



Blending satellite data and RADAR tool for rapid flood damage assessment in Agriculture: A case study in Sri Lanka

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During the catastrophic flooding it is critically important to estimate losses as it is essential for facilitating good decision making at the district, province and national levels of government and to appraise aid agencies for necessary assistance. Flood loss estimates can also be used to evaluate the cost effectiveness of alternative approaches to strengthening flood control measures. In the case of Sri Lanka there were limited knowledge and application system exist for carrying out rapid damage assessment for Agriculture in Sri Lanka.

FAO has developed the tool “Rapid Agricultural Disaster Assessment Routine” (RADAR) based on theoretical approach that uses simple tools for assessing the impact on agriculture of a disastrous event. There are two knowledge bases that contain information needed for calculation of the value loss or damage. The procedure of rapid impact assessment implies the use of knowledge-bases, database and GIS. In this study, the user friendly application of RADAR system has been developed. Three components were considered including agriculture, livestock and farmers asset to estimate the losses. The application will allow estimating flood damage at various scales and this being tested at district level and specific example for the 2011 floods in Sri Lanka. In order to understand flood inundation cycle, time-series optical MODIS satellite data (2000-2011) and microwave ALOS PALSAR (2006-2011) were used to derive annual flood extent, flood duration and recurrent areas to identify flood risk and impact of seasonal flooding on agriculture. This study demonstrates how RADAR & satellite-based flood products can be effectively used for rapid damage assessment and managing the floods.