Session 1

Tunisia’s challenges and priorities in the field of marine research

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Tunisia has a 1,300 km-long coastline and holds a central position in the Mediterranean. The country is unusual in that it has access to both the eastern and western Mediterranean. The Mediterranean, which supports several industries such as fishing, tourism and maritime transport, is threatened by intensive, seasonal fishing as well as urban, industrial and tourist development. This has resulted in stagnation of fish production around the 110-tonne mark with over-fishing of bottom-dwelling species, pollution and erosion of certain coasts as well as problems of conflict over the use of the coast.

These issues leave Tunisia faced with the challenge of finding a balance between social and economic development and the preservation of the marine environment. The problems can be broadly broken down as follows:

- Managing the interaction between fishing and the preservation of living marine resources in the light of the important part played by fishing in the economy.
- Protecting the Tunisian shoreline from sources of pollution to protect the ecological balance and ensure that the exploitation of the marine environment can be continued in the future.
- Finding ways of combining development on the coast of several activities and services: urban development, tourism and industry whilst preserving a fragile ecosystem.

Tunisia has made several provisions and undertaken scientific research with the aim of understanding the potential and problems of the marine environment and of trying to find suitable solutions for the problems posed. Among the chief research projects being undertaken at national, regional and international levels we might quote:

**On the use of fishing resources:**

- The national project to evaluate fish stocks that was started in 1996. The main lines of research pursued include a survey of the numbers and types of vessel making up the Tunisian fishing fleet, the biology of the main bottom-dwelling and mid-water species caught, an assessment of the main stocks caught and scientific opinions regarding their sustainable use.
- Participation in regional projects including most importantly the FAO/COPEMED 1 and 2 Projects (1996 – 2005 and 2007 – 2010) on supporting the management of fish-stocks in the western Mediterranean basin,
- Participation in the FAO/MedSudMed project (2002 - 2006) on the monitoring and evaluation of resources and environmental systems in the straits of Sicily.
On the integrated management of coastal areas several projects have been conducted:

✓ Project on the conservation of coastal wetlands and coastal ecosystems in the Mediterranean Basin,
✓ Project on the preservation and monitoring of the ecosystem at Ichkeul,
✓ Projects for the rehabilitation of the lakes north and south of Tunis,
✓ The national programme for the protection of the coastline of Tunisia against marine erosion
✓ An integrated survey of lagoon environments, the Bizerte lagoon being used as a laboratory site,
✓ The European Melmarina projects 2002 – 2006 on the monitoring and modelling of coastal lagoons and the CIRCE project 2007 - 2011 that is studying the impact of climate change on the environment of the Mediterranean region
✓ The Mediterranean Environmental Technical Assistance Program METAP (World Bank and European Investment Bank), which implemented a protection programme for the coastal marine resources in the Gulf of Gabes in 2003.
✓ The MED-COR Project (2003-2006) which has undertaken an integrated ecological survey of coastal zones to study their management.

On the contamination of the marine environment by chemical substances Tunisia has undertaken work nation-wide focusing particularly on the Gulf of Gabes. It has played an active part in the Med Pol programme of ongoing monitoring and research on pollution in the Mediterranean and the European Mytilos project on monitoring the quality of coastal waters using biological integrators for the sustainable protection of the western Mediterranean.

Tunisia is very aware of the threats facing the Mediterranean and, as a signatory to the Barcelona convention, is working to consolidate its international collaboration in marine science, particularly with the other countries of the Mediterranean Basin. Generally speaking, Tunisia's priorities in terms of international cooperation in the field of scientific research are threefold:
- speeding up the integration of Tunisia into European research and EU framework programmes,
- developing our technological R&D development capacity to serve our economy and society,
- promoting the integration of Tunisia into world-class scientific debate.

International cooperation in marine science is in line with these priorities and focuses in particular on issues affecting the entire Mediterranean such as:
- research into fishing resources and their joint management, particularly where stocks are shared by several countries.
- knowledge about the condition of the Mediterranean and the mechanisms by which pollution is spread. Setting up databases can facilitate research into ways of limiting pollution. It would be interesting to be involved in the Mytimed project on monitoring the quality of coastal waters using biological integrators for the sustainable protection of the eastern Mediterranean.
- continuing work on the management of coastal zones, particularly lagoon environments with similar characteristics throughout the Mediterranean countries; this task is to be achieved by setting up a Mediterranean lagoons network and operational tools for managing them.