Introduction to IWRM part 3

Case Study 1. TAIZ Water Resources Management Plan

In the Ta'iz region the groundwater use exceeds the natural recharge with a rate of 265%. This means that the water scarcity is severe. The groundwater is mainly extracted for agriculture in the wadi's and a minor part is used for domestic consumption in Ta'iz town and the industrial sector.

The water management in Ta'iz is complex. The conventional approach to develop new water sources would not be sufficient as it would postpone the water scarcity problem and ignore the other water related issues in the area. Poorly defined water rights, lack of appropriate incentives for conserving water resources and for protecting the environment, poorly functioning water markets, weak institutional capacities and the absence of an efficient regulatory framework for management of water resources are other components of Ta'iz multidimensional water problem. Without addressing these fundamental issues by adopting an integrated approach, a long term and sustainable solution is not possible.

Different water uses are interlinked. Urban water problems cannot be adequately addressed without taking into account the rural-urban water transfers. The public water supply utility needed an institutional reform to confirm to demands. Also the agricultural water sector required an appropriate regulatory framework for controlling water abstractions and improving irrigation efficiencies.
As there are many interrelationships between different actors there was a need for coordinated action to address all the water management issues in the Ta'iz region. Governmental institutions, non-government organizations and the water users had to be involved.

Therefore a Water Management Action Plan is established. The Water Management Action Plan of Ta'iz Region consists of 5 major components which include:

1) General Management Enabling Activities;
2) Establishment of Regulatory frameworks for allocation of Water;
3) Enhancing the public water supply infrastructure and services;
4) Combating damage from water by means of waste water and flood control;
5) Sector –targeted demand management.

To implement this plan an institutional structure was set up with an oversight committee, a plan implementation Committee and Water Users Associations (WUA's). Those WUA's are based on the national water law as well as on the traditional habits of the region. Traditional principles, such as the "Document of Seventy" which is three hundred years ago signed by sheiks are considered within the design of the institutional framework. Some of the WUA's have involved their own agreements, as for example in the Redah District where farmer sheiks made the following unwritten regulations:

- no borehole may be drilled in the village once the existing wells can cover the needs
- Water transfers and sells to other areas should be stopped
- Water pumps may not operate longer than 12 hours per day.

At the moment that the students group has done this research (July 2007) there are still some struggles in the cooperation between the society and the local authority. Often personal interest is favored over public interest, and local authorities are not always qualified for their challenging tasks.

Reflection questions:

- Explain why it was important to use a IWRM approach instead of building a dam to save water for the Ta'iz region?
- Explain what could happen when traditional habits wouldn't be taken into account in the regulatory framework.
- This case explains how urban water problems are related to rural water management. Could you mention other water uses which are interrelated?
- Water Users Associations such as the example of the Redah District focus on combating illegal drilling of wells. Which other water management related activities do you consider important tasks of a WUA?
- What would you do to improve the current situation? How could one strengthen the cooperation between the society and the local authority?

This case study is mainly based on the students' report of the Diploma Project 'The Community Role in Water Resources Management', studied by Adel Alsakkaf, Bashir Yahya Al- Nasiri and Ghaleb Abdul Kader, 2007.

Case Study 2. Urban Water and Sanitation Sector Reform in Yemen

In 1996 the government evaluated the role of National Water and Sanitation Authority (NWSA). The NWSA was slow in implementing planned projects, their services where inefficient; branches to operate and maintain its equipments and machines were weak. Also their capacities in terms of financial and human resources, to implement responsive interventions, were not functioning properly. That pushed the government to adopt a reform strategy in urban water and sanitation sector (UWSS) in 1997 by issuing a Cabinet decree no. (237) for UWSS reform.

The decree based on the decentralization of water and sanitation services. The focus was on the establishment of local corporations at governorate level to work on commercial basis and adopting cost recovery policy. To achieve these objectives the sub-sector responsibilities were divided to regulatory and executive functions. NWSA was supposed to handle the regulatory functions and local corporations (LCs) the executive. However, the sub-sector reform focused on executive functions and establishing a new autonomous regulatory agency to regulate the UWSS.

