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Institutional partnerships for capacity building of women farmers: the case of Arid Rajasthan, India

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Abstract

There is an urgent need for synergy in the roles between public bodies, the private sector, civil society organizations and farmers in the areas of agricultural research and extension. The present study presents the partnership building between research institute, district rural development agency, NGO and members of SHG. The project was set up to work directly with women's self-help-groups (SHG) through a technology package of feeding and health management of dairy animals, and cultivation of dual-purpose crop varieties. Analysis of demographic attributes indicated size of family was small and literacy status was better for members of SHGs than non-members. Annual household income was higher for members and share of income from livestock sources was 60% more than other sources. Psychological empowerment of members indicated high self-perception than non-members. Members with assured source of income were able to feed and maintain dairy animals in contrast to daily wage laborers. Gain in knowledge on different aspects of scientific dairy management was observed. Technological empowerment has created greater self-confidence in members for scientific dairy management. Feeding of balanced concentrate mixture (BCM) has resulted in increase in milk yield on continuous feeding for two months. Preparation and feeding of BCM was perceived to be less drudgery prone, easy to handle/serve, convenient to store and economical. Feeding of BCM would result in a saving of Rs.300/cow/day. Regular de-worming, incorporation of mineral mixture and BCM are the components of the technology package that would be adopted and continued after the withdrawal of the project.

Keywords: partnership building, women farmers, balanced concentrate mixture, SHGs

Introduction

Farm women in most of the developing world as in arid region carry the majority of responsibility for the production of food for their families and at the same time care for their children, manage family nutrition and seek sources of income. In the arid district of Jodhpur, Rajasthan, the site of the present study it was observed that the participation of women in agriculture was found to be 60 percent and in livestock activities up to 90 percent (Pratibha et al 1996).

Women make essential contributions to the agricultural and rural economies in all developing countries (FAO 2011). They contribute immensely towards food production but receive only 2-10 % extension support. As men do not necessarily discuss production decisions with their wives or transfer extension knowledge to them, there is a clear and compelling need for extension to reach them directly. With the need for changes in extension approaches, efforts are being made by the Central and State Governments in India, to improve extension services to reach farm women through (i) extension policy reorientation that explicitly recognizes farm women as agricultural extension clientele; (ii) organizing women into small, homogenous Self Help Groups and channelize all agricultural support services such as training, extension, information, credit, input, marketing through these groups.

The increased emphasis on the role of civil society in providing agricultural services has led to a number of attempts to strengthen relationships between public research and extension, and farmers' organizations (Karim Hussein 1999). It is being perceived by development practitioners that group approaches, have the potential to extend the research and extension efforts to women farmers and to increase the impact of the extension work. Women Farmer's Interest Groups (FIG's) and Self-help Groups (SHG's) have emerged as major strategies in the development of women and it is being felt that strong women's groups contribute substantially to the development and convergence of services and activities. Group extension for women will help to replace the top down approach with bottom up approach in technology transfer and these groups will demand for information, technology and management techniques and the extension workers would respond to the group demand (Sneh Wadhwa 2007).

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Methodology

The project was set up to work directly with women's self-help-groups (SHG) through a technology package of feeding and health management of dairy animals, and cultivation of dual-purpose crop varieties with the following specific objectives (i) Impart knowledge and skills in feeding and health management of dairy animals and (ii) Demonstrate cultivation of dual-purpose crop varieties

The participants of this project were women members of two self-help groups from village Borawas and Khokaria of Jodhpur District in arid Rajasthan, India. These women were earlier a part of a ten days training program on scientific dairy management organized by a team of scientists and training associates from CAZRI, under the Training for Women Empowerment sub-project of the World Bank Sponsored, National Agricultural Technology Project (NATP). Encouraged by the positive response of these SHG's, and their desire to have a continuous learning relationship and technical guidance from CAZRI, it was agreed upon to transfer improved technologies to these group members in the form of on- farm crop and animal trials, group discussion and training programs to help them make their farming system able to provide food for themselves and feed for the dairy animals.

