

## **A survey study on salinity and flood affected Rice fields of costal belt of Galle district of Sri Lanka**

**M.C. Millawithanachchi<sup>1\*</sup>, E.A.N.P.K. Edirisinghe<sup>2</sup>, W.G.D. Lakmini<sup>3</sup> and J.S.H. Liyanaarachchi<sup>1</sup>**

<sup>1</sup>Rice Research Station, Labuduwa, Akmeemana, Sri Lanka

<sup>2</sup>Rice Research Station, Bentota, Sri Lanka

<sup>3</sup>Faculty of Agriculture, University of Ruhuna, Mapalana, Sri Lanka

### **Abstract**

Paddy fields existed in the costal belt of Galle district probably below the mean sea level, prone to salinity and submergence due to sea water intrusions in high tidal effect during dry spell and poor drainage during heavy rains. Identification of constrains is a prior requirement to implement appropriate technologies with respect to this specific agro-ecosystem. Hence farmers were interviewed with a scheduled questionnaire by purposive sampling of 38 paddy cultivating farmers respectively from three clusters of Bentota river basin and vicinity of Rathgama and Koggala lagoons. The highest occurrence of salinity and submergence effect found in Bentota river basin and paddy fields of Dedduwa, Thunduwu, Haburugala, Horavila, Moragoda, Ranthotuwila and Thotakannaththa were undergone frequent salinity and submergence effects. Pellassa, Lanumodara and Thiththagalla close to Koggala lagoon and Kandegoda, Katudampe and Dodanduwa of Rathgama lagoon were also affected. Yield levels were very poor and ranged from 1.5 to 2.5 t/ha of the surveyed farmers. Most of the farmers (86%) were unaware about the tolerant rice varieties for salinity and submergence. Survey revealed that 72% of farmers are not following proper methods to control salinity while 89% farmers also not following any control measures for submergence. Farmer adaptation for remedial measures such as adding Dolomite and organic matter (8%), salinity and flood controlling gates (5%), parachute and transplanting (3%) and cleaning of water channels (6%) and application of paddy husk charcoal (6%) at very minimal level. The studied locations were prone to salinity and submergence and famers requested for controlling system of high tide flow with proper drainage channel system and control gates. Further salinity and submergence tolerant varieties and appropriate agronomic practices are required by the farmers of affected paddy fields.

**Keywords:** Constrains, Paddy cultivation, Salinity, Submergence

**\*Corresponding Author:** withanamcm@yahoo.com