Comparative Performance Assessment of Major Irrigation Systems in Upper Deduru Oya Basin

W.A.S. Lakmali*, E.R.N. Gunawardena[1] and N.D.K. Dayawansa[1]

Postgraduate Institute of Agriculture
University of Peradeniya,
Sri Lanka

ABSTRACT: *Performance assessment of irrigation systems plays a vital role to self-evaluate them so that interventions could be made to improve the functioning of the systems. This study was conducted to assess water delivery and supply performances and the agricultural productivity in three major irrigation systems, namely, Batalagoda, Hakwatuna Oya and Kimbulwana Oya in the upper Deduru Oya river basin and comparatively evaluate them based on the estimated values of selected performance indicators. Secondary data were collected from these three systems with respect to rainfall, yield, cultivation performances, water supply and delivery for the period of 2012/2013 Maha and 2013 Yala seasons. The results showed that the relative yield of more than 1.0 was achieved only during Maha season at Batalagoda and Hakwatuna Oya irrigation systems. None of the systems were able to reach the indicative paddy yield of 5 Mt/ha during the Yala season. The overall comparison of performance indicators during both seasons have shown that the performance of Hakwatuna Oya irrigation system was relatively better compared to Batalagoda irrigation system followed by Kimbulwana Oya irrigation system. The water scarcity during Yala season at Batalagoda and Hakwatuna Oya irrigation systems has resulted lower crop productivity. Irrespective of high relative water supply, the actual yield is much less than the indicative yield during both seasons at Kimbulwana Oya irrigation system. The reasons for poor water and crop productivity during both seasons at Kimbulwana Oya irrigation system needs to be explored in detail so that interventions could be made to improve the system performance.*

Keywords*: Deduru Oya basin, irrigated agriculture, performance assessments, water management, water productivity*

[1]. Department of Agricultural Engineering, Faculty of Agriculture, University of Peradeniya, Sri Lanka
* Corresponding author: shyanikalakmali@gmail.com