

## ABSTRACT

---

It is estimated that there are over 25,000 irrigation schemes in Sri Lanka. These schemes are grouped into categories based on their command area. A small scheme is defined as a one whose command area is below 10,000 acres and schemes whose command area is 10,000 acres and above are defined as major schemes.

According to the records available there are 16 major schemes and approximately 25,000 small schemes in Sri Lanka. Hydro plants have been installed at few major schemes, but not at any of the small schemes. Majority of small schemes were planned prior to the Arab oil embargo in 1973. At that time due to relatively high cost of mini hydro installation it was not economical to generate hydropower at these irrigation schemes.

This study evaluates hydropower potential of 18 existing major and small irrigation schemes in Sri Lanka. The hydropower potential is evaluated under two different policies of operation. Firstly giving priority for irrigation releases, secondly giving priority for power production.

Installed capacity of the 18 selected schemes under both conditions of operation was 5280 kW. When priority was given for irrigation releases, firm power was zero and the total energy production was found to be 21.8 GWH. Firm power was zero because that there were no irrigation releases during certain months of the year. When priority was given for power production 1215 kW of firm power representing 10.6 GWH of annual firm energy and 10.7 GWH of annual secondary could be produced.