

Training Workshop on River Basin Management: A Participant's Experience

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1. Objectives of the Training Workshop

Network of Asian River Basin Organizations (NARBO) was established in 2001 using the platform of World Water Forum in Japan. The main purpose of NARBO is to establish river basin organization in Asian countries and share the experience of river basin management to fulfill the ever increasing demand of fresh water. This training workshop is organized for mid level professionals of South Asian countries aiming to share the experience of river basin management and organizations. Being one of the 27 participants from six countries I would like to share some of my observations of this valuable training workshop. Following paragraphs describe my views and thoughts regarding the experiences shared during the course of the training workshop.

2. River Basin Management in Sri Lanka

Sri Lanka is a small island country with land area of 65,000 sq. km. It is located on the monsoon Asia region in Indian Ocean adjacent to India. It has 103 rivers that possess 4 million ha meters of water annually. The climate of Sri Lanka is tropical with two distinct seasons: the wet season and dry season. The average annual rainfall is 2300 mm with instantaneous showers in monsoon season. The mean monthly temperature is 25⁰C.

Sri Lanka has long history of hydraulic civilization. Tanks are one of the historic hydraulic structures that can symbolize Sri Lanka's ancient irrigation technology. For long time water is considered as the community property for human survival. The shift of this value of water from social to economic is the challenges of the day. The tradition of managing water as one of the economic good is the tradition of Lankan people. In this respect, Sri Lanka has started managing water in holistic approach as early as its independence. With the increase in population and urbanization the demand of water has also increased. To cope with this increased demand of water government has initiated several water resources projects to uplift the livelihoods of the populace. Department of Irrigation, Department of Hydropower and Mahaweli Development Authority are the main government organizations responsible for managing water resources. In addition to government organization, there are non-governmental organizations that also partake in the management of the natural resources in general and water in particular. One of such organizations is Lanka Jalani, which is one of the organizers of this training workshop. There are several opportunities to enhance the existing water resources management. In this context, the river basin management is one of the approaches to develop water and other natural resources in an integrated way.

3. Sharing Experience of River Basin Management with Japan and Indonesia

In the training we got opportunity to share the experience of Japan and Indonesia in managing water resources. In Japan there are 210,000 reservoirs and 1000 dams to control and manage water. In Japan irrigation is managed in participatory way with farmers. Land Improvement Districts (LIDs) are existed since the 1949 with the establishment of Land Improvement Law. In addition there are traditional institutions called Muras at the village and towns that are responsible to manage water at the local level. LID is responsible for the management of main canal and diversions. In addition to managing irrigation water in normal conditions these institutions along with government manage water for draught. The draught management has three options:

- Sequential water distribution
- Reuse of water and
- Sacrifice of crops

Indonesia being an Island country has rich history of hydraulic civilization. There are about 17,000 Islands having two kinds of water related issues: draughts and floods. In Indonesia irrigation demand covers about 85 to 95% of available fresh water. Government has initiated water resources vision and mission and formulated national strategy. Indonesia has good experience of river basin management. There are 90 river basin units working under corporate, provincial government and district government. Land development tax is being imposed as irrigation service fee in Indonesia.

4. Concepts and Practices in River Basin Management in General

Management of natural resources is one of the important aspects of economic development of the country. Water resource is one of the prime concerns of the development activity in managing these natural resources. Many ancient civilizations were evolved at the banks of the big river banks. River water provides not only the life for human and aquatic plants but also serves as means of economic development. Since the time immemorial water is being used for drinking, for irrigation, for navigation, and for transportation of goods. The concept of river basin management in an integrated way can address the equitable and sustainable distribution of water resources for human uses. In this context, the river basin is an appropriate unit that can address the increasing demand of fresh water in holistic basis. The river basin covers technical, social, economic and environmental aspects of the river basin as a whole.

Water resources systems of the world are under continuous changes in terms of quality and quantity of water. These changes are further accelerated due to increasing demand of water accrued by population growth. Environmental degradation has further increased pressure on water resources. In this context the monitoring of river systems is essential. The river basin is not always static and is changing with the changes of socio-economic parameters. With the increase in urban population demand of water is also increasing, but the availability of fresh water is limiting. In this respect the conservation of fresh water is essential. The rivers are also the sources of wastage disposal since long time. When the population was manageable

there was no problem of safe drainage, but with the increase of population drainage is also problematic. The demand of water is increasing with even increasing population.

There is no single answer to address the river basin management. Each country has its specific physical as well as socio-economical parameters that defer each other. The traditional paradigm of water management would resist adapting new practices, which is mostly dominated by bureaucratic officers. But in the changed context private sector and civil society also wants to take part in managing resources. It also demands to protect the rights of water.

5. Experience from field visit

The training program has provided us to visit the Maha Oya river basin which is located at the central part of the country. The major issues observed in the basin are sand mining, elephant bathing on the river, degradation of water quality and environmental issues. Government and Pradeshiya Saba used to give the permits for sand mining. But due to economic benefits there are uncontrolled mining locations. Lowering of river beds, depletion of groundwater tables and erosion of river banks are the implications of this haphazard sand mining. However, at the middle reach of the Maha Oya river I found no significant impacts of sand mining on the environment. Rather it supports the livelihoods of the poor.

With the growing urbanization the disposal of solid waste as well as sewerage waste is problematic in rural Sri Lanka. The most convenient points of disposal we observed are river banks and sides of roads. The use of polythene bags and bottles is also increasing rapidly especially in tourism. The disposals of such non-organic materials do create environmental problems. The situation is alarming in small towns and cities where people use to dump wastage at the river banks, which cause pollution to the water.

The quality of drinking water is also questionable in rural Sri Lanka. The water is pumped directly from the river. According to the water supply officer of the divisional secretariat water is treated in the purification plants. But people do not believe and use it only for non-drinking purposes. For drinking water people use dug wells, which eventually lower the water table in the locality.

Elephant bathing is another issue in river basin management in Maha Oya river. In Pinnawala there is Elephant Orphanage, where about 70 elephants are take bath in the river. During the low flow condition the water may pollute by the elephants. Environmental people do concern on it. However, this matter is dealt by the tourism board and they have not felt any problems in environmental pollution. Some Pradeshiya Saba members in Rambukkana expressed that such polluted water may create skin diseases. For the promotion of eco-tourism it is essential to consider this issue by the central as well as provincial governments.

6. Lessons Learnt

This training workshop has provided me insights several dimensions of river basin management and organizations. The necessity of establishing River Basin Organization (RBOs) in Nepal is one of the first and foremost lessons of this training

workshop. In Nepal the Water Resources Strategy and National Water Plan has also emphasized the development of water resources in an integrated way considering the river basin as a unit of socio-economic and water resources development. But there are still several activities to be carried out to formulate and enforce the river basin approach of water resources development. In this aspect the achievements of this training workshop can be summarized as:

- Enrichment of knowledge about the water resources potential and utilization of South Asian countries like India, Pakistan, Bangladesh, Afghanistan and Sri Lanka. Moreover, training provided basic knowledge of importance of river basin as hydrologic unit of water resources development.
- Application of knowledge in planning and management of water resources in Nepal. Experience gained during the course of this training will be shared with my Nepalese colleagues.
- River Basin Organizations are not established in Nepal and hence this training will help me to contribute in planning RBOs in Nepal.