Institutional Framework for Integrated Water Resources Management

of the Kapiriggama Small Tank Cascade System

Background

There are excellent historical records of the management of water resources, and successful inter and intra river basin diversions, especially in the northwestern dry zone of Sri Lanka. Although in the past, groundwater was not used for agriculture and urban water supply, with the increasing demand from an increasing population, it is now used for various purposes, such as agriculture, domestic, industry. In addition, the annual average air temperature has shown significant increasing trends in Sri Lanka and the annual average rainfall for the last 57 years has been decreasing at a rate of about 7 mm per year. This adds a further challenge to current water resources planning. Thus, Integrated Water Resources Management (IWRM) has become essential for long-term sustainability.

It is necessary also that water management ensures greater community participation; greater transparency of sectoral decision-making; a strong inter-departmental decision support system; more diversified skills (not just civil engineering); long-term strategic planning; increased scientifically-based resource assessment, stronger legal underpinning, better departmental resourcing, and an entirely restructured approach towards effective IWRM.

In Sri Lanka, inefficient use of water resources has been exacerbated by the fact that a variety of agencies have exploited the resource, each pursuing its own mandate. No single agency has stewardship over the country’s water resources. There is a plethora of agencies and ministries responsible for one or more aspects of water resource management. This multiplicity of agencies operating in the water management sector, continues to result in distortions and inefficiencies.
There are different institutions from national to village level, which are responsible for developing, using, investigating and protecting water resources in Sri Lanka. The mandatory responsibilities of these organisations are shown in the diagram below.

**Mahaweli Authority of Sri Lanka (MASL)**
With the ID, the MASL is the most powerful water-sector entity in the country, with a mandate to plan and distribute the available water resources for hydropower and irrigation, but not for urban water supply.

**Department of Agrarian Development (DAD)**
The Agrarian Development Act No. 46 of 2000 provides for matters related to landlords and tenant cultivators of paddy lands in accordance with agricultural policies; for the establishment agrarian development councils, to provide for the establishment of a land bank and to provide for the establishment of agrarian tribunals.

**Central Environmental Authority (CEA)**
Most of the activities of the CEA are centred regulatory/licensing functions. They appear to undertake little or no direct action in respect of quantifying environmental flows, water conservation, or the improving water pollution.

**Ceylon Electricity Board (CEB)**
The Ceylon Electricity Board is responsible for all large scale hydro-electric plants, and most hydropower stations in excess of 50 mega watts. In both the upcountry and mid-country of the island, it is a major player in the water sector, albeit for a predominantly non-consumptive activity.

**National Water Drainage Board**
The NWS&DB and the UDA Authority are responsible for domestic and industrial water supply. In 2010, around 80% of the population had access to safe drinking water, of which, 30% was through piped water supply systems of the NWS&DB.

**Irrigation Department (ID)**
Considering that almost 90% of the country's water resources are applied in the irrigation sector, it is clear that this department is the dominant actor in the water sector in the country.

**Provincial Irrigation Department (PID)**
Provincial Irrigation Departments have been established in each province under the 13th Amendment of the Constitution of Sri Lanka.

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**Water Resources Board (WRB)**
At the moment, the WRB carries out several activities described in the Water Resources Board Act, No 29 of 1964, including feasibility studies on groundwater resources, hydrogeological investigations; construction of tube wells for groundwater extraction; and drilling investigation bore holes for sub surface strata.

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**Department of Agriculture (DOA)**
The Department of Agriculture (DOA) is one of the largest government departments with a high profile community of agricultural scientists and a network of institutions covering different agro-ecological regions islandwide. The major functions of the DOA include research, extension, production of seed and planting material, regulatory services related to plant quarantine, soil conservation and pesticides.

**Local Government (LG)**
The functions of the local authorities focus mainly on environmental management and road development, health, sanitation, water supply, solid waste and sewerage management. Some of these functions have been handed over to other government boards, corporations or authorities, making the local authorities dependant on those institutions to serve their electorates. For example, the NWS&DB is one of the organisations owned and managed by the central government, but which serves the electorate directly or through local authorities.
Questions that need to be resolved prior to establishing an institutional framework for water management

- Who will ultimately take the responsibility for water resources management at local and national level?
- If an entirely new organisation for water resources management is established, how it can be resourced and supported technically?
- If such an organisation becomes authoritative, how will existing acts (which delegate powers to various organisations, as mentioned in the previous section) be implemented?
- Can groundwater extraction really be controlled by existing regulations? Will anyone enforce unpopular restrictions?
- Do current water laws really cover the whole water sector? What about existing gaps?
- Can integrated waste management really be introduced to reduce pollution? It is too large an issue for any local authority to make decisions and too complicated to impose rules and regulations under any existing national act.
- What is needed to make inter-departmental cooperation in the water sector possible?
- What are the chances of IWRM succeeding under present legal and administrative environment (where administrative boundaries do match watershed boundaries)?

Suggested institutional framework for integrated water management in Sri Lanka

Given the background described in previous section, an institutional framework is suggested with five levels of Water Resources Management Committees as at national, district, divisional, sub-watershed and gramal niladhari levels, all of which must be linked strongly.

Achievements

The Project, at its initial stage, discussed institutional management at various levels, and decided to work at the field level to assess performance of such a mechanism in managing tank cascade systems. The following activities were carried out by the Project management:

- A concept note was prepared on ‘Formation of an Institutional framework for Integrated Water Resources Management’;
- This concept was discussed at a meeting of the National Consultative Committee appointed by the Project;
- To introduce the concept, its importance and their responsibility especially when the NCP canal project is implemented, an awareness workshop was held for farmer representatives of the cascade villages;
- Eight village level committees were formed explaining the tasks to be carried out;
- Three Grama Niladhari level committees for the three GN Divisions (Kapiriggama, Konakumbukwewa, Penagama) were established;
- A cascade management committee (CMC) was formed using members of the GN committees and it consists of following members:
  - Regional Development Officer (DAD);
  - Range Agricultural Instructor;
  - Grama Niladhari;
  - Development Officers (DAD);
  - ARPAs (DAD);
  - Samurdhi Officers; and
  - Farmer representatives of GN committees.

The following activities were assigned to the CMC:

- The committee meets monthly by the notice of the Regional Development Officer and the minutes of the meeting are brought to the notice of Divisional Agriculture Committee;
- The committee discusses maintenance work to be carried out in the cascade by respective farmer organisations;
- It organises participatory activities of the development programs at cascade level;
- The committee discusses the outcomes of kanna meetings and issues that can be solved at cascade level;
- It plans cultivation, water issues, input supply, training programs and other production activities and makes arrangements for marketing produce; and
- It bears the overall responsibility of the development and production programs within the cascade.

Photograph: Cover: NCC meeting in progress, Naalin Perera © IUCN

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