out surprise inspections of food premises. After each inspection, the outlet is given a grade from A to F (F being lowest). All recommended improvements are expected to be carried out within a specific time frame. The surprise visits are organized following a monitoring plan established at the beginning of each calendar year and use checklists of items and parameters, including building-related items. The sampling programmes established at the beginning of each year follow the priorities set at the EU level. The Department for Environmental Health keeps records. In case of major threats to health, an establishment can be closed immediately at the discretion of the inspecting officer.

The Port Health Services are responsible for monitoring imported goods. In case of animal food, the food safety inspectors might be asked to join the inspections of the veterinary services.

The Public Health Laboratory within the Department for Environmental Health conducts several monitoring programmes for the presence of chemicals in food. In 2008, these programmes included a sampling programme for measuring heavy metals in fish; pesticides in fresh fruit; acrylamide in breakfast cereals, potato products, biscuits, bread, jarred baby food and processed cereal-based baby food; and another for monitoring dioxins and dioxin-like polychlorinated biphenyls in locally farmed fish, pork, beef, bread and dairy products.

Inspections are also carried out following the notification of outbreaks of foodborne disease and in case of rapid alerts.

Food safety inspections are carried out by 26 officers under two senior principal environmental health officers working in two distinct geographical zones. The results of the sampling programme will be published on the web in the near future. For now, the data can be obtained upon request only.

The responsible person of any premises handling any kind of food has to register with the Food Safety Commission. Between 7000 and 8000 food premises were registered by the beginning of 2009. This figure includes a number of premises that have been deregistered because they ceased to operate as food premises. About 4000 food premises are inspected every year.

Officers of the Food Safety Unit of the Department for Environmental Health are trained to provide advice to everyone who wants to open a restaurant or any kind of establishment handling food. Food handlers and other people dealing with food items have to take a training course on food handling. The Food Safety Commission authorizes food-handling course providers and issues a food-handlers card.

### Occupational health

The Occupational Health and Safety Authority inspects workplaces following complaints. About 1200 inspections were carried out in a 12-month period in 2006–2007. During 2008, about 2200 workplace visits were carried out.

Inspections comprise administrative and management procedures (information, training, surveillance etc.) or focus on the particular topic or complaint. Not all parameters can be inspected, and a limited checklist is therefore used, including specifically focusing on chemicals. Chemical data sheets are checked and are usually available. However, staff members working for many years at the same workplace are often assumed to know about the existing risks, and the data sheets are therefore not regularly updated. Due to lack of human resources with the appropriate training, the Occupational Health and Safety Authority monitors psychosocial parameters in a limited way.

### Pest control

The Department for Environmental Health has been responsible for pest control since April 2001. The main monitoring parameters of this section are the following:

- routine rat baiting of sewers;
- routine rat baiting of open areas around the island;
- responding to rat and mice reports from the general public, government departments, parastatal organizations and private companies on both indoor and



- outdoor nuisances;
- insect disinfestation on request by the government departments and parastatal organizations; and
- insect disinfestation within the health-related divisions of the Ministry for Social Policy, Health, the Elderly and Community Care: hospitals, stores, cemeteries, etc.

### Radiation

Various sectors and institutions are responsible for monitoring radiation in accordance with the relevant requirements emanating from legislation. All radiation-monitoring strategies follow EU requirements. However, radiation is monitored more reactively than proactively. Inspections and monitoring are carried out when the equipment with radiation sources is initially installed. Inspectors of the relevant departments (health, environment and occupational health and safety) visit the sites and ensure that all necessary standards are followed. For example, 20–30 inspections have been undertaken at the new Mater Dei Hospital. The user has to provide the risk assessment in the construction phase or in the beginning of the activity, and the Radiation Protection Board double-checks that all requirements have been followed, including that the employer has informed the employees about risk factors and that standard operating procedures have been drawn up and made available to employees. Prescribed rules for medical exposure are being drafted. These rules will supplement the Medical Exposure Regulations. The Radiation Protection Board uses standardized checklists during inspections. Inspections and monitoring can be carried out anytime with no prior notice. Inspectors can issue stop orders until the problem is fixed and regulated.

Monitoring is carried out using hand-held devices calibrated abroad. Radiation in drinking-water, food and milk is analysed abroad.