After ten years, 15 local corporations at governorate level and 23 autonomous utilities at town level were established for providing decentralized water and sanitation services which cover 93% of urban areas of Yemen for 5.3 million persons with focusing on the local needs and requirements.

Participation is a fundamental principle for UWSS sector and the main actors are: Ministry of Water and Environment, Ministry of Finance, Donors (GTZ, WB, KFW..etc), governor (chairman of LC board of director), Board of Director members (representatives of related governmental agencies, private sector, NGOs and customers), and governorate and districts local councils which still need to put the basis of clarification of these actors' roles and responsibilities to ensure the efficiency of water supply and sanitation services and developing technical, financial and human capacities of water utilities.

This case study is written by Nadia Al Hariti, June 2008

Reflection questions:

- This case study does not explicitly explain the IWRM aspects of the institutional reform of the NWSA. Could you describe which aspects are related to the IWRM vision, as described in the TAC Background Paper of the Global Water Partnership?
- Why would decentralization make governmental services more efficient?
- Why would working on a commercial basis be more efficient?
- What would you see as an option to ensure the efficiency of water supply and sanitation services?

Case Study 3. Living marine resources in the RSGA

The diverse habitats and ecosystems of the Red Sea and Gulf of Aden region (RSGA) have a several unique marine habitats because of its species and hydrological characteristics. The RSGA has always been a vital maritime trade-route linking, and its fisheries (local and national) are still highly important for the coastal population.

Over the course of the past few decades, the oil industry and marine transportation of oil has increased the significance of the RSGA. This has placed it in the centre of the geopolitical strategies of the industrialised nations. At the same time an increasing interest in the living marine resources (LMR) of the region and their habitats has developed both at the local and international levels. As a response to these trends, the Regional Organization for the Conservation of the Environment of the Red Sea and the Gulf of Aden (PERSGA) was established in 1995 and enhances representatives from Djibouti, Egypt, Jordan, Saudi Arabia, Somalia, Sudan, and Yemen.

The long term objective of the PERSGA is to safeguard the coastal and marine environments of the RSGA region and ensure sustainable use of its resources. One of the main programs from the PERSGA is the SAP program. Its activities include reporting the current state of the marine resources, data collection and stock assessment, organizing trainings on environmental sound management of the coastal area, and monitoring and surveillance of fishing activities.

Research done on socio-economic aspects of fisheries in the RSGA region shows that the fisheries resources management is still dominated by top- to- bottom decisions concerning fishing seasons, fishing grounds, control of mesh sizes, limitation of fishing effort and similar traditional measures. Mostly, single commercial species are targeted by such measures and no consideration is made regarding the interrelationships of species in a given ecosystem. The last regional stock assessments were made in the late eighties of the past century. The legal framework providing for fisheries management and development is weak in many states. Penalties for infringements are too low to act as an effective deterrence and encourage compliance by fishermen. Enforcement is virtually non-existent in most of the Region. Internationally accepted models for management are not incorporated, such as the principles laid down in the FAO Code of Conduct for

Responsible Fisheries or the establishment of Fisheries Management Plans (FMP). Participatory approaches involving all stakeholders in fisheries management is totally lacking. National institutional structures still lack the administrative and technical capacity to formulate and implement realistic and effective fisheries management policies and strategies.

A generic problem throughout the RSGA region is the lack of financial and material resources devoted by national governments to those authorities responsible for fisheries research, management and development. A lack of integrated planning and management is the basis for the rapid growth of unplanned settlements and increased pressure on coastal and marine resources. A lack of awareness of the need for and benefits of effective fisheries management by stakeholders in the fisheries sector is a critical problem. Insufficient resources are allocated to human resource development in both the public and private sectors in all PERSGA member countries.

This case study is derived from the report of Dr. Khaled I. Hariri 'LIVING MARINE RESOURCES IN THE RED SEA AND GULF OF ADEN', 2005.

Reflection questions:

- Mention which functions the marine environment fulfills for different actors?
- Explain why it is of importance to form a regional organization in which all countries bordering the Golf of Aden and the Red Sea are involved.
- Why do you think that the PERSGA paid much attention to data collection and assessments?
- What could, in your opinion, be a solution to create awareness of the need for and the benefits of effective fisheries management by stakeholders in the fisheries sector?