

## Impact case study (REF3)

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| <b>Institution:</b> The University of Manchester   |  |  |
| <b>Unit of Assessment:</b> 22a (Development Studies)   |  |  |
| <b>Title of case study:</b> Promoting small farmer cooperation for sustainable livelihoods in India and Nepal  |  |  |
| <b>Period when the underpinning research was undertaken:</b> 2011 – 2020   |  |  |
| <b>Details of staff conducting the underpinning research from the submitting unit:</b>   |  |  |
| <b>Name(s):</b>  | <b>Role(s) (e.g. job title):</b>                   | <b>Period(s) employed by submitting HEI:</b> |
| Bina Agarwal   | Professor of Development Economics and Environment | 2011 – present                               |
| <b>Period when the claimed impact occurred:</b> 2015 – 2020  |  |  |
| <b>Is this case study continued from a case study submitted in 2014?</b> No  |  |  |
| <p><b>1. Summary of the impact</b></p> <p>Bina Agarwal's research led an international organisation and several NGOs to introduce an unusual institutional innovation – group farming – in India and Nepal. As a result:</p> <ul style="list-style-type: none"> <li>• In Bihar, West Bengal (eastern India) and eastern Nepal, 140 poor farmers formed 20 collectives, which: (1) increased their bargaining power vis-à-vis landlords; (2) improved the efficiency of land and machine use; (3) enabled access to government subsidies; (4) reduced input costs; and (5) enhanced yields and livelihoods.</li> <li>• In Gujarat (western India), 92 tribal women formed 16 collectives, opening a pathway to greater food security.</li> </ul> <p>Moreover, Agarwal's research in Kerala (south India), led an extant programme of 68,000 women's group farms (with 300,000 members) to incorporate more caste-disadvantaged women.</p> <p>In all regions, the group farming model is continuing and has proved effective in protecting livelihoods and food security during the coronavirus pandemic.</p>  |  |  |
| <p><b>2. Underpinning research</b></p> <p>South Asia's agriculture is in crisis. Some 86% of its farmers cultivate <math>\leq 2</math> hectares, often in scattered plots and mostly in family-run farms. These farmers, a growing proportion of them being women, face serious production constraints linked to the small scale of their operations, land fragmentation and poor input access, often rendering their businesses economically non-viable. Arguing that solutions could lie in alternative models of farming, for over a decade Agarwal has been researching such models, based on small farmer cooperation in South Asia and Europe, to assess their potential and draw policy lessons. Her research examines whether group farming can help smallholders overcome their production constraints and create sustainable livelihoods. Under these arrangements, farmers voluntarily pool land, labour, capital and skills to create a larger enterprise and cultivate jointly, sharing costs and benefits. Her findings show that group farming, if carefully structured, can significantly enhance farm productivity and profits among small farmers, and can empower women farmers, both socially and politically.</p> <p>Two facets of Agarwal's research have had a major impact:</p> <ol style="list-style-type: none"> <li>1. She drew lessons from the group farming experiences of socialist and post-socialist societies, as well as of postcolonial developing economies and democratic Europe, to outline a model embodying a set of principles on which groups could be formed successfully, especially under conditions of resource scarcity. The principles were voluntariness, small size, participatory decision-making, egalitarian sharing of costs and benefits, trust, and interdependence [1,2].</li> </ol> |  |  |

2. She evaluated the economic and social impact of contemporary group farming through a series of empirical studies in two Indian states, Kerala and Telangana [3,4,5]. Funding from the two state governments through their poverty alleviation programmes was indicative of their deep policy interest in the research.

To assess the economic effects, Agarwal compared the productivity and profitability within each state of all-women group farms (69 in Kerala and 70 in Telangana) and individual family farms (181 in Kerala and 693 in Telangana), 95% of which were managed by men. The results were derived through rigorous econometric methods applied to detailed weekly data Agarwal had collected with her team over one year via questionnaire interviews, followed by focus group discussions.

Agarwal found that Kerala's group farms had 1.8 times higher annual value of output and 5 times greater net returns per farm than individual family farms in the state [3]. The groups did especially well in commercial crops [3]. Telangana's groups, in marked contrast, did less well than the state's individual farms in cultivating food grains, but equally well in cash crops [3].

Analysing the divergent performance of the two states provided important policy lessons on what works and what does not. Underlying Kerala's success was strong state support (e.g. in technical training, marketing and financial incentives); subsidised bank credit; a multi-tiered community organisational structure with elected group representatives; small-sized groups with some social heterogeneity; favourable ecology; and commercial cropping. Telangana, in contrast, had only limited state support; large, more homogeneous groups with limited social capital; difficulties in leasing in land; and limited irrigation, which led to lower yields in subsistence crops [4,5].

Notably, however, and despite their divergent economic performance, both states were equally effective in empowering the women managing group farms both socially (e.g. they enjoyed enhanced respect from their families and communities), and politically (e.g. many more stood for village council elections and won seats) [4].

Agarwal's research thus demonstrated the potential of group farming and provided the justification, principles and pathways for successful replication.