A proactive inspection campaign on the X-ray equipment used by veterinarians has been implemented.

The Malta Environment & Planning Authority monitors radiation in the environment (surface air, surface coastal waters and soil) in accordance with the National Environment Radioactivity Surveillance Plan for Malta (2006) and allows alerts to be made in case of emergency. The Plan applies to air sampling, gamma radiation monitoring and soil and coastal water monitoring.

Coastal waters are monitored in three locations in the north, centre and south of the Maltese islands to ensure adequate knowledge on radionuclide concentrations in coastal sea waters. In every location, 12 samples are taken every year one nautical mile from land. Soil is monitored once a year in five protected sites. In accordance with the Euratom Commission Recommendation, gamma radiation in air is continuously monitored. Although only required for emergency situations, these data on air quality are updated every hour through continuous high-volume sampling equipment. Additional gamma radiation monitoring will be started on the island of Gozo, possibly in 2010. Further, specific radionuclides present in airborne particulate matter are analysed in samples taken from a high-volume sampler.

The Malta Environment & Planning Authority is using external laboratories in Austria, Italy and the United Kingdom for analysing these samples. An evaluation performed by the EU in 2008–2009 certified that the radiation monitoring was well established.

The Public Health Laboratory monitors potable water, milk and mixed food samples as required by the Euratom directive.

### Noise

The Malta Environment & Planning Authority is responsible for noise monitoring in accordance with the EU Environmental Noise Directive. Its obligations include developing a strategy and methods for strategic noise mapping; collecting data; developing strategic noise maps; and developing action plans for methods of reducing noise. At the time of the review, a tender was being issued for implementing the noise maps and recommendations for measures that could contribute to developing action plans. Once the noise maps are available, action plans for noise reduction will be drafted to meet the requirements of the Environmental Noise Directive. Airplane noise is exempt from the noise mapping requirements as the airport traffic is below the level set by the EU legislation. The airport authority itself measures airport noise levels. Airplane noise does not fall under the jurisdiction of any transport plan either.

The health sector, through the Department for Environmental Health, is responsible for residential noise and will use the noise maps for drafting and implementing regulations aiming at reducing residential noise. Difficulty is foreseen due to the variation in the characteristics of city districts and villages (residential versus amusement areas). No major activities or monitoring programmes are being carried out in this field.

### Chemicals

The responsibility for chemicals, mainly placing chemicals on the market, is being transferred from the Malta Environment & Planning Authority to the Malta Standards Authority (Regulatory Affairs Directorate). Due to this change, limited monitoring is being implemented, and monitoring plans for the future are being drafted. The Malta Environment & Planning Authority remains responsible for chemicals in the environment and will focus on dioxins and persistent organic pollutants in air and water. Soil monitoring will also be increased further.

### Soil

The Ministry for Resources and Rural Affairs is responsible for soil protection and management, with the Malta Environment & Planning Authority carrying out monitoring. In accordance with the EU directives, Malta is not required to monitor soil. Malta is nevertheless preparing for any monitoring requirements that may arise. The Malta Environment & Planning Authority is planning a study on contaminated soil. The main pollution problems of soil are due to sites previously occupied by industry or waste landfills and due to illegal dumping. The competent authority for soil protection and management has not been designated yet.

### Summary

Many efforts have been made to monitor outdoor air and water quality; however, surveillance and monitoring of indoor air quality and injuries need to be increased.

An injury database is highly recommended. Available data are not systematically communicated to the public, possibly resulting in a lack of public awareness on the environmental threats to health.

The availability of health data could be improved. A health report summarizing the health status of the population would be beneficial.

Indicators to assess policies are lacking. Environment and health data are collected but are not integrated.

Malta has been minimally involved in ENHIS. As most of the data used in ENHIS exist within Malta, the data sources should be clearly identified, and a designated institution should ideally progressively extend the regular indicator-based analysis and reporting following ENHIS methods.

The involvement of many institutes requires close collaboration. Data are not always systematically transferred and shared among the parties concerned.

## **Communication and public awareness**

Anyone in Malta has the right to ask for and obtain information on the environment and on the health status of the population. Generally, the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (58) provides the right to access to information on the environment. Malta's Freedom of Access to Information on the Environment Regulations define the conditions under which information on the environment can be requested. Malta's Freedom of Information Act (2009) establishes the right to information held by public authorities to promote added transparency and accountability in government.

