4.2 Conflict Management Tools and Approaches Adopted for Berki

The success in resolving the Berki River basin water use conflict involved a number of undertakings mainly in awareness creation, confidence building and joint water use planning. Once there was understanding and awareness about IWRM, water partnerships at the regional, Berki watershed, and Woreda levels were established by the stakeholders. The following conflict management tools/approaches were specifically adopted in the catchment.

- **Partnership building:** - Partnership building through creation of water partnerships at various levels played a key role. The partnerships facilitated conflict resolution by organizing a joint visit program for both downstream and upstream users. This visit helped all concerned stakeholders to understand the problems from both sides, and also contributed towards resolving the conflicts through shared vision, joint planning and consensus building. The Tigray Regional Water Partnership (TRWP) provided a policy support at the regional state level and facilitated the IWRM process in the region.
- **Shared Vision and Joint Planning:-**The IWRM Planning process established a shared vision on the fact that water resources are resources that have to be shared among all users in the Berki catchment. Therefore, it has been clearly understood that the water resources should be managed within a hydrological boundary through a participatory process. This facilitated consensus and confidence building among the various users and other stakeholders. Awareness raising and training activities contributed to the development of the shared vision and confidence building among the stakeholders.
- **Decision Support Tools: -** Water resources assessment and socio-economic studies were carried out for the Berki watershed. The studies were conducted with multi-disciplinary professionals from key stakeholders: concerned government line offices at the regional and district levels as well as experts from academic and research institutions and NGOs. The assessment process involved all stakeholders, including local communities. Several consultation and review sessions were carried out at various levels to enrich the study. The study helped to generate the information required to understand the critical issues like conflicts among users and to prioritize problems and to identify their possible solutions.

Water related conflicts in the catchment have been minimized as a result of establishing multi-stakeholder platforms and holding various consultations..

4.3 The Outcomes

Potential conflicts are being turned into opportunities for cooperation: Water users and other stakeholders in Berki Catchment are now in a position to speak about equitable water allocation, conflict resolution, and integration of different water uses. For example, before the intervention, local communities used to think that any water that flows through their fields, was their own property. That thinking has now changed and they see water as a resource that has to be shared among all the users in the watershed.

Decline in local level conflicts: - Water related conflicts in the catchment have been minimized as a result of establishing multi-stakeholder platforms and holding various consultations. There is now recognition of the importance of the partnerships at the local level and working together is viewed as the best means to resolve water conflicts. For example, two key conflicts in the catchment were resolved without any legal or administrative intervention.

Better participatory and multi-stakeholder decision making: - Establishment of multi-stakeholder forums at various levels (regional, Berki watershed, and Woreda) has given the opportunity for interaction among the various stakeholders. The forums are also serving as a framework for integrating and coordinating water development and management activities by all the sectors/stakeholders.

Common vision and joint planning: In Berki, the catchment is considered as a planning/management unit despite the Woreda boundaries. An integrated watershed development and management plan has already been prepared for the catchment and stakeholders have agreed to implement the plan under the partnership framework.

5. Key Lessons

The following are the main lessons that can be learnt from the IWRM pilot project implementation in the Berki catchment in Ethiopia.

- Consensus building and decision support systems are useful tools of conflict management and could be widely applied where the local situations are very similar to the case of the Berki Catchment. Decentralized participatory multi-stakeholder platforms are key instruments for conflict management proper identification and analysis of conflicting issues; knowledge of the resource base and socio-economic dynamics, and joint preparation and implementation of IWRM Plan at the catchment level being very useful tools for conflict resolution.
- Consensus building and conflict management are essential components of the bigger IWRM implementation at catchment level.
- Facilitating communication among all stakeholders at all levels taking into consideration the local situations and a knowledge system is useful tool to build consensus and trust, and to manage conflicts.
- Tailored trainings, awareness raising workshops and experience sharing activities play important facilitating roles. They also contribute towards building capacities of stakeholders for meaningful participation. For example the joint visit program in Berki catchment (for both downstream and upstream users/stakeholders) helped all concerned stakeholders to understand the problems from both sides, and also contributed to manage conflicts. Awareness raising and training also contributed to develop a shared vision for the watershed and to build trust among stakeholders.
- Supporting the local level conflict management systems with some form of regulatory tools would ensure its sustainability. For example extent of groundwater abstraction needs to be regulated.

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Ethiopia Country Water Partnership (ECWP) • c/o WaterAid Ethiopia
P.O. Box 4812 • Tel:+ 251 11 466 16 80, Addis Ababa, Ethiopia

Policy Brief

Transmitting tensions down the river: How to resolve them.

A Case study of Ethiopia IWRM Implementation Pilot Project

Global Water Partnership
Eastern Africa

Ethiopia Country Water Partnership

1 Water Conflicts

Increasingly, growing water demands lead to competing water uses and also cause conflicts e.g., between domestic and agricultural uses, agriculture and industry, agriculture and fisheries, upstream and downstream, highland and lowland, and rural and urban areas. In water scarce environment, competition for available water resources between many different water users is likely to become intense. If adequate measures to improve water use efficiency and to conserve this scarce resource are not taken, water security would be a critical challenge and has already become a challenge in many places.

