



Australian Government
Australian Centre for
International Agricultural Research



POLICY BRIEF

Research findings with policy implications

IMPROVING DRY SEASON IRRIGATION FOR MARGINAL AND TENANT FARMERS THROUGH COLLECTIVE FARMING

Policies and Institutional Framework for Effective Water
Management at a Local Level in the Eastern Gangetic Plains



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The policy brief summarizes findings, outcomes and recommendations from the research project, "Improving dry season irrigation for marginal and tenant and women farmers in the Eastern Gangetic Plains"

PROJECT INTRODUCTION

Across the Global South, smallholder farmers are facing new patterns of agrarian stress. The combined pressure of ecological stress and climate change are converging with an increasingly unfavourable

economic context, with dwindling plot sizes and rising costs of inputs underlain by deeply entrenched class, caste and gender inequalities (Sugden et al., 2014, Kishore, 2004, Sugden et al., 2016). The skewed agrarian structure, in turn, has restricted the expansion of irrigation or labour saving and productivity improving technologies, which are increasingly important for food security and resiliency.

Against this backdrop, the 4-year ACIAR-funded "Improving water use for dry season agriculture by marginal and tenant farmers in the Eastern Gangetic Plains' (DSI4MTF) project aims to improve the livelihoods of women, and marginal and tenant farmers in the Eastern Gangetic Plains, through a radical new approach to smallholder agriculture. The primary intervention of the project has the piloting of a radical new way of managing land and labour through the formation of collectives whereby groups of farmers pool key resources such as land, labour and irrigation equipment.

With the support of local NGOs and government agencies, the groups have combined technological innovation with four models of group farming. The collective farming aims to address the challenge of migration induced labour scarcity, small and fragmented holdings, limited capacity to invest in inputs and irrigation, unequal landlord tenant relations and gendered vulnerability.

This policy brief provides recommendations on developing collectives with marginal and tenant farmers based on learnings from the ACIAR-funded "Improving water use for dry season agriculture by marginal and tenant farmers in the Eastern Gangetic Plains' (DSI4MTF) project research.

Key Recommendations include: ensuring proper accounting of labour at the household or member level to reduce conflict associated with time management; increasing farmers' understanding of the application process for subsidies and other resources through public dissemination campaign; and identifying public land which can be set aside for the poorest farmers to establish collectives.



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BACKGROUND

For decades, the land ownership structure has placed considerable constraints on agricultural development in the Eastern Gangetic Plains. In much of Bihar and the Nepal Tarai-Madhesh there is severe land inequality, with persistence of landlordism and usury and a significant proportion of landless or land poor tenants, varying from a quarter to three quarters of the farming population (Sugden, 2017). In West Bengal land reforms have reduced the incidence of landlordism, yet plots are often small and fragmented.

While this is a drought prone region, the aquifers are rich, and shallow tubewell irrigation is widespread, with irrigation also available to a lesser extent from ponds and canals. However, the level of irrigation is generally associated with one's economic status, and class and gender relations have acted as a considerable constraint for the sustainable intensification of agriculture. For example, tenant farmers are unlikely to bore tubewells on land which does not belong to them, and are dependent on landlords who often do little to encourage productive investment. Even with access to a tubewell, sharecropping by its nature discourages investment, as the landlord will retain any increase in production due to irrigation.

Agricultural extension interventions have been limited, but most have followed a conventional 'leader farmer' model whereby more resilient middle to large producers are targeted to adopt new technologies, in the hope that it will filter down to their smaller counterparts. There are a number of schemes to promote groundwater irrigation, sometimes through water users associations (WUAs), but these often depend on cumbersome paperwork to access subsidized equipment or wells, or require high investment by individual farmers or groups, making them out of reach for poorer producers and tenants.

This project has piloted a radical new approach to agricultural development in the Eastern Gangetic Plains through the establishment of farmer collectives. These present an opportunity for significantly improved productivity in the face of labour scarcity, and greater economies of scale and bargaining power, while also offering a transformative platform through which to introduce new technologies directly to the most marginalized socio-economic groups, particularly female farmers with out-migrated husbands. Four models of collective emerged through an iterative process of engagement with farmers across 3 years of pilot cultivation. Each model entailed different levels of cooperation, and these evolved according to local needs and the willingness of farmers to work together.

Model 1 – high level cooperation: Designed for regions with high levels of tenancy such as Bihar and Nepal. A group takes a plot of land on collective lease and share all labour, input costs and profits.

Model 2 – high level cooperation: Designed for regions such as West Bengal dominated by smallholder farmers with their own land. A group agree to consolidate their private plots of land, and then share all labour, irrigation, input costs, and profits.

