

SENSORS FOR WATER MONITORING IN PADDY FIELDS FOR IMPROVED ON FARM WATER MANAGEMENT

ABSTRACT

Sustainability of agriculture is important in the context of Climate Change, soil degradation and scarce water resources. Smart farms and smart farmers are required to cope with the present and future challenges. This paper argues that water use efficiency problems in irrigated agriculture exist at acquisition, distribution and use at farm levels. The existing irrigation management practices by farmers are not sufficient in improving water use efficiency and water productivity. The solution may be found in accessing and making use of real time information in water management decisions. The paper presents pilot initiative of WALAMTARI under ClimaAdapt project, on use of smart technology for obtaining real time information and establishing decision support system. Low cost sensors were developed and used in the field area for field channel water flow information and on-farm water and environmental parameters. Technology options for data acquisition, processing and decision support system are identified. For on-farm water monitoring the ultrasonic sensors was used with RBC Flume for water inflows and outflows. For measuring the water in the fields ultrasonic sensors fitted to Bowmen water tube are used. Other parameters measured are temperature and relative humidity. The lessons learnt from the pilot on research, innovation and capacity building activities can together create enabling conditions for change management through policy advocacy and scaling up.

Key Words: Sensors, Water Monitoring, RBC Flume