The interest in environmental issues is growing. There is increased apprehension regarding air pollution and waste management. For example, the 2008 Public Attitude Survey indicates that 83% of respondents considered that the environment affects health (38% highly significant, 17% significant and 28% slight effect). However, the public interest in environmental issues is still limited. Despite increased apprehension about air pollution and waste management, Malta's population is only limitedly aware and/or concerned about environmental degradation and about other environmental risk factors to health. For example, when bathing water quality in a particular area does not meet requirements, the public is informed of the monitoring results and warned about possible health risks through panels in five languages. An information helpline is also provided. Experience shows, however, that the public sometimes ignores warnings. More educational campaigns are therefore needed.

The officers in the Complaints Office and Audit Office of the Malta Environment & Planning Authority are more often confronted with complaints about planning questions rather than environment concerns. However, these areas are not completely distinct, as urban planning often affects environmental quality and health.

The Malta Environment & Planning Authority provides environmental reports and data online. In accordance with the Environment Protection Act, the Authority is required to prepare a report on the state of the environment, and the complete report, including background reports, datasheets, graphs and maps, is available online at <http://www.mepa.org.mt/ter>. A project aiming at implementing the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters is promoting the establishment of a web portal gathering data from

various sources and sectors concerning the environment. A pilot phase has been launched on key datasets, including water data, and involving the Department for Environmental Health, Malta Environment & Planning Authority and Malta Resources Authority. However, the review revealed that the Malta Resources Authority was not fully aware about the development of the project.

Air quality data is available in real time on the Malta Environment & Planning Authority web site. The web site visits have increased as well as queries on air pollution issues. The Malta Environment & Planning Authority is updating the web site. However, there are no real-time panels in cities indicating when limit values are exceeded. Together with the Malta Transport Authority, the Malta Environment & Planning Authority has applied for funds for an intelligent traffic management system consisting of panels informing about congestion and about level exceedances.

The web site of the Infectious Disease Prevention and Control Unit provides information on outbreaks to health professionals and the general public. Annual reports on infectious diseases are published on the web site (the latest is from 2007). In 2007, the Infectious Disease Prevention and Control Unit published a booklet on hand and food hygiene to coincide with the Food Safety Week. This booklet was promoted in the mass media, distributed through local councils and the network of the Department for Environmental Health and during lectures. The Department for Environmental Health used this publication for training food handlers. Interviews on the subject were given on television.

Information video clips from the Occupational Health and Safety Authority are regularly sent to all television channels with a request for these clips to be aired as public service announcements. Regrettably, most channels view the transmission of such announcements from an economic perspective and do not broadcast the messages. The same applies to spots promoting physical activity. Television and radio stations have aired these on commercial terms.

As part of the European Week for Safety and Health at Work activities, the Occupational Health and Safety Authority organized a music and informative event at a popular entertainment venue targeting young people. Various local bands took part in this initiative. A well-known local group conveyed the information about the risks facing young people in a humorous way by adapting a script specifically for the Occupational Health and Safety Authority.

Information and data need to be disseminated better, also within each sector. An example is the availability of data on exposure to environmental tobacco smoke. The Department of Health Information & Research collected self-reported data within the Health Interview Survey, but the public health professionals responsible for indoor air quality are not sufficiently familiar with these data.

Although the mass media are showing greater interest in environmental pollution and its effects on health, journalists increasingly need to get training and specialize in these areas. Journalists should be trained to communicate in appropriate ways and how to gain access to the right information. The Foundation for Environmental Education has launched a project through the national NGO Nature Trust for supporting and training young reporters interested in environmental issues. These training programmes should be expanded to environmental health topics and training.

Public perception of climate change in Malta is changing in both the political and public spheres. In the 2008 Public Attitude Survey, 34% of the respondents agreed strongly that climate change will affect Malta, 50% agreed, 12% had no opinion, 2% disagreed and only 1% strongly disagreed.

In the framework of the 2008 *State of the environment report*, a survey was carried out on the perception of the population on various environmental issues. The results indicate an increasing sense of responsibility among the public. For example, 70% of respondents stated that they sometimes purchase products with less packaging to reduce the problem of waste, and 89% of respondents agreed or strongly agreed that car use should be restricted when air pollution exceeds health limits.

