

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	: Scaling up and out
Title of Entry	: Climate Smart varietal adoption and its impact on household welfare
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: India is the second largest rice producer, contributing nearly 20% of the total caloric energy and over 20% of the total protein per capita requirement in the country. It is estimated that 25% more rice needs to be produced by 2030 to meet the increasing rice demand. However, rice production is severely affected by the abiotic stresses, which is further accelerated by the changing climate. Approximately, 12 million hectares of rice area are flood affected every year, which significantly constrain rice production. For increasing the yield potential under submergence condition, International Rice Research Institute (IRRI) have developed the submergence tolerant variety 'Swarna Sub 1 (SS1)' in 2009. This SS1 can survive up to 14 days of full submergence. The present study analyses adoption of SS1 and its impact on household welfare in eastern India. The study uses primary data from 475 villages and 4744 households randomly chosen from flood prone areas of three eastern Indian states – Assam, Odisha and West Bengal during 2015-16. It is witnessed, SS1 adoption increased substantially since 2012 and about 7% of sampled household adopted SS1 in 2015-16. SS1 adopters and non-adopters significantly differs in terms of access to information on stress tolerant rice varieties (STRVs) - 71.5% of SS1 adopters vs 27.2% of non-adopters had access to STRV information. From SS1 cultivation, farm household gained an additional yield ranges from 560 kg/hectare to 1023 kg/hectare amounting to an additional income of INR. 5416/hectare to 9019/hectare. The general spending pattern shows that the share of food expenditure in SS1 adopters is much lower (29%) than that of non-adopter (41.0%). Additional income from SS1 cultivation is invested in productive assets such as investment in home (24%), investment in agricultural (20%), food consumption (20%), health (9%) and education of children (7%). Access to information on STRV influenced the adoption of SS1 by

the sampled household – if information reached to 50% of household in stress prone areas, the estimated additional production is nearly 3 million tons per year with an additional income of 235 million USD per year.

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