### 3. References to the research

1. **Agarwal, B.** 2016. 'Rethinking agricultural production collectivities'. In Bina Agarwal's three volume compendium, *Gender Challenges*. Oxford University Press. Vol. 1, pp. 277-310.
2. **Agarwal, B.** 2014. 'Food sovereignty, Food security and democratic choice: Critical contradictions, difficult conciliations', *Journal of Peasant Studies* 41, 1247–1268. DOI: [10.1080/03066150.2013.876996](https://doi.org/10.1080/03066150.2013.876996)
3. **Agarwal, B.** 2018. 'Can group farms outperform individual family farms?' *World Development* 108, 57–73. DOI: [10.1016/j.worlddev.2018.03.010](https://doi.org/10.1016/j.worlddev.2018.03.010)
4. **Agarwal, B.** 2020. 'Does group farming empower rural women? Lessons from India's insights'. *Journal of Peasant Studies* 47, 841–872. DOI: [10.1080/03066150.2019.1628020](https://doi.org/10.1080/03066150.2019.1628020)
5. **Agarwal, B.** 2020. 'A tale of two experiments: Institutional innovations in women's group farming in India'. *Canadian Journal of Development Studies* 41, 169–192. DOI: [10.1080/02255189.2020.1779673](https://doi.org/10.1080/02255189.2020.1779673)

### 4. Details of the impact

Agarwal's research and its dissemination have generated four specific forms of impact, the most recent being in safeguarding livelihoods during the Covid-19 crisis.

**Initiation of group farming among poor farmers in eastern India and Nepal**

In 2015, Agarwal's research [1,2] provided the model for the design of a new action-research project on group farming in eastern India and Nepal by the International Water Management Institute (IWMI) Nepal. As the project head confirms: *"Our aim was to identify farming models to address some of the challenges of landlordism, fragmentation and tenure insecurity through farmer collectives. Agarwal's papers [1,2] on the potential advantages of group farming collectives and the principles on which they should be formed was...extremely useful in helping us shape our...models. In project design, we followed the principles specified by Agarwal, ensuring that the groups were voluntarily formed, small-sized, and had systems in place for egalitarian decision-making and equal distribution of workloads and benefits."* [A]. Within a year, 20 farmers' collectives involving some 140 farmers were operating in eastern India and Nepal. The degree of resource pooling varied, but all the collectives reported early economic benefits.

Under IWMI's oversight and support, and using a co-partnership model, the project was implemented by local NGOs, who also collected baseline data and periodic (seasonal) impact data.

After its launch, although not involved in the data collection, Agarwal provided key inputs into the project:

- She helped analyse the impact data and was a co-author in the resultant publication [B].
- She gave expert advice to IWMI and the NGO partners on how to strengthen social inclusion, gender balance and institutional sustainability.

The data analysis revealed several positive benefits of forming farmers' collectives [B].

*First, it enabled farmers to challenge feudal relations*

The poor farmers who formed collectives now have greater bargaining power vis-à-vis the landlords from whom they lease land, than they had individually. One Bihar group with 7 farmers bargained down the rent from about INR12,000 to INR10,000 per acre. Another refused to provide the landlord unpaid domestic services which were earlier obligatory, or to allow the landlord's family to gather vegetables from their fields without payment [B].

*Second, it provided access to government schemes*

In Nepal, three groups combined to claim government entitlements, such as seed and fertiliser subsidies offered to cooperatives with at least 20 members. [B]

*Third, it provided economic benefits*

All the collectives reported that cultivating a large contiguous plot created by land pooling, rather than multiple scattered plots, had made irrigation and tractor use feasible (whereas previously, it was time consuming to move heavy pumpsets between distant plots, and often difficult even to use electric pumps without a nearby power source). In all cases, machine use is now much greater, efficiency of use is higher, the amount of uncultivated area is lower, and crop yields have increased significantly. In both Nepal and Bihar the pre-monsoon fallow area fell from 96-97% to 44%. In all collectives, rice and wheat yields rose; indeed, in some Nepal collectives rice yields rose to thrice their pre-collective period, and in some Bihar groups wheat yields almost doubled [B]. Similarly, labour pooling within groups has helped overcome manpower shortages in peak seasons. As a farmer in Saptari, Nepal, said, *"It took me three days to complete one field task. With the group it takes just half a day or a day"* [B]. The groups also reported cost reductions from bulk purchase of fertilisers and seeds, and shared transportation of output [B].

*Fourth, it increased women's skills*

The collectives have given previously marginalised women visibility, economic and managerial autonomy, and new skills. Two all-women collectives report operating irrigation pumps, something denied to them earlier. One woman stated: *"When we were girls, we were not allowed to even ride bicycles...I have learned...to cycle and to write. Similarly, I have*

*learnt to operate pumps and spray machines.*” The women now also perform formerly ‘male’ tasks, such as negotiating with tractor operators or ploughmen [B].

