1.4. Background Information *(extraction of the consolidated version – annex A)*

Introduction : International approaches to water issues through a human vision: People and Water.

The Mediterranean Vision on Water, Population and the Environment for the 21st Century was published in January 2000. In describing the physical and human setting, the major contrasts between the two shores of the basin are evidenced. The demographic burden in the region is born differently in the north where national populations tend to stabilise or decrease in contrast to the south where within one generation the population of eastern and southern countries tripled. There is a sharp contrast between the Northern coast, backed by temperate regions which supply it with abundant water resources, and the southern and South -Eastern coasts, adjacent to dry and desert areas with very limited water resources. Similar contrasts in levels of economic development and living standards put poverty as a key consideration for an approach to managing water resources in the Mediterranean.

In the southern countries (Egypt, Libya, Tunisia, Algeria, and Morocco), demand for water is growing with the population, though demand per capita tends to be falling. This demand fluctuates throughout the year due to irrigation and tourism, two seasonal uses fundamental to local economies. Irrigation is required nearly everywhere for agricultural production, the prominent sector of use in the South where it represents 82% of total water use. The major demand for irrigation is concentrated in a few months of the year, when there is little or no rainfall, increasing the need for regulatory storage. The steadily developing tourism sector increases local demand for drinking water, especially in the summer. Despite the increasing scarcity of water and the shortages already felt, water use is still far from efficient. In the Mediterranean countries as a whole, nearly half the water supplied is lost in transport or is badly used, especially in irrigation.

As a factor in socio-economic development irrigated agriculture is a high water-consumption sector which in most Mediterranean countries represents most of the water used, but only a small share of GDP. The allocation of resources and the generally low cost of irrigation water can be questioned in this context, but should be set against social, economic, and ecological considerations and the important role that this sector plays.

Water scarcity has led to an increased dependence on imported foodstuffs in spite of sustained growth in cereal production over recent decades the Southern and Eastern has been unable to meet the population's growing demand. In 1995 the region was 33% dependent on the international market for its cereal consumption. These countries are in favour of regulated free trade, but that scenario could favour agricultural exports with the risk of increasing pressure on water resources.

Attempts to satisfy increases in water demands has often taken the form of a joint supply-oriented approach which has increased the pressure on conventional resources. With irrigation as a main objective, dam-building policies have been wide spread throughout the Mediterranean. This development approach has offered the means to develop infrastructure through subsidies and has contributed to the short term development of the agricultural sector. However, the favoured water use practices are proving to be unsustainable in the medium and long term. Heavy sediment loads, especially in southern countries result in active silting up of dams and short regulatory functions despite high planned reserves. In Morocco the capacity of reservoirs built before 1988 will be reduced by half by 2050. The present water economy is partly unsustainable.

This document provides three future scenarios for the Mediterranean: a 'business as usual' scenario based on current trends; an undesirable scenario based on exacerbated trends; and a sustainable development scenario. This last scenario introduces strong social, cultural and behavioural dimensions in water management. Social criteria are defined on a case by case basis and integrated in natural resource management strategies. The conditions required include adapting the form of development, especially in countries with scarce or soon to be exhausted water resources.

At the end of 2000, the European Commission published its Water Framework Directive (2000/60/EC) in the Official Journal of the European Communities. This new legislation provides for achieving the sustainable management of water resources through its 26 articles that focus primarily on the improvement and protection of the quality of European water resources. The EU Water Framework Directive (WFD) considers water management broadly from four disciplinary approaches: Geography; Ecology; Economics and Sociology. In synthesis, the principal standards described by this directive are as follows:

that the *geographic management unit* should be the river basin district and planning activities should be articulated at this level (Art. 3, Art.5, Art. 13)

that management objectives should include achieving *good ecological status* therefor taking a systemic approach to planning in accordance with the environmental standards set out in the Directive (Art. 4)

that *full cost recovery should* be an objective that guides pricing mechanisms (Art. 9)

that the *participation of the general public* in the establishment and updating of river basin management plans be supported by the provision of information about planned measures (Art.14)

These approaches though not entirely new, have not been as comprehensively imposed on member states in the past. The Directive's approach is liberal in that it gives consideration for varying conditions and priorities throughout the European territory, but the approach is clearly defined as being "integrated" water resource management.

The new challenges posed to the people responsible for the management of water resources across the European Union include the "marrying" of existing national policies with the stipulations of the WFD. Research can support this transition by identifying compatibility and conflicts between the two (or more) legislative instruments, and by encouraging trans-national co-operative relationships. Trans boundary management issues will require new working partnerships, to be established between groups sometimes with different working languages, and different management approaches.

The recent "International Conference on Freshwater", held in Bonn in December 2001 was convened by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. More than 700 participants included ministers with responsibilities for water affairs, environment and development from 46 countries throughout the world. The Ministerial declaration, product of this meeting stresses the "need for greater commitment to implement commonly agreed principles on water resource management" and calls on the international community to "strengthen its commitments and efforts to enable developing countries to manage water sustainable".

The conference paper "Water – a Key to Sustainable Development" identifies what are termed 'The Bonn Keys' which include meeting the water security needs of the poor; the decentralisation of water management; new partnerships; co-operative arrangements at the water basin level; and better performing governance arrangements.

The paper's focus is a link between water security and poverty reduction, and the International Development Target that was set by the UN Millennium Assembly that sets out to halve the number of people who are unable to reach or afford safe drinking water and to stop the unsustainable exploitation of water resources. Despite improvements in water use efficiency, the use and demand for freshwater have increased and ecosystems are becoming increasingly stressed by water scarcity and pollution. However, the paper concludes that "there is enough water for everybody in the world, but only if we change the way we manage it" Recommendations for action include managing water at the lowest appropriate level; improving economic efficiency; focussing research and information management on problem solving; and sharing knowledge and innovative technologies.

The aim of the ISIIMM project is to share experiences, knowledge and build new perspectives for sustainable water management in Mediterranean agriculture systems. We propose to work on 12 specific well documented case studies inside river basins in 6 different Mediterranean countries, involving local partners, water users, citizens, development agents, researchers, teachers and administrations in building new visions and agreements for the sustainable management of water resources. With a primary objective to help local rural communities adapt to the emerging problems resulting from pressures on the water supply, two priorities will guide programmed activities: working with local irrigation organisations and working with the professionals of development.