

**ANNEXES TO THE REPORT**

**of the**

**AFRICAN PRE-CONFERENCE**

**“WATER FOR FOOD AND ECOSYSTEMS: MAKE IT HAPPEN!”**

**ANNEX C-3: Introduction to the Themes**

**Theme 3**

**Enabling Environment**



## **Annex C. Introductions to the themes**

### **THEME 3: THE ENABLING ENVIRONMENT**

#### ***Enabling Environment For Effective Implementation Of Water Management For Food And Ecosystems, And For Poverty Alleviation And Sustainable Development***

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#### **INTRODUCTION**

By and large, the management of water for food production and ecosystem in an integrated and sustainable manner receive very little attention in the national development programmes, including in the poverty reduction papers. Despite increased recognition by the international community that the water needs of food and agriculture have to be reconciled with the conservation needs of ecosystems, and also integrated with demands from other water users such as energy, transportation and industrial sectors, many developing countries continue to plan and manage their water, food production and ecosystems separately from each other. The sectorial structures that characterizes most existing institutions in these countries are often ill-situated to providing an effective mechanism for local stakeholders in managing water for food production and ecosystems in an integrated and sustainable way.

The situation in Africa and particularly in the sub-saharan countries is even more precarious. Population growth and economic development have overwhelmed traditional water management practices and people suffer from water scarcity, water pollution, and floods to varying degrees throughout the region. The poor are particularly vulnerable to climate variability, as witnessed by the devastating effects of weather related extreme events each year on urban as well as rural communities. Climate change is expected to increase both the severity and duration of these extreme events, threatening water availability and food security for millions of poor people. Hence, there is an urgent need to adopt promising institutional and managerial arrangements at local and national/cross country levels to enable sustainable water management for food and ecosystems, equitable representation of all stakeholders in the decision-making process, and consistency at all levels.

#### **PROVIDING INSTITUTIONAL FRAMEWORK**

Key questions that the international community needs to address in promoting sustainable management of water for food and ecosystems, based on a stakeholders-centered approach that facilitates sound, efficient and equitable decision making in the assessment, allocation and regulation of water resources, in terms of both quantity and quality include the following:

- (i) What institutional arrangements and policies will enable local stakeholders to manage their resources and to accommodate the diverse users and uses of water?
- (i) How can institutions and organizations offer a platform for joint decision-making / negotiation involving fishers, pastoralists, rain-fed agriculturalists, industrialists, that includes the specific needs of nature and environment?

The management information on the performance of development in water, soil conservation and agricultural productivity is however lacking to show what works and what does not and which organization are doing a good job with little resources. It is also not clear what is happening to the

mega-funds flow that seems to end up nowhere. While institutional reforms have been implemented or are being planned in various countries, there is clearly no universal blue-print, for their successful design. Therefore, there is need to take stock of the impacts of the various institutional reform processes, and to see how the different institutional reforms have affected the ability of local stakeholders to manage their resources.

The organisational and institutional aspects of water, food and ecosystems management are often wide and varied. However, most of them have a common background. They were formulated in response to global pressures geared towards decentralization, privatization and liberation of national institutions. Examples of such institutional reforms are the introduction of water markets, public-private partnerships, and instruments such as pricing and the polluter-pays principle, decentralized structures such as Water Users Association, and rights-based approaches.

## **MANAGING WATER RESOURCES**

Society is a key player in the sustainable management of all the Earth's resources. The role of society must therefore be well defined and geared towards achieving a good balance between exploitation of the resources and conserving them. For this reason, it is necessary to maintain a good link between the needs of the water users and the need for sustaining water availability both in sufficient quantities and in good quality.

### **1. Creation of Biosphere Reserves**

In tackling the issue of water availability, some countries have created ecological biospheres and appointed ecologists to manage them. A good example is Mexico where the government has set aside funds to compensate the rural people who have accepted to set aside portions of their land as forested reserves whose main role is to maintain water infiltration into the soil to recharge the ground and river water systems. In this way, they are managing to tackle the problem of land degradation caused by soil erosion while also using the soil system to clean the water and make it available to the users. The urban consumers therefore pay for this service in form of tax and the rural communities who maintain the forests and ecosystems are paid for conserving their land for crucial environmental service.