The public perception regarding bathing water and drinking-water quality is a problem: for example, when there is no visible pollution in bathing water but the Department for Environmental Health closes a beach officially, many people still swim.

Some improvement has been noted among physicians, who are more likely to explore the environmental causes of ill health of their patients. Unfortunately, although physicians still make home visits and can detect risk factors in the home (such as mould and dampness), they do not have any standardized tool for assessing the home environment and cannot rely on any structural mechanisms or institution for following this up. The environment and health history form from the WHO train-the-trainers package has been used in selected cases to determine people's exposure to environmental risk factors.

As pointed out by the Office of the Commissioner for Children, data on children's health, well-being and living situation are still lacking. As recommended in the Manifesto for Children, the collection of data on children in all areas should be made obligatory.

Malta, as an EU country, forms part of a 24/7 early warning rapid alert system (including the EU Rapid Alert System for Biological and Chemical Attacks (RAS BICHAT), Healthcare Effectiveness Data and Information Set (HEDIS), Early Warning and Response System, and part of the EU Network for the Surveillance and Control of Communicable Diseases and the International Health Regulations) that is prepared to alert all EU countries in case of any possible, probable or confirmed chemical, biological and radionuclear threats or incidents.

The Public Health Regulation Division is the lead authority responsible for the public health response to such a threat or incident. The Department of Civil Protection is responsible for the reaction to any human-made or natural disaster. The Department of Civil Protection forms part of a government-appointed body that meets regularly (usually on a monthly basis) to prepare for epidemic response. The body has regularly met in preparation for avian influenza, and these duties have now been transferred to the Civil Protection Council, which has appointed a subgroup including Civil Protection Department staff, the police and the health-related divisions of the Ministry for Social Policy, Health, the Elderly and Community Care.

Finally, reports, evaluations and surveys are often prepared but never published or only after a long delay. This seems to be the case, for example, for a report on traffic evaluation and a study on renewable energy.

## Capacity-building and environment and health education

Malta has recently upgraded its postgraduate education in public health. Until a few years ago, postgraduate studies in public health had to be undertaken abroad, but public health can now be studied in Malta. A committee appointed by the government managed the reform of the public health curriculum. The committee includes representatives of government, the Public Health Regulation Division and the Malta Association of Public Health Medicine, which advises on the curriculum and ensures the availability and quality of postgraduate training in public health.

The Master of Science in Public Health comprises a two-year part-time postgraduate course. To be included in the Public Health Specialist Register, an applicant needs four years of practical experience in public health medicine and an MSc degree. Environmental health is one of nine study units in the MSc course and includes 35 hours of lectures. The public health curriculum in Malta is very much in accordance with the one in the United Kingdom. Malta has no specific master or postgraduate degree in environment and health. Students have to go abroad for further and higher qualifications in environment and health. A bachelor degree in environmental health is available locally, however, leading to employment as an environmental health officer.

Although occupational health is well developed at the institutional level in Malta, the public health curriculum does not cover it sufficiently. Occupational health is only covered in undergraduate training, while in accordance with the developments initiated in the United Kingdom, public health studies hardly cover it at the postgraduate level. Malta lacks occupational health specialists.

Medical students are instructed in environmental health as part of their public health training, and all paramedical training includes a module on environmental health. The overall medical training course spans over five years together with an additional specialization period.

Environmental health is included in continuing education for physicians, and the younger generation of physicians seems more interested.

In recent years, local lecturers have provided training in environment and health at the university level. Lecturing staff from outside Malta are only required for specific areas of expertise.

Environmental health is rarely on the agenda of the Medical Association of Malta. Increased interest is envisaged for the future, but much needs to be done to further sensitize and inform physicians about the risk factors to health caused by the environment. One way of doing this could be by strengthening environment and health training in the undergraduate curriculum. Family doctors have a strong tradition of home visits because of the opportunity to detect possible environmental sources in the home and surrounding areas affecting their patients' health. This should motivate higher interest in environment and health.

The Diploma in Family Practice for family doctors now includes a module on environmental health. This module was introduced through cooperation and lobbying by SahnAmbjent and in collaboration with the Public Health Regulation Division for the use of the WHO train-the-trainers course for health care professionals tool following participation at the training course organized locally by the health-related divisions of the

Ministry for Social Policy, Health, the Elderly and Community Care in collaboration with the WHO Regional Office for Europe.

