**ABSTRACT**

Sri Lanka is a classic example of the "hydraulic civilization" and major irrigation schemes of Sri Lanka, as evident from the earliest written records in the "Mahawana" date back to the 4th century BC. From then construction of irrigation systems by river diversions and building of reservoirs had continued. Then colonial period and successive governments carried out rehabilitation of ancient irrigation systems and new schemes as well. Pelsgalva Barrage was constructed early 1970's to divert water from Mahaweli River Basin to Kaluoya Basin with annual diversion policy as 875 MCM. Then in late 1970's and early 1980's there were several irrigation systems such as H, B, and C etc developed in the basin under Mahaweli Accelerated Program.

However during the last few decades, demand of water has been increasing due to the increasing trend of Population, urbanization & change food pattern. As such it is needed to meet the food demand of all population with decreasing land and water resources. Therefore water users of different sectors such as agriculture, hydropower, domestic & industrial have faced many challenges. In order to fulfill the water demand with limited water resources available in the country especially in basin level, it is important to get user involvement in water allocation & water resources planning.

**HISTORY**

- Irrigation schemes of Sri Lanka, as evident from the earliest written records in the “Mahawana” date back to the 4th century BC.
- King Pandukabhaya, who made the Anuradhapura as his capital and ruled in 5th – 4th century BC, is credited with the construction of Jayarapi the present Basawakulamuna Tank (Reservoir).
- From then onwards construction of irrigation systems by river diversions and building of reservoirs had continued by Kings, Queens up to the end of the Reign of Parakramabahu I, the Great Tank Builder King in 1189 AD.
- In Sri Lanka two types of ancient irrigation schemes are available:
  1. **Ancient Schemes**:
     - A diversion weir was across across stream or river, to divert water to the fields directly or to a man made reservoir, for subsequent issues to the fields.
  2. **Reservoirs Schemes**:
     - A storage created by constructing a bank across a tributary or the main river.
     - King Yasubha (65 AD) Diverted the Amban Ganga (River) at Elahera
     - The Ancient at Hattota Amma on Kali Ganga, a tributary of Amban Ganga was constructed by Aggabadda II in 608 AD
     - To supplement the waters of Amban Ganga along the Elahera canal to feed a small reservoir build at Munnerya
     - On the Main Mahaweli River, King Datusena in (459AD) built the Yakumawada ancl to divert water to irrigate the left bank fields.

King Maha Parakramabahuna (The Great Frederickmahva)

![AD 1153-1189]

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**Introduction to Mahaweli River Basin**

** Mahaweli Basin Characteristics**
- **Catchment Area**: 1026 sq km
- **Annual Average Discharge to Sea**: 6452 NCM
- **Basin Area**: 1,268,783 ha
- **Agricultural Area**: 292,350 ha 28.5% Basin Area
- **Total Agricultural Land**: 15.2 %
- **Number of River Gauging Stations**: 21
- **Many Rainfall Measuring Stations with Records nearly 100 years Span**

**Mahaweli Development Project**

**Three Hydro Power Complexes**
- **Mahaweli River Basin**: 810 MW
- **Loupana (Upper River Basin)**: 335 MW
- **Other (Kalu/Aluvama & Walawe River)**: 200 MW
- **Total Hydro**: 1345 MW
- **National Total (overseas)**: 3000 MW

**Schematic Representation of the Mahaweli System**

**Water Resources Management in Mahaweli & Adjoining River Basins in Sri Lanka**

Author: W A Chandrathilaka

(Engineer In Charge, Kotmale Dam & Reservoir, Mahaweli Authority of Sri Lanka)

**The Mahaweli Development Program**

In 1953, the Government of Sri Lanka had obtained assistance from the government of Canada, under the Colombo Plan Program, to undertake a feasibility study for the development of a hydro-electric power station to be built at the Kallady waterfall. The objective was to meet the increased demand for electrical power generation and domestic and water resources of the country including the Mahaweli basin. After several years of negotiations with the Government of Sri Lanka the UNDP/Canada in 1963 to prepare a master plan to develop the Mahaweli basin, which has the largest potential for both hydro-electric generation and irrigation potential for agriculture in the Dry zone. The master plan which was completed in 1969 proposed the development of Mahaweli basin in 3 phases over a period of 20 years. The cost of the project was estimated as Rs 400 crores, including Rs 120 crores of foreign aid.

The Mahaweli Ganga (River Mahaweli Development Programmes), the largest integrated multi-purpose rural development programme ever undertaken in Sri Lanka, was launched in 1974. The Mahaweli Development Programmes’s main objectives were to provide for the acceleration of the hydropower production, flood protection, irrigation development, employment opportunities, rehabilitation of the farmers with irrigated fields, provision of public services to communities with irrigated fields, rehabilitation of people’s lives and environment, and to continue the implementation over a 30 year period was brought to conclusion in 1979, with inauguration of Mahaweli Authority, under the Mahaweli Authority Act No 23 of 1979.