

IUCN Mediterranean Regional Roundtable - Athens, Greece, December 10-11, 2002

## **CYPRUS-Water Resources Planning and Climate Change Adaptation**

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### **Summary**

Cyprus is the third largest island in the Mediterranean Sea, with an area around 9,251 km<sup>2</sup>, population around 754,000 and annual precipitation around 503 mm/year. During the last century it was observed that the climate changed with precipitation reducing at a rate of 1mm per year, while the temperature increased by 0,5°C. The reduction in precipitation and the increase of the temperature had an adverse impact on the availability of the natural water resources which were reduced by 40% from the estimates made in 1970 for the preparation of the Cyprus Water Master Plan. Extreme climatic phenomena especially droughts are more frequent than before, causing water shortage and scarcity, with adverse effects on the economy, the social life and the environment. Cyprus has developed and implemented a national Water Master Plan, based on the meteorological data available at the time. After implementing the planned, the available water resources were noted to be 40% less than originally estimated causing a water crisis. Due to climate change, this crisis forced the Government to revise the water management plan, which envisaged the introduction of seawater desalination by the years 2005-2010, by introducing seawater desalination early in the 1997's, accelerating the construction of the domestic effluents reuse projects, intensifying the implementation of water demand measures, and proceeding with the re-evaluation of the water demand and the available natural water resources.

Cyprus has ratified both the Climate Change Convention of 1992 and the Kyoto Protocol and has prepared a National Strategic Plan for fulfilling its obligations, although they are not yet specifically defined because Cyprus is not included in the List A of the Kyoto Protocol yet. Cyprus has set up an Ad-Hoc Committee on Climate Change and is now active in the selection of the strategy and of the measures to reduce/stabilize the emission of the greenhouse gases to the atmosphere. However the Committee is not concerned with climate change adaptation measures.

Because of climate change and its immediate impact on the reduction of the natural water resources availability, the Government of Cyprus has set up a Drought Management Committee with the responsibility of implementing measures to mitigate the adverse effects from drought and also water scarcity problems. In parallel to this, realizing the need for additional water, the Government decided to introduce seawater desalination for augmenting the water availability and increasing the reliability of water supply from the existing Government Water Projects. The Drought Committee is not a permanent committee but an Ad-Hoc one and is mobilized when drought occurs.

Since there is a high probability that climate change will continue and that, because of global warming, the level of the sea surrounding the island shall continue to rise with adverse effects on coastal aquifers and coastal lands, a Strategic Plan for mitigating climate change effects and for adaptation measures is needed. Cyprus has a great experience on mitigating adverse effects due to water scarcity, one of the adverse effects of climate change, and this can be shared with other countries. The roundtable discussion held in Athens offers an opportunity for exchanging experience and know-how. The roundtable should be the beginning of a thorough discussion of the important issues related to climate change, precipitation, temperature, seawater rising, the

cause of extreme climatic phenomena, their effects on the control and availability of the natural water resources, the suitable measures for avoiding/minimizing the effects of climatic change in accordance with the Kyoto Protocol and the consideration of adaptation policies for facing its impacts.

The important issues to be discussed at the roundtable could become some practical tools to enable the participants and the national representatives to evaluate climate change, its adverse and beneficial effects as well as the effective measures to mitigate them. This shall enable the Mediterranean countries to prepare their national strategic plans.