

Water Use Efficiency in The Dry Zone of Sri Lanka

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Water resource economists and policy makers have suggested that by 2030 one third of the world's population will be based along river basins, and the scarcity of water for agriculture will have a tremendous impact on their livelihood. In many parts of the country, the productivity of paddy is below the potential level due to insufficient irrigation water, and in the *dry* season (*Yala* season), only 30 percent of cultivable irrigated paddy land could be used for growing due to lack of water. In Sri Lanka, Dry-Zone is the main paddy zone, and some parts of this area will face an absolute scarcity of water by 2025. This study attempts to determine the actual usage of irrigation water at different water risks in the dry and wet seasons in the large-scale irrigation schemes in the dry-zone of Sri Lanka. Primary data were obtained from 360 paddy farm plots from *Rajanganaya*, *Nachchaduwa* and *Huruluwewa* irrigation schemes covering upstream and downstream farmers. Actual daily water usage at the plot level was measured through the volumetric method. Under this method, water is collected in a container of known volume, and the time taken to fill the container is recorded. According to our study, on average, in the wet season (*Maha* season), upstream farmers of *Rajanganaya* have used 4.8 acre-feet (5921 cubic meters) and *Huruluwewa* upstream farmers 4.2 acre-feet (5181 cubic meters) for paddy farming. Though the water usage of *Rajanganaya* farmers was 14% higher than that of *Huruluwewa* farmers in the wet season, the productivity variation was insignificant between the two farmer groups. However, the downstream disparity of water usage in the dry season is much higher than in the wet season. In the dry season, downstream farmers of *Rajanganaya* have recorded 5.7 acre-feet, and *Huruluwewa* downstream farmers have managed 3.2 acre-feet due to the scarcity of water in the dry season. The present study has suggested that collectivism is the most suitable way of common pool resource management rather than individualism, which is incorporated with the market mechanism.

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