

Laboratory Model of Automation in Irrigation

D Sai Gangadhara Rao, Ch Murali krishna, A Rama Rao and Surya Kiran

College of Agricultural Engineering, Bapatla-522 101 A.P.

ABSTRACT

Sustainability of the agricultural production is the ability of the production system to enhance productivity towards the potential and maintain it without degrading the resource bases of land and water against various odds. As there more drudgery involved in agricultural pump set as well as losses like excessive water pumping, more consumption of power etc. Present day research focuses on automation of various irrigation systems. Simple electronic circuit principles were applied in irrigation, an attempt was made to develop low cost auto irrigation based on soil moisture. The movable bed paddy field of dimensions 0.9 m X 0.9 m X 0.6 m tray is used under lab scale. The tray is filled with clay soil and at bottom of the tray a drain pipe (horizontal slotted PVC pipe 32 mm wrapped with nylon mesh) is used for removing of the water to well. Commercially available aqamon make single phase auto cut off and auto cut on circuit board fixed in a box along with moisture sensors and design of low cost automation of irrigation circuit. The volume of water removed for 15 minutes interval and also total volume of water drained was calculated.

Key words : Automation of irrigation, Electrical circuits, Lab model , Observation well.