



Climate Change Adaptation Strategy in the Maltese Islands

Josianne Muscat

MSDEC – Directorate for the Environment and Climate Change
General Assembly of the Mediterranean Network of Basin Organisations

Why adaptation to CC is essential?

As a small-island state, and one of the most densely populated country Malta is considered as being prone to increased vulnerability to the impacts of climate change, compared to other countries.

Our ability to mitigate to climate change is limited, but our ability to adapt is a **necessity**.

Malta has always seen this vulnerability as a reality and has been also outlined in the various Maltese National Communication to the UNFCCC, in the IPCC report and in other studies which have been conducted throughout the years.

The IPCC highlights that between 1900 to 2005 precipitation quantities declined in the Mediterranean with the global area affected by drought likely to have increased since the 1970s.

This is effecting water dependent ecosystems such as those found in valley systems and other inland small water systems. It also have a negative effect on the agriculture sector.



Malta CC Adaptation Strategy

Background:

Adopted in 2012.

- ***Aims*** to build upon the National Strategy for Policy and Abatement Measures Relating to the Reduction of Greenhouse Gas Emissions of 2009 in terms of governance and policy infrastructure.
- It ***seeks*** to identify recommendations in various sectors, which are vulnerable to climate change, such as water, agriculture, infrastructure, building, human health and tourism.
- It also ***addresses*** the financial impacts as well as sustainability issues.
- The Strategy ***identifies*** the principal strategic climate impacts likely to affect Malta and outlines **72 actions to be taken**.

Malta CC Adaptation Strategy

Main focus of the National Climate Change Adaptation Strategy, 2012 includes;

- Sustainability ,
- Building Regulations and Policy (construction sector),
- **Water use, scarcity, flooding, valleys etc...**
- Alien and invasive species (phytosanitary and veterinary),
- Agriculture ,
- Human Health ,
- Food safety ,
- Tourism ,
- Elderly and
- Insurance.

Reduction of water use in households

The aim of SWMED was to promote, policies aimed at satisfying water and sanitation needs of the population whilst reducing water abstraction and improving the quality of water bodies receiving wastewater. MGOZ was also responsible for drafting a policy paper and compiling a booklet to act as a reference point for decision makers on water policies.



Preservation of Valleys

Continue to secure, as a minimum, the current level of activity directed to maintain and preserve valleys in Malta and Gozo, given that such action not only controls flooding but will acts as a natural reservoir allowing the captured water to sink into the aquifer.



To address rain water harvesting infrastructure and to develop a Nation-Wide Framework for the management of such infrastructure an application for funding was submitted by the Marine Storm Water and Valley Management Unit (MSWVMU) .

MSWVMU carries out interventions and provides technical assistance in the construction and repair of public coastal structures, rehabilitation and conservation of valleys, and storm water relief systems.



Water Framework Directive

2nd Water Catchment Management Plan (renamed from River Basin Management Plans) is a requirement of the Water Framework Directive and a means of achieving the protection, improvement and sustainable use of the water environment across Europe.

Aims at

- **prevention** of the deterioration in the quality of aquatic ecosystems, their protection and the improvement of the ecological condition of all waters;
- **promotion of sustainable water use** based on a long-term protection of available water resources. This plan represents the first revision of the WCMP in a long term planning cycle which envisaged the undertaking of similar revisions on a six-yearly basis;

- reduction and progressive removal of hazardous pollutants and priority substances into the aquatic environment within a 20 year time frame for the date of adoption of the WFD;
- the progressive reduction in pollution of groundwater and the Prevention of further pollution; and
- **the mitigation of the effects of floods and droughts.**



Floods

- Floods in Malta are of the flash flood type following intense rainfall events as a result of uncontrolled surface water runoff in urbanised dry valley channels.
- Between 2002-2013, 13 floods occurred one of which (2003) with an estimated damage of EUR 30 million. Malta has received EUR 0.96 million from the EU Solidarity Fund for the damage caused by storm and floods in 2013.

- A national flood relief project, co-funded by the EU Cohesion Fund.
- The protection of traditional stone walls throughout Malta as Green Infrastructure delivering multiple benefits for agriculture and the environment.



The design or refurbishment of roads or road landscaping will continue to integrate reservoirs to act as water catchment areas to cushion flooding, as well as allow for the seepage of such water into the aquifer. The government increasing the number of existing soak ways along the road infrastructure in such a way as to divide the catchment area into manageable smaller catchment areas which allow for the recharge of the aquifer.





Data collection and awareness

- Review of the status of existing storm water reservoirs, soak ways, and dams. The Ministry for Transport and Infrastructure carried out an exercise to collect information on government-owned second class water reservoirs in Malta. Currently, these reservoirs are being mapped.
- Currently constructing a water conservation information centre in Rabat Malta aiming at providing an interactive experience to visitors on the challenges Malta is facing with regard the water table, and will also be periodically displaying informative exhibits and public meetings to educate the public about issues related to water.

Conservation of Rain water in households

- Water technologies onto existing buildings by collecting rainwater in suitable wells or cisterns within the site of the building.
- Guidelines for conservation of Fuel, Energy and Natural Resources (Minimum requirements on the Energy Performance of Buildings, 2015) are in place since 2016.

Groundwater extraction

MRA has embarked on a programme to install meters on Boreholes. Different regulatory instruments are being considered by Government to ensure that the process of over-extraction through the misuse and abuse of boreholes is reduced at the earliest possible given that the loss of this natural resource could have implications on economic, environmental and social activities in Malta.



The Government will continue to implement and introduce incentives schemes and economic instruments directed at the farming and livestock breeding sector to construct or rehabilitate existing reservoirs to capture rainwater for irrigation and other appropriate uses and is also encouraging them to use water more efficiently as well as to use the best-available irrigation technologies.





Encourage the use of treated sewage effluent as a cheaper source of water for use by the **agriculture** community given that such a source can act as an economic substitute to the use of ground water.

Currently, in process of commissioning three polishing plants and associated limited distribution facilities.

Furthermore, the extension of distribution facilities is being planned.

