



Tropentag, September 17-19, 2013, Stuttgart-Hohenheim
“Agricultural development within the rural-urban continuum”

Salinity Intrusion - A New Threat to Agriculture in the Vietnamese Mekong Delta

BINH NGUYEN THANH

Mekong Delta Development Research Institute (MDI), Agricultural Systems, Vietnam

Abstract

Salinity intrusion is a challenge for agricultural development in a low-lying area like the Mekong delta of Vietnam. In order to prevent sea water from entering into agricultural land, a series of coastal embankments and sluice gates have been built to enable intensive rice farming. Despite some achievements from these investments, crops always face a high risk of salinity intrusion, especially with climatic changes and sea level rise in recent years. This study aims at exploring the trend of salinity intrusion in the coastal area of the Mekong delta in the period of 1995 – 2011 based on data from four gauging stations and analysing causes of crop damages by salinity hazard via expert interviews and focus group discussion with farmers in 2011. Results showed that salinity concentration tended to increase during the research period. It starts earlier in the year, intrudes further inland and remains longer in the river and canal networks during the dry season. Salinity intrusion is a growing problem and affects crop development. Recently, there were heavy crop damages by salinity intrusion in 2011. Research during that year revealed that the crops were destroyed due to a bundle of related factors not only by natural causes like high salinity levels or dry weather but also other socio-economic drivers like high product market prices fostering rice expansion and intensification, saline water leakage through the dyke systems, and improper sluice gate operation. Therefore, one can conclude that salinity intrusion is a chronic hazard but difficult to predict and control, damages are often huge, particularly in case of abnormal years. Under the contexts of social, economic and environmental changes at regional as well as global level, the salinity related problems are likely to increase and threaten the crops and livelihoods of local people in the coastal areas. Hence, it is necessary to pay more attention to this new threat and rethink about adaptation strategies including both structural and non-structural options instead of focusing only on hydraulic infrastructure constructions for crop development purpose.

Keywords: Coastal areas, crop damages, Mekong delta, salinity intrusion