2. Water Conflict Management Tools

Conflict management refers to a broad array of tools used to anticipate, prevent and react to conflicts. A conflict management strategy will involve a combination of tools used to induce the parties to open up, identify the real issues behind the publicly pronounced positions and find out "win-win" solutions that leave both the parties better off with the outcome. Water conflicts can be managed mostly through consensus building, decision support/modeling tools and interventions for conflict management.

3. Water Conflict Management in Ethiopia

Ethiopia is endowed with huge water resource potential (about 122 Bm^3 annual surface runoff and 2.9 Bm^3 groundwater) though it is characterized by uneven distribution both in time and space. Water is not therefore available for use in most parts of the country at the required time. The ever increasing human population with an increasing trend in per capita water requirement and the current efforts of the government to increase use of the water resources to stimulate development through irrigation, hydropower development and industrialization is putting immense pressure on the existing water resources.

Water scarcity and degradation of its quality have therefore become the potential sources of conflicts in some parts of the country. Moreover, water resources are managed in sectoral and fragmented approaches which led to increasing competition for water within sectors and within the society. Low level of awareness of the stakeholders, poor communication and poor enforcement of laws and policies are also seen to cause water related conflicts.

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4. Conflict Management in Berki Catchment

4.1 Water Resources Management Situation in the Catchment

Berki River originates in the highlands of Tigray (north Ethiopia) and flows to join Giba River, a tributary of the river Tekeze, which ultimately joins the Nile. Berki watershed is shared by three Woredas or districts (Atsbi at the upstream and Wukro and Enderta at the downstream). Atsbi Woreda contributes much of the water resources while the downstream Wukro Woreda has little contribution. Enderta Woreda shares only a very small part in the watershed. The size of the catchment is about 410 km2. Deforestation due to agricultural activities, fuel wood collection and free animal grazing have had severe impacts on the ecosystem and the hydrological conditions of the area. Almost all inhabitants of the catchment depend entirely on the natural resources of the catchment for their livelihood.

Water conflicts can be managed mostly through consensus building, decision support/modeling tools and interventions for conflict management.

The upper Berki catchment is characterized by a mountainous terrain, where the river has formed gorges. Farmers in this area use pumps to take water from the river and there was a plan to introduce about 100 more pumps in the Atsbi Woreda with possible negative impact on the irrigation projects in the lower catchment sites. There is already one diversion in the Wereda at a location called Chuhet, which irrigates an area of around 43 ha. World Vision, an international NGO is undertaking conservation activities in the same Wereda. Moreover, In Wukro Wereda, there are two diversions constructed on the river for irrigation purposes. One is called Berki diversion which irrigates an area of 100ha and the other is the Laelay Agula diversion with a command area of 70ha.

Communities in the lower catchment area have also been practicing traditional irrigation for more than a century. Local small businesses too extract sand from the river and use the water to make bricks and concrete pipes. Moreover, there is a spring near Berki diversion that is used by the Church for spiritual purposes (holy water). In fact, the church fully controlled the spring anticipating that the government would develop it to supply water to the Agula town. The action taken by the church caused conflict with the Bureau of Water Resources of the Tigray Regional State. There was also conflict between the downstream traditional irrigation water users and upstream Laelay Agula diversion water users, which resulted in the destruction of the upstream diversion weir by the downstream users.

The various government institutions have different mandates/interests in managing the water and related resources of the Berki catchment such as using the water for drinking, irrigation, catchment and protecting the environment. The prevailing situation was that there was no plan to use the Berki water resource for multiple and integrated uses, and the different sectors were not effectively collaborating to deal with the water resource management problems in the catchment. Similarly, NGOs operating in Berki catchment work independently without being considered as important stakeholders.

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Agula: The illusory border between "scarcity and plenty"

Water is scarce resource in the Berki catchment, and there were various water resource management problems, including conflicts among upstream and downstream communities and between administrative authorities due to the diverse interests mentioned above. The different water use activities have exerted heavy pressure on water availability for different purposes, especially for the downstream users. Inefficient use of water, including application of inefficient technologies was also common practice. Communities downstream of Agula town (outside of the Berki catchment) suffer from lack of water due to the upstream pumps and diversions.

There was also conflict between the downstream traditional irrigation water users and upstream Laelay Agula diversion water users.

They need to travel long distances to access water especially during dry seasons. Moreover, the upstream water users pollute water that is being used by the downstream users due to their washing and cattle drinking practices. It can be said that water resources of the catchment were being excessively exploited beyond the natural limits of the system and the ability of the regulatory offices to control it. Absence of a land use plan and water regulations have led to the uncontrolled introduction of private pumps, and changes in cropping pattern and land use. Moreover, the water and other natural resources of the catchment were not assessed and decisions were taken without adequate information. Poor communication among various users and stakeholders and low level of awareness also contributed to the problem.