Model 3 – Medium level cooperation: Designed for regions with high levels of tenancy such as Bihar and Nepal. A group of farmers takes a plot of land on collective lease. Members farm their own individual plots, yet cooperate through exchanging labour, sharing irrigation and cooperating over marketing.

Model 4 – medium level cooperation: Designed for smallholder farmers with their own plots, but can be applied across the region. Farmers cultivate their own plots in the same area, yet cooperate through exchanging labour, sharing irrigation and cooperating over marketing.

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KEY OPPORTUNITIES

Labour management:

- Managing peak labour demand at a time of high male out-migration has been a critical constraint for farmers, particularly for labour intensive tasks such as planting and harvesting
- Under models 1 and 2 where labour is shared with high level cooperation, these issues are addressed. Labour of the group can be mobilized to finish tasks on time to avoid delays in plantation that can damage the harvest.
- Allows a division of tasks within the group to prevent duplication of effort, leading to increased efficiency.

Operation of a contiguous plot and opportunity for land consolidation

- Prior to the project, it was common for farmers to own multiple scattered plots, with average walking time of 15 minutes, adding to the time taken to farm the land, including the burden of moving irrigation equipment. They were often too small to warrant irrigation investment at all.
- The collectives all consist of a single contiguous plot, and the size is considerably larger than what was previously farmed by individual farms from marginal or tenant households.
- A larger contiguous plot makes it more economical to use technologies such as tractors to deal with labour scarcity and allows more efficient practical irrigation use.
- Crops, including vegetables, were grown throughout the dry season, increasing nutrition and food security of households.

Bargaining power of women, marginal and tenant farmers

- Some erosion of unequal landlord-tenant relationships. Group strength allowed some groups to negotiate a decrease in rent from landlords, while supporting the development of a fairer and written tenancy contract (unlike conventional tenancy agreements which are oral in nature, and leave tenants in vulnerable position).
- Claims for government services have increased, with some groups being engaged in training as a vehicle through which they can apply for subsidized agricultural equipment, overcoming bureaucratic bottlenecks.
- Participating in collectives, especially in trainings and monthly meetings, increased women's confidence to voice their concerns on agricultural matters, including negotiating with power brokers such as landlords.

Training, knowledge and credit

- Collectives provided an entry point for marginalized people without agricultural experience to begin farming.
- Access to agro-economic knowledge and trainings – both through pooled knowledge resources of members, and trainings provided by local NGOs and project staff – has improved water management, introduced a greater diversity of crops and vegetables, and increased the confidence of farmers to try new systems and crops.
- Members can learn from each other – not all need to participate in the same trainings
- Members were able to access credit through group funds, including to pay for children's education expenses.

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KEY CHALLENGES

Labour management:

- Timekeeping and the coordination of members' busy work schedules was the primary challenge faced by collectives, and has led to conflict. Some groups have abandoned the pooling of labour as a result.
- Intra-household and intra-community relations mediate collectivization processes such as group membership, the (gendered) labour division, and the share of produce
- Conflicts in timing between farmers' private plots and the collective are common, and could even exacerbate time and labour management challenges.
- Nevertheless, in West Bengal, timekeeping constraints were managed effectively and peer pressure and mutual understanding ensured members came on time when possible as social differentiation is lower due to historically more equal caste and gender relations.

Gender and class equity:

- Collectives offer opportunities for women's empowerment, but unbalanced gender and land contributions remains a challenge. Gender and class relations within groups need to be discussed not only prior, but also throughout the formation of groups. Otherwise, there is a danger that subordinate positions are reproduced due to the internalization of particular (gendered) labour roles.
- Males sometimes substitute female family members sometimes or all-female groups have to hire male labour to do tasks considered inappropriate for women, including irrigating. Targeted training is thus important so women feel confident operating the infrastructure are needed.
- Emotional attachment among community members helped overcome crop failures through mutual encouragement, promoted continuous informal discussions and motivated to share resources and labour, which are the most important dimensions to keep farmer collectives functioning.

Land disputes:

- Implementers need to stay conscious of historical land disputes and conflicts when deciding where to lease a contiguous plot of land, as one collective in Saptari was not able to proceed with farming due to historical disputes with the landlord.
- Access to portable infrastructure can increase the security of tenants, knowing that they own the infrastructure, rather than the landlords.



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Policy Considerations

Collectives have the potential to transform agrarian relations in the Eastern Gangetic Plains, but how can policy and practice of development organization support the sustainable out-scaling of the 4 models, and what learnings can be gained from this research?

Key Learnings – what should grassroots organisations consider when establishing collectives?

