344 C

Water allocation between agriculture and hydropower - A case study on Kalthota irrigation scheme of Sri Lanka

In Sri Lanka, irrigated agriculture plays a major role on national economy, food security and rural livelihood. The agriculture sector, the major user withdraws about 85% of developed water resources where other competing users such as domestic, industrial and environmental needs etc., use a minor portion. About 80% of the country's rice production comes from irrigated lands. The demand for water different uses in increasing day to day due to rapid development activities, rise in population, urbanization etc., Similarly, the demand for electricity is also increasing about 10% annually.

The country's electricity demand is met through hydropower and thermal power. Hydropower is the major contributor having an installed capacity of 1837 MW, which can cover about 70% of the total electricity demand depending on the water availability in hydropower reservoirs. Most of the hydropower reservoirs are multi-purpose that provides water for agriculture as well. Even through hydropower generation does not consume water, incompatibility of irrigation demand and water demand for power generation causes operational problems.

In 1992 after the construction of Samanala wewa hydropower project, farmers in the Kalthota irrigation scheme, an ancient irrigation settlement scheme located downstream of Samanala wewa reservoir had to undergo serve difficulties. Some of these problems have been solved to some extent by the Irrigation Department by adopting several strategies.

The Kalthota experience is indicative of social, political, economic and technical dimensions of rural agriculture and water resources allocation among different sectors. It has seen that some technically or economically feasible solutions were not socially acceptable.