Entry No. IRRC-0603

Category	: International Rice Research Conference
Select Theme	: Climate change and environmental sustainability
Endorsement email	:
Keyword 1	: Climate smart agriculture
Keyword 2	: Adaptation to climate change
Keyword 3	: Mitigation of climate change
Title of Entry	: DEVELOPING PORTFOLIOS FOR CLIMATE SMART AGRICULTURE PRACTICES UNDER RICE BASED CROPPING SYSTEMS IN SOUTH ASIA
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: Climate change is an additional risk multiplier in food production in South Asia. Increased frequency in occurrence of extreme weather events such as droughts, flood, cyclones, heat wave cold wave, frost and hail storm over short periods exert adverse influence on crop performance. Climate-smart agriculture practices (CSAPs) involves sustainably increasing agricultural productivity and incomes, adapting and building resilience to climate change, and, where possible, reducing and/or removing greenhouse gas (GHG) emissions. In order to implement climate smart solutions through best management practices that increased rice grain yield and reduces input costs such as labour and irrigation water. Agriculture in the densely populated Eastern Indo-Gangetic Plains (IGP) is predominantly centred on the intensive rice-based cropping systems with associated productivity and sustainability problems characterized by small farms, weak resource base, large yield gaps from poor crop management, and high input-use inefficiencies. Because of the potential of India and Bangladesh to serve as model for the adoption of climate-smart best management practices and new varieties, these have been chosen. Selected key climate smart practices were identified and evaluated in the farmers' fields. These include: best management practices including reduced or no tillage with improved crop establishment (drill seeding or machine transplanting), fertilizer management, water management (alternative wetting and drying; channel to field irrigation), weed and insect management. At some locations, farmers also evaluated new rice varieties. Trials were designed by the project scientists in consultation with the farmers, and carried out the farmers. Some of the farmers' field trials were used to conduct various training programs and also served as demonstration trials. The performance of farmers and climate smart practices developed and

promoted by researchers were assessed by employing three treatments plots i.e. farmers practice (FP), researchers practices managed by farmers (RPFM) and researchers practices managed by researchers (RPRM) in the farmer fields. In order to determine the impact of the CSAPs to the primary beneficiaries, the small scale farmers were disaggregated into those directly trained by CCAFS project and those did not participate into the training and their performance was compared in terms of crop productivity, GHG-emission and total GWP.

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