Managing labour:

- Ensure proper accounting of labour at the household or member level to reduce conflict associated with time management
- Be aware of history of the community, and past successes, failures and experiences of working as a group – this may help one decide the level of cooperation possible
- Consider the establishment of larger farms offering food security to members, so dependence on personal plots and conflict over time is reduced
- Consider cropping choices carefully – paddy and wheat better suited to collective action, but only in some contexts. Be aware of the cultural preferences, which vary across the region.

Building the institutions for sustainable collective formation:

- There is a need for an institutional spine to bind collectives, replacing the need for NGO support in the long run.
- This could take the form of a federation of collectives, which mediates the arrangement of leases with land owners, coordinates training, standardizes rules and addresses disputes.
- Train women members by female extension officers in tasks which traditionally fall in the male domain.
- Conduct Participatory Gender Trainings for Community Groups (Leder et al. 2016) to provide a platform for both collective groups and project staff to critically discuss how gender norms, roles and relations affect dry-season irrigation, collective labour management and land cultivation practices.

Creating the conditions for out-scaling the model – what can governments do?

Incentivize the adoption of a collective approach:

- Increase awareness of benefits of collectives (through what means – radio, posters, tv, etc.?)
- Allocate budget for local NGOs to support group formation and operation
- Make it easier to access subsidies as a group; have a simplified application process; provide access to agronomic trainings, seeds, small funds for getting started, etc.)?
- Increase farmers' understanding of application process for subsidies and other resources through public dissemination campaign
- Make gender trainings for farmers and organisations mandatory

Expand access to land and tenure security:

- Identify public land which can be set aside for the poorest farmers to establish collectives
- Integrate the establishment of collectives into plans for future land reforms or redistribution
- Enforce tenancy legislation, so collectives on rented land can more easily move towards formalized contracts.
- Incentivize leases that are fixed cash, rather than sharecropping

Work with the non-governmental sector:

- Provide budget for NGOs to provide trainings on collectives' management and agro-economic skills, operating drip kits, assisting with installation of, etc.
- Point interested farmers to the growing number of NGOs with experience of collective formation who can answer questions and serve as knowledge hub

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CASE STUDY

Sundari Devi Chaudhary is now a member of the Rajaji Krisak Samhuha collective in Kanakpatti, Saptari. Prior to project intervention, Sundari cultivated paddy (monsoon), wheat and seasonal vegetables (winter and summer). Some tomatoes, eggplants, pumpkin, and bottle gourd were sold, and the rest of the crops cultivated were for self-consumption (confirm).

In the 2015-16 season, she decided to join an all-women group comprising of 8 members, believing that working in a group would help members to procure low-cost inputs, get work done in less time, gain agro-economic skills, and access infrastructure, such as a short tube well (STW) and electric pump.

Sundari practices both pure and part collective farming on the land leased from the local landlord. As part of the pure collective model, under which members share inputs, labour, infrastructure and profits jointly, the group has cultivated paddy and wheat in 6 kathha of land. Under part collective, the group shares water infrastructure and occasionally hires a tractor together for land preparation, but individual members cultivate their own plots within the jointly leased land.

With the assistance of a new drip irrigation kit, she was able to plant tomato early in comparison to other farmers, and fetch a higher price for it. She sold the first batch of tomato, altogether 4-5 kg, at up to NPRs 50/kg, as opposed to the NPRs 10/kg had it been sold on season. The zucchini grown alone fetched her an income of NPRs. 12,000 to NPRs 13,000. Using the profit received from eggplant also planted in her plot of the collective's land, Sundari was able to repay the NPRs. 5000 loan that she took from the group fund to pay for her daughter's school expenses at Rajbiraj, a town 10 km from Kanakpatti.



Sundari Devi Chaudhary selling vegetables at Traffic Chowk weekly market

In addition to the direct economic benefits, Sundari is excited about the new agricultural skills she has learned, such as how to prepare nursery beds for tomato and eggplant, compost manure, and use drip kit for irrigation. Acquiring these skills have also increased her confidence to participate in monthly project meetings – she says, “Now everyone speaks in meetings, so I don’t feel shy anymore” -- and to liaise with her landlord. She explains how talking to her landlord was a scary thought for her before, both because he is wealthy and because he is a man, and so, like in most other cases in the village, her husband would be the one to talk with the landlord. However, as part of the project, women in the collective were part of the discussion with the landlord and have continued to be involved in subsequent negotiations relating to land rent.

She is actively thinking about which crops to plant for the coming year, and has optimism that the collective will continue to improve her livelihood, to increase her confidence to negotiate with her landlord, and to support her daughter's education.

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