### **2. Privatisation of Water Services**

In many developing countries, provision of water to the urban and rural populations is very unsatisfactory. One response is for governments to de-link themselves from the water supply business. This can be done by relinquishing the management to stakeholders (mainly the consumers) or privatizing water services. Given the limitations of relying on community self-help water projects, the latter seems preferable.

But privatisation brings risks in terms of welfare for the poor. It can cause the needs of the un-served and low-income groups to be ignored. However, various policy options can be put in place to secure advantages for these groups within the framework of a privatized water sector. The policy options could include, participatory sector planning, social tariffication, contractual clauses, water trust funds, and support for alternative water supplies.

*Social tariffication means charging a "social" rather than a commercial tariff. It is a policy instrument that may be used to ensure that the poor get water in instances where charges based on full cost-recovery would be too expensive. It works for those poor citizens who are connected to the main water network but who may otherwise not be able to afford the market price. Low-income households generally consume low volumes of water. The "social tariff" is also useful for promoting conservation of available water. Since this system penalizes high consumption, it will encourage consumers to limit consumption to necessary level.*

Provision for a participatory approach to the management of water resources can be made in National Water Act with sufficient instruments and institutions which the poor or their advocates may use to ensure that they also get their share of the water. The Act can also provide instrument for participatory

planning in the water sector. This can provide the poor with the platform to air their grievances and influence water development policy in the country. The Act can also provide for the establishment of the Water Services Trust Fund to help finance water provision in areas of a country that are without adequate water services.

In addition to specifying tariffs in the contract, it is also possible to specify that part of the performance of the contract includes extending the water network to an area which is unserved – for instance, to informal settlements or peripheral communities. If such conditions are not adhered to, a breach would be implied and the license could be withdrawn. Again, it is important that representatives from urban poor organizations or their advocates sit on regulatory board so that they can influence policy in the way that has been suggested.

Given the number of urban dwellers who get unsatisfactory or no service from the conventional piped water network, a number of alternative providers who can serve the poor satisfactorily can be used. They include well-owners and cart-pushers. Cart-pushers provide water for those who are not served by taps, while well-owners provide cheaper water than the official supplier, catering for those unable to afford official rates, while also providing water for all during shortages. Thus, there is a lot of potential for alternative providers to cater for the needs of the occupants of informal settlements and other low-income groups in many developing countries.

### **3. Participatory Approaches**

Whereas localized indigenous knowledge and interventions exist that can be used in managing agricultural systems, dependable and sustainable production systems still elude many scientists and agricultural managers. Farmers are for example sometimes considered to be guinea pigs by researchers and agricultural personnel. Their full integration in research and agricultural development process is still marginal and requires to be fully addressed for meaningful agricultural production systems to be achieved. An important intervention is the incorporation of farmers in decision-making, activity planning and project evaluation in any farming activity.

In the past, training and technology transfer was mostly based on agricultural staff acting as teachers of farmers rather than being based on shared knowledge and consensus building. This in most cases led to gaps in technology adoption by the farmer if she/he considered the material being transferred inappropriate or directly not applicable to their real-world situations. Although training is still required, it is more the question of how this should be done to achieve maximum output in farming and ecosystem conservation rather than its availability.

The participatory approaches need to be exploited and put to more use. A structured engagement with farmers in a participatory manner to the extent where the field personnel is seen much more as a facilitator of joint learning rather than experts dispensing packaged technical advice. Structural social and economic factors in a country may mean that half of the target population for the national participatory farming activities live in absolute poverty and have a limited resource capacity to engage in conservation work. The training of local farmers and extension personnel, as well as creation of awareness among the general population will however, widen experience and give confidence to the local stakeholders involved in participatory approaches.

