

# Gender Mainstreaming Through Farmer Participation Leads to Improved Livelihoods in Salt-Affected Areas



Photo: Simon Cook

## HIGHLIGHTS

- ✓ Women demonstrated greater confidence in applying knowledge on new rice varieties and improved skills in nutrient management, which enhanced their recognition as farmers.
- ✓ Acknowledgement of the value of engaging beneficiaries in important processes and decisions.

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## Outcome Stories

High salt stress is a major cause of low productivity across large rice-producing inland and coastal areas. Salt stress is most severe during the dry season. With the flooding that they experience in the wet season limiting crop choice to rice, the millions of poor people living off these lands are perpetually food insecure. The challenge to research and development is how to produce more food by using land and water resources that are otherwise unusable because they are in salt-stressed areas.

A CGIAR Challenge Program on Water and Food (CPWF) project, led by the International Rice Research Institute, took up this special challenge. The project involved 11 participating institutions,

including seven National Agricultural Research and Extension Systems (NARES) in India, Bangladesh, Vietnam, Egypt, and Iran. Highly innovative project interventions included the integration of genetic improvement with environmentally and socially sustainable management strategies. Social acceptability of “interventions” was enhanced by a participatory research approach at all stages and at all levels, especially concentrating on the inclusion of women, which led to very encouraging outcomes.

Photo: IRI



### About CPWF Outcome Stories

The CPWF Outcome Stories document changes in knowledge, attitudes and practices that have emerged through CPWF-funded research. Outcomes occur when research outputs foster engagement processes that result in changes in practice or changes in behavior. These stories capture outcomes at a specific point in time; outcomes may have evolved since the completion of these projects.

The CPWF team carried out socioeconomic and biophysical studies to characterize the target areas. It also compiled information on farmers' practices and coping strategies. It employed plant breeding tools to introduce salinity tolerance into high-yielding rice and non-rice crop varieties, that fit into rice-based farming systems in salt-affected areas. The CPWF team developed participatory validation of the newly bred salt-tolerant varieties in order to derive farmer-friendly crop and natural resource management options. It also helped to strengthen the capacities of the NARES partners to undertake innovative research and dissemination strategies.

### The importance of farmer participation: from planting of varietal trials to decision making

Ensuring farmers' acceptance of technology requires their participation. Participation of female family members is especially important because resource-poor

families living in stress-prone rice environments in eastern Uttar Pradesh, India, rely heavily on women family members in rice production and processing operations.

Women demonstrated improved confidence in applying new knowledge on new rice varieties and improved skills in nutrient management, which enhanced their recognition as farmers. This was a key benefit from their engagement in the process. Participatory research is critical in meeting the particular challenges of growing crops in saline areas, because conditions vary greatly from place to place. This requires insight and effort in local adaptation, which farmers are ideally suited to give. The inclusion of women as farmer-cooperators in focus group discussions and farmer-managed trials led to the recognition of their roles as farmers and food producers. This recognition in turn encouraged farmers to participate more actively in the activities.



Perhaps the most important outcome of this CPWF undertaking was the demonstration of the value of engaging beneficiaries in important processes and decisions, especially those that affected them directly. For example, while in the past such trials were conducted on-station, the plant breeders now conducted trials in the farmers' salt-affected fields. In the past, plant breeders, crop physiologists, and agronomists followed a top-down approach to plant breeding. In this CPWF project, along with social scientists, they used participatory varietal selection and engaged farmers in selecting rice varieties, so that their feedback could be considered in future plant breeding activities. Increased cooperation and transdisciplinary work was an important factor and was recognized as such among the scientists. In the past, plant breeders were the main actors in rice varietal improvement activities, but working in a multidisciplinary manner with an emphasis on water productivity, required teamwork.

Scientists now not only considered women alongside men but also sought the opinion of women, particularly on post-harvest activities,

as well as the cooking aspects of rice. The women were encouraged to share their own expectations of what they wanted to be included in the varietal trials. Their exposure to new knowledge, for example the existence of better farming methods and new seed varieties that can survive sodic soils, was a big improvement. Making them partners in the farmer-managed trials has helped to remove any existing barriers between the women and the scientists.

### Conclusion

Salt-affected areas can be made to be agriculturally productive, but because of situational variability a diverse range of technologies is required. Technologies should be acceptable for local conditions and ensure the integration of local people's special needs and preferences. The inclusion of both male and female farmers in rice research and technology development can result in a better life for the disadvantaged families, especially the women, whose lives depend on rice grown in difficult environments.

"A farmer participatory approach concentrating on the inclusion of women led to encouraging outcomes. One key benefit was enhanced recognition of women as farmers. Women improved their confidence in applying their knowledge on new rice varieties and improved skills in nutrient management."

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## Project Partners

International Rice Research Institute (IRRI)  
Bangladesh Rice Research Institute  
Central Rice Research Institute, India  
Central Soil Salinity Research Institute, India  
University of Agriculture and Technology, India  
Cuu Long Delta Rice Research Institute, Vietnam  
Rice Research Institute, Iran  
Rice Research and Training Center, Egypt  
International Center for Biosaline Agriculture  
International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)  
University of California at Davis.



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### About CPWF

The CGIAR Challenge Program on Water and Food was launched in 2002, with the aim to increase the resilience of social and ecological systems through better water management for food production (crops, fisheries and livestock). We do this through an innovative research and development approach that brings together a broad range of scientists, development specialists, policy makers and communities, in six river basins, to address the challenges of food security, poverty and water scarcity.

The CPWF is part of the CGIAR Research Program on Water, Land and Ecosystems. WLE combines the resources of 11 CGIAR centers and numerous international, regional and national partners to provide an integrated approach to natural resource management research. The program goal is to reduce poverty and improve food security through the development of agriculture within nature. This program is led by the International Water Management Institute (IWMI).

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