A homogenous group of non-members was also selected to have a comparison in the socio economic status of members and non-members. These two SHG's were formed by the painstaking efforts of an NGO (Vasundhara Sansthan). Each of these groups comprised of ten members with three elected positions of a President, Secretary and a Treasurer. The responsibility of these elected members was to oversee the smooth functioning of the group along with the timely collection of savings, account keeping and other liaison activities for the group's welfare.

The members of these two groups had received two cows each as loan from the District Rural Development Agency (DRDA) and many of them had never kept a cow before and were apprehensive about being able to take care of a cow. This started the partnership building exercise between the Public sector Research Institute, Central Arid Zone Research Institute (CAZRI), the DRDA, the NGO and the most valuable stakeholders were the members of the SHG, the women. The district Rural Development Agency (DRDA) is a specialized and a professional agency which manages and implements the anti-poverty program of the Ministry of Rural Development and effectively relates these to the overall effort of poverty eradication in the District.

Findings and Discussion

Demographic attributes of the members and non-members of the self-help groups

An analysis of the demographic attributes (Table1) of the members and non-members of the self-help groups indicated that the size of family was small and literacy status was better for members as compared to non-members. Annual household income was more for members and the share of income from livestock enterprises was sixty percent more in these families. The process (psychological) empowerment of women (Figure1.) indicated that members of SHG have had a higher self-perception than non-members. They perceived a sense of pride for being a part of the various meetings organized by DRDA, Banks and other related organizations. There is an appreciable social transformation in attitudes of men in terms of permitting women to participate in meetings organized outside their villages.

Group Processes operating in the SHG

The group processes operating in the selected SHG's were analyzed in terms of the following components, motivation for forming into groups, group's sustainability and conformation to group norms. It was observed that, at the group formation stage all the members had a strong motivation for saving and availing the benefits being offered by various governmental and other agencies, which did not sustain after availing the loan from DRDA for purchase of two cows each. A few of the members felt that maintaining dairy animals was a very demanding and difficult task and had also stopped repayment of the loan and 40% of them were defaulters. A wrong perception was prevailing in the group that the loan would be written off. Educational efforts by the participating institutions are required to clarify that loan repayment is essential and there are no provisions for loans to be waived off.

Thus, adherence to group norms and group cohesiveness was not seen after four years of group formation, which is harmful for the group's sustainability and credibility for receiving further loans. Efforts are being made to convince the defaulters to regularize the repayment so that the SHG can function efficiently and be eligible for a second loan. The sustained and continued efforts of the NGO in monitoring the group's progress were not observed. It was found that irrespective of these internal groups processes, the response to the improved technologies being recommended was encouraging and about 30% of the members have followed the de-worming schedules of dairy animals and purchased and incorporated nutrient mixture to the feed to enhance milk production.

Psychological empowerment of members of Self-help groups

In order to study the psychological empowerment of members of Self-help groups the scale developed by Mangasri (1999) was used. This scale comprised of the following six dimensions, critical consciousness, transformation in attitudes, role perception attitudes towards collectivism, and self-perception with a three-point continuum of "agree", "undecided" and "disagree" and a score of 3, 2, and 1 respectively. Based on the score obtained the members of SHG's were classified as having low, medium and high psychological empowerment. It was observed that women who were members of SHG'S had a higher psychological empowerment than those who were not members which may not be attributable solely to their being part of this project. There may be other important factors which need further thinking and analysis.

Off-Campus Training Program on Scientific Dairy Management.

An off-campus training program on De-worming schedule of dairy animals and goat and sheep and importance of balanced feeding was organized for members and non-members of self-help groups in Bora was and Khokaria villages of Jodhpur district. The program was a great success and attended by seventy five farmwomen. The benefits of feeding balanced ration to dairy animals was emphasized to obtain optimum milk production thereby more income from sale of milk. The significance of adding mineral mixture to overcome the micronutrient deficiencies was explained as most