## **RECOMMENDATION AND CONCLUSION**

### **1. Water Productivity**

Sustainable use of water for food and ecosystems is a complex issue. Potential improvements in water management can be limited by the complexity and diversity of water uses and water users within upper catchments. Substantial modification in water use at one location influences the resources at another, so a systematic approach is required which links changes in catchment and basin hydrology with the people who create it. Such approach also anticipates the impacts of complex interactions which occur between socially, economically or politically diverse groups. Resolution of the institutional disconnectivity that occurs between hydrologically – connected people will increase the potential gains offered by advances in biophysical performance.

The institutional disconnectivity may occur at community, catchment and basin scale. It results from a deficiency of institutions that could enable more effective use of shared resources. It reflects the barriers that prevent “collective” or “coordinated” management. This complex challenge can be divided into three facets, each of which will need to be generalized: water and livelihoods; catchment hydrology; and social organization. These facets overlap within catchments, but like knowledge of the processes they represent is not congruent. This lack of congruence presents a major challenge for water managers, but also an opportunity for new, integrated activities that can underpin significant and measurable progress in enabling people to benefit from improved water productivity.

Aquatic ecosystems provide a wide range of benefits to people. As efforts to improve water productivity intensifies, there is growing recognition that future investments in water management need to consider how to sustain these ecosystems and the benefits they provide. This is particularly so where aquatic resources such as fisheries are used intensively by poor communities and sustain rural livelihoods.

In order to maintain the productivity of aquatic ecosystems and improve dependent livelihoods, policies, institutions, and governance arrangements that foster sustainable and equitable use of these resources need to be developed. These in turn will need to be supported by improved innovative approaches to managing the biological and physical resources of these systems, so as to optimize their contribution to food security and poverty alleviation. Such improved governance and management will need to be based on in-depth understanding of the social, economic and institutional viability of the approaches being taken, and of the capacity and constraints of the ecosystem being managed. In particular, the full value of the range of aquatic ecosystems within different river basins, the resources they provide, and the trade-offs among different uses, need to be better understood; the environmental flows required to sustain aquatic ecosystems and their values need to be quantified; and ways to improve water productivity by incorporating aquatic ecosystems need to be identified.

## **2. Strengthening Capacity to Monitor Freshwater, Food Production and Ecosystems Integrity**

Many developing countries lack reliable and easily accessible data on water resources, and this is a major obstacle to meaningful reform effort and to assessment of needs, demands and supplies. It is indeed important that developing countries be encouraged to associate their national collection/monitoring networks with international long-term environmental observation systems. Water cycle was identified by the international community as a critical area that required the development of a specific observation system. Such a system will not only promote the development and capacity for water resources observations, but will be geared towards producing or contributing to: products for improved water management decisions at a variety of time and space scales; weather and climate forecasting; and enhanced understanding of the global water cycle.

Science and technology have not also been fully harnessed. In particular, linkages between science and farmers should be strengthened to improve water management. There is need to bridge the North-South gap in technological and scientific research and to promote the transfer of knowledge. International Scientific Cooperation Programmes such as the recently launched Global Water System Project (GWSP) of the Earth System Science Partnership (ESSP) should be strongly supported. The project aims, among others, to identify options for sustainable water management strategies. The GWSP plans to have a built-in major education, and capacity building component with particular attention to developing countries, as well as a process of dialogue with other stakeholders, in particular policy makers at all levels.

Improving linkages between science and farmers and the importance of water for securing present and future food supply is also addressed in the Global Environmental Change and Food Systems (GECAFS) project of the Earth System Science Partnership (ESSP). It aims to determine strategies to cope with impact of the environmental change, in particular climate change, on food provision and to analyze the environmental and socio-economic consequences of adaptation. It is being implemented via regional research projects that identify the effectiveness of alternative policies at different points

within food systems. Hence, international community must reach out more to these other major groups and to the broad array of stakeholders in the sustainable management of water for food security and ecosystems. Participatory approaches in developing local management agenda for sustainable development will in future be important instruments to this end.