IWRM Action Hub

CASE STUDY

Mozambique: IWRM implementation at Pungwe River Basin in Mozambique

The Pungwe River basin offers significant opportunity for economic growth for Mozambique. The rate of economic success depends strongly on the implementation of IWRM. Action was taken to assess the progress of IWRM using a set of indicators addressing relevant areas. It became evident that implementing IWRM takes time and to reach success, implementation of IWRM has to follow the pace that can be adopted by all involved parties.

Background

The Pungwe River flows from the Eastern Highlands in Zimbabwe into Mozambique and drains into the Indian Ocean. The total catchment area is 31,151 km2 of which only 4.7% lies within Zimbabwean territory.

Economic activities among the basin communities are largely agro-based. They include crop and livestock production, forestry, fisheries, gold mining and eco-tourism. The agricultural practices are a mixture of subsistence dry land and irrigated crop farming.

The river basin, with its abundant water resources, offers considerable potential for economic growth and development provided problems and constraints on water resources management can be solved. The surface water resources of the Pungwe River Basin can meet the future water requirements, including those of human, health and environmental flow, even in a high economic development scenario, provided that the regulating infrastructure is built. The regulating infrastructure would also reduce the negative impacts of floods and droughts, which would greatly benefit the poor. However, for successful water resources development Integrated Water Resources Management (IWRM) is key. The development must be balanced to give a fair and equitable allocation of the water to existing and new users. Development must be directed towards poverty alleviation. Environmental threats, such as the artisanal gold mining, need to be solved and the future infrastructure must allow environmental sustainability.

For the Mozambican part of the river basin the regional water authority, ARA-Centro, thus is a key for economical growth. Much relies on how well ARA-Centro, together with other governmental authorities, succeeds to implement IWRM in collaboration with the stakeholders of the river basin.

Actions taken

The case study used IWRM indicators developed by Cap-Net both to test the indicators and to assess progress with IWRM in the Pungwe basin.

1. To evaluate to what degree the IWRM is implemented in the Pungwe River basin the proposed IWRM indicators by Cap-Net were applied. The indicators were set in collaboration with the staff of ARA-Centro during a workshop in August 2008. For qualitative indicators a scale Not at all, Partially, Mostly and Completely were used to describe the fulfilment of the indicators. For each indicator a comment on the source of the information or an explanation was also given to support the understanding. Since Cap-Net has not proposed any indicators for flood and drought management, which is an essential mission for ARA-Centro, suggestions for indicators were made.
2. The setting of IWRM indicators for the Pungwe River basin was also a test of the indicators' applicability. The staffs of ARA-Centro were in general very positive to working with the indicators and found it straightforward to understand them. All indicators, except the ones relating to pollution control, were found relevant by the staff for the mission of ARA-Centro. The indicators developed by Cap-Net were found very useful for judging the degree of IWRM implementation in the Pungwe River basin and to identify which areas ARA-Centro should put more emphasis to in the future.

The indictors addressed: water allocation, pollution management, basin planning, monitoring, economic and financial management, information management, stakeholder participation, and floods and drought issues.

Outcomes

Implementation of IWRM in the Pungwe River basin has taken the first important steps since the establishment of ARA-Centro in 1998.

The enabling environment through national laws and policies is in place and concrete activities occur. The application of indicators shows that considerable steps have been taken towards an implementation of IWRM in the Pungwe River basin. Examples are the licensing of surface water users and participation of stakeholders through an established basin committee. On the other hand, there are many further steps to take. Presently the implementation is not judged to have reached halfway.

On the other hand, the indicators also show that essential parts of IWRM are missing, such as water allocation criteria that take into account efficiency and economic benefits and sufficient funding of the IWRM activities through water fees or the polluter-pays-principle. The lack of cross-sectoral coordination in the field of pollution control seriously hampers the implementation of IWRM. The national water law and statutes of ARA-Centro give the regional water authority the task to license effluent discharges. However, also the Ministry of Environment (MICOA) has regulatory responsibilities through the right to penalise polluters for non-compliance. There is a grey zone of responsibilities between the ARAs and MICOA, which prevent clear instructions for the staff of ARA-Centro do deal with pollution control. The limited implementation of water allocation criteria and pollution control is worrying for the Pungwe River basin. The last years records of low flows in the lower river basin and the accelerated water quality problems due to mining activities indicate that clean water resources may be a scarcity in the near future in the basin. This may severely affect the economic development of the region.

The staff of ARA-Centro gave the following main recommendation to a newly established RBO based on the experience in the Pungwe River basin:

- Governmental or external support is necessary for starting up the activities

- Emphasise on institutional capacity building, especially to raise the human talents in IWRM
- Put effort to market IWRM among stakeholders
- Essential to coordinate with other government bodies
- Decentralise the organisation and increase the presence of staff in the field.

Lessons Learned

The experience of implementing IWRM in the Pungwe River basin has shown that the need for central funds is essential when establishing an RBO and starting to implement IWRM.

It is not until stakeholders have acknowledged IWRM and functioning water allocation, polluter-pays-principle and collection systems are in place, that revenue from users and polluters will be sufficient for the operational cost of IWRM.

The principles of IWRM are not easily adopted by everyone and capacity building takes time to be sustainable. Therefore, implementation of IWRM has to follow the pace that can be adopted by all involved parties, both authorities and stakeholders.

It is basically impossible for the regional water authority to have responsibility and capacity to deal with all aspects of IWRM. The RBO must therefore act as a strong stakeholder in its relation with other ministries important for IWRM.

Using the indicators ARA-Centro identified work priorities for the coming period to improve the implementation of the IWRM approach.

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Related IWRM Tools
Basin Management Plans
Regulatory Bodies and Enforcement Agencies
Transboundary Organisations
Basin Organisations
Monitoring and Evaluation Systems