In 2017, Dr Sugden, then head of the IWMI, invited Agarwal to a workshop in Bihar, attended by group farm members and NGO representatives implementing the project in all three sites (Bihar, Bengal and Nepal). Agarwal made several suggestions for improvement, drawing on her research [2,3,4], such as improving the gender-balance in mixed-gender groups, and creating a federation-like organisational structure to help the groups resist external pressures and ensure sustainability.

The first suggestion was taken up immediately, with positive results: *“Following her [Agarwal’s] suggestion we interviewed Monila who was landless, and found that she was indeed feeling disempowered (she was the only woman in her group). We added another woman suggested by Monila... This case also alerted us on the need to nudge groups to be more gender-inclusive”* [A]. The second suggestion will be implemented in Phase II of the project: *“We have taken that recommendation on board and will be building this structure...starting later this year”* [A].

Women also gained in other respects. As an illustration, Monila gained control over her inherited land after joining the farmers’ collective: *“I had been demanding my portion for 8–9 years and finally I received it in 2017. This happened due to my active participation in the collective”* [C].

#### **Initiation of group farming by poor women in Gujarat**

In August 2018, as requested by Indian NGOs, including a pan-India women farmers’ network (MAAKAM), Agarwal conducted a two-day workshop to share lessons from her research. As a result, one NGO, which had failed earlier, started 16 new group farms involving 92 poor tribal women. *“Our learning at the workshop [helped] us revive group farming...the women farmers became highly motivated... 16 groups have [now] started group farming. This is the largest such attempt...in South Gujarat...Prof. Agarwal’s research and workshop...set in motion a process for... transforming the lives of large numbers of disadvantaged women”* [D].

#### **Inclusion of more caste-disadvantaged women in a group farming programme in Kerala, South India (site of original research)**

In Kerala, in 2017, Agarwal presented her research findings and recommendations to the Kudumbashree management. Kudumbashree involves 4.5 million women across all 14 districts of Kerala and is its most important development programme. Kudumbashree’s group farming programme (involving 68,000 women’s groups and over 330,000 women farmers [E]) was the site of Agarwal’s research. Following her presentation, the management team initiated steps to include more poor, low-caste women in group farming: *“Kudumbashree has taken various steps to implement the recommendations suggested by Prof. Agarwal in her detailed analysis...Kudumbashree is now focusing more on inclusion of Scheduled Caste [lowest caste] women in JLGs [group farms]. Also, Kerala witnessed devastating floods in 2018 and more than 25,000 women’s group farms lost their...livelihoods. [Based on Prof. Agarwal’s suggestions] strengthening of group farming...was given highest priority after the floods”* [F].

#### **Covid-19 and group farming**

The effectiveness of the group farming model was also demonstrated during the Covid-19 lockdown in 2020. For example, in Kerala, 87% of over 31,000 women’s group farms growing crops in March 2020 were able to harvest and sell their produce [E], whereas large numbers of individual farmers in Kerala and other states were widely reported to have lost their incomes due to labour and marketing bottlenecks [G]. Moreover, the inclusion of more Scheduled Caste women into the groups prior to COVID means that the most disadvantaged women too would have been protected.

In Bihar and Gujarat, similarly, the farmers' collectives reported that they were more food secure during the COVID-19 lockdown than if they had farmed individually, and compared to individual smallholders in their village [A,D].

These positive outcomes of group farming during an unprecedented crisis can be seen as additional (indirect) impacts of Agarwal's research.

#### 5. Sources to corroborate the impact

- A. Testimonial from former Senior Researcher, Political Economy and Water Governance, International Water Management Institute (IWMI), Nepal, who initiated the Action Research Project and oversaw its implementation. Received December 2020.
- B. Sugden, F., Agarwal, B., Leder, S. et al. 2020. 'Experiments in farmer collectives in Eastern India and Nepal: progress, benefits and challenges'. *Journal of Agrarian Change*, 1–32. <https://doi.org/10.1111/joac.12369> This evidence relates to the impact of an ongoing Action Research Project for which Agarwal's research provided the model. Agarwal was not involved in project implementation or the collection of impact data, but as co-author she helped analyse the impact data collected by the project implementers.
- C. Illustrative interview with Monila, a landless woman member of a farmers' collective in North Bengal. The interview was undertaken in 2019 by the member of staff in charge of the project in North Bengal, based at the Centre for Development of Human Initiatives, West Bengal.
- D. Testimonial from Programme Manager, Cohesion Foundation Trust, Gujarat. Received December 2020.
- E. Kudumbashree 2020. Brief Study on Covid-19 pandemic and its economic impact. [http://www.kudumbashree.org/storage/files/qdzl7\\_agri%20covid19.pdf](http://www.kudumbashree.org/storage/files/qdzl7_agri%20covid19.pdf)
- F. Testimonial from the Executive Director of Kudumbashree, Kerala's State Poverty Eradication Mission. Received December 2020.
- G. *New Indian Express*, 12 April 2020. <https://www.newindianexpress.com/thesundaystandard/2020/apr/12/across-india-a-massive-agricultural-crisis-in-the-making-due-to-coronavirus-shutdown-2128892.html> News reports were the main source of information about the ground situation during the strict lockdown, since reporters were allowed to travel, but researchers were not.