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Improving water use for dry season agriculture by marginal and tenant farmers in the Eastern Gangetic Plains

December 2016

This project is improving the livelihoods for woman, marginal and tenant farmers in the Eastern Gangetic Plains through improved dry season irrigated agriculture.

Technical, social and economic constraints have limited the effective use of groundwater and ponds for irrigation, and large areas of land remain fallow during the dry months. Access to year round water for irrigation would significantly promote the productivity of agriculture, improving incomes and food security.

Through comparative research in India (West Bengal and Bihar), Nepal (Tarai) and North West Bangladesh, this project has the following key objectives.

- Determine existing water resources and sustainable utilisation for irrigation from tanks and groundwater.
- Determine the socio-economic, structural and institutional constraints to sustainable water use.
- Determine and evaluate approaches for access to water for irrigation focusing on using renewable technologies and alternate approaches to land tenure and their impact on livelihoods and resilience
- Facilitate long term up-scaling and out-scaling of approaches and alternative opportunities.

The project commenced on 1st September 2014. The project is a partnership between twelve organisations representing research and government agencies and NGO's.

Key activities have focused on:

- Establishment of pilot sites for trialing collective farming systems.
- Piloting technologies and management approaches to improve dry season irrigated agriculture.
- Establishing programs to monitor water resources, irrigation practice and field production, which will allow evaluation of social, technical and economic responses to project interventions.
- Research to identify livelihood trends, land tenure, water management institutions, gender relations, the impact of migration, and different collective models and their impact on dry season irrigated agriculture.

- Community engagement, training and capacity development activities and establishment of linkages with broader stakeholder groups.



Solar pumping demonstration systems – West Bengal

The main outputs have included:

- Establishment of 35 pilot sites across 12 villages in Saptari (Nepal), Madhubani and Cooch Behar (India) and NW Bangladesh.
- Establishment of farmer collectives in target areas utilizing a diverse range of institutional models, tailored to different contexts.
- Hosting of over 100 training events and meetings in each of the target areas to raise awareness of the project with broader stakeholder groups.
- Hosting of over 250 farmer group meetings to plan and implement collective farming and improved dry season irrigation practices.



Meeting with farmer groups Bhagwatipur



- Delivery of a program of participatory research investigating social, institutional and biophysical interventions for dry season irrigated agriculture.
- Preparation of reports and publications and training materials on land tenure, gender, institutions and policies shaping the capacity of marginal farmers to access water.
- Development and implementation of procedures and processes for monitoring water resources, irrigation practice and field production.
- Development of a novel mobile field data collection App to support biophysical data, mapping and monitoring.
- Installation of new or improvement infrastructure for improved dry season irrigation including tubewell's, ponds, infield irrigation equipment, solar irrigation systems and water management technologies.
- Promotion through social media and the project communication platform linking project webpage <http://dsi4mtf.usq.edu.au/dsi4mtf/> with Facebook and Twitter.
- Reporting on the research outputs through blog posts, case studies and contributions to local newspapers.
- Capacity development of project partners and staff many of whom have not worked on similar research for development projects before.

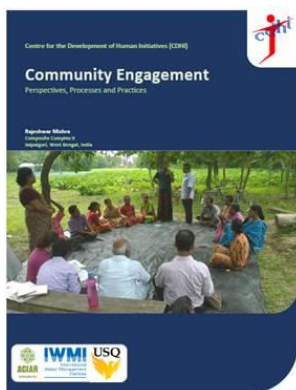


Discussions at demonstration site on project activities

Of particular importance is communicating with farmers and broader stakeholders the outcomes and impact of project activities.

The workshop highlighted our early success in demonstrating the benefits of collective farming. It will be important to evaluate and understand the benefits, barriers and risk of the social and biophysical interventions being tested in order to lay a very solid foundation for subsequent out- and upscaling.

Close engagement with farmers to build trust and empowered communities is crucial for sustainable implementation of improved irrigation practices



Community Engagement Manual Developed

The project held its mid-term review in September 2016.

Feedback from reviewers was positive with a number of clear recommendations for consideration. Reviewers recognised the huge potential for the social interventions such as the formation of farmer collectives combined with appropriate cropping systems and irrigation management to have a significant impact on food security and poverty alleviation.

The strong interdisciplinary science focus of the project was also recognised.



Stakeholder engagement meeting Patna September 2016

How we connect

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