Environment and health sessions are also part of the Specialist Training Programme in Family Medicine, which started in 2007. Members of SahnAmbjent provide the courses on environment and health. The idea promoted by SahnAmbjent is to extend the courses to nurses and pharmacists. The Department for Environmental Health has also used the train-the-trainers modules for training and informing health care and public health professionals.

Training in health impact assessment and toxicology also needs to be improved. There is no formal training, and Malta has few people with the right expertise in health impact assessment. Nevertheless, public health experts are often required to perform health impact assessment as part of environmental impact assessment. Only a few people can perform environment and health assessment within environmental impact assessment, and even fewer are trained in health impact assessment. Environmental impact assessment training needs to be improved. The University of Malta typically offers generic courses such as geography, biology and urban planning and, as such, limited environmental impact assessment training exists. Specialized training has to be obtained abroad. Occasional courses on environmental impact assessment are given in the framework of such courses as planning, architecture, small-island studies or tourism.

The same applies to research. In the 1980s, various university departments were closed, thus decreasing the research facilities and capacity in Malta. In addition, due to lack of financial and human resources, research in environment and health at the national level has been rather neglected in recent years. Research projects focusing on climate change have only recently been initiated under the Research and Innovation Programme of the Malta Council for Science and Technology and within the University of Malta through its Department of Physics. Research is not financially remunerated, and this may lead to decreasing interest within the scientific community. Public health and environmental health should be brought back onto the national research agenda by creating funding opportunities and research structures.

Capacity-building in and information on environment and health are also important at schools is also important at schools.

Malta is participating in the Eco-Schools programme, an international school programme for environmental management and certification as well as sustainable development education launched in 1994. The number of schools taking part in this programme in Malta increased between 2006 and 2007. The main objective of the programme, coordinated in Malta by Nature Trust (Malta), is to improve the environments of schools and their local communities. It involves student participation, decision-making, planning and activities and is a major contributor to Local Agenda 21.

Twenty-five per cent of Malta's schools (54, 11 more than in 2005/2006), most of which are primary schools, participated in the programme. For the first time, in 2006/2007, one post-secondary school participated in the programme. During 2006/2007, about 24 500 students were involved in the programme through their schools, 7500 more than in the previous year (27).

All schools teach basic personal hygiene in the sessions on personal and social development. Health and safety teachers refer to basic hygiene issues on school visits. All schools carry out sessions for developing personal skills as part of the educational

curriculum.

Educational promotional messages are continually provided to the general public on safe food handling and on measures to avoid foodborne and waterborne illness and on the curricula of health care professionals, including on billboards forming part of the Public Health Regulation Division's health promotion campaigns for the public.

An education campaign highlighting the use of seat-belts and general road safety was initiated in schools through the use of interactive games, while a road safety education campaign was launched among young people attending the Malta College of Arts, Science and Technology. This campaign consisted of a web site created by young people for young people, a poster that was distributed throughout Malta and Gozo, several billboards strategically placed so as to get maximum exposure and a forum among young people that encouraged them to discuss safety issues.



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Following the Fourth Ministerial Conference on Environment and Health in Budapest in June 2004, and the commitments made by Member States to reduce children's exposure to environmental hazards, countries are seeking support in implementation. WHO/Euro has initiated a project to provide the evidence base for developing and implementing such actions through detailed Environment and Health Performance Reviews (EHPRs).

The EHPRs are country-based interdisciplinary assessments that WHO/Europe carries out at the request of Member States. Through the EHPRs, Member States receive support in the reform and upgrade of the overall public health system. They identify the most important environment and health problems, evaluate the public health impact of environmental exposures and review the policy and institutional framework taking into account the institutional set-up, the policy setting and legal framework, the degree and structural functioning of intersectoral collaboration and the available tools for action.

Based on this analysis, as an integral part of the planning and management of environment and health services the EHPRs provide guidance for strengthening environment and health policy making and for planning preventive interventions, service delivery and surveillance in the field of environment and health.

The present report conveys a clear picture of the current environment and health situation in Malta. It evaluates strong and weak points of environmental and health status in Malta and brings recommendations from independent experts.

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