

Category	: International Rice Research Conference
Select Theme	: Disruptive technologies and innovations
Endorsement email	:
Keyword 1	: Precision agriculture
Keyword 2	: Mobile advisory technology
Keyword 3	: Modeling and systems biology
Title of Entry	: Wireless Sensor Based Decision Support for Rice Crop Management
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Select only one type of presentation	: 15 minute oral presentation

Abstract : Data is moving very fast in world by the advancement in the internet and mobile technologies. These technologies are widely accepted and used by farmers for example “Whatsup”. We have to choose the technologies easily accepted by farmers for disseminating the knowledge of scientists. Rice is among the three leading food crops of the world, with maize (corn) and wheat being the other two. India has the largest area (43 M.ha.) under rice in the world. The average productivity of rice is still low (~2.1 t/ha, ~3.3t/ha paddy) because of the diversity in its growing environments. Management levels and production constraints vary spatially and temporally in these environments. Therefore future improvement in crop productivity requires management technologies that are tailored to specific characteristics of individual farms / fields and environments through adoption of precision technologies. Hence site specific decision support systems integrated with sensors are needed to improve the quality of decisions of farmers. A Web based Spatia Decision Support system has been developed at IIRR by integrating ORYZA2000 model, RS/GIS layers and economic model and further linked with weather sensor data. Based on the real time weather data, DSS advises optimum crop management practices like time and amount of irrigation and fertiliser application to particular location by generating messages to the mobile of farmers. Further past database of DSS will be analysed, logical patterns can be programmed and site specific choices on crops, varieties, sowing dates, inputs etc. can be planned automatically by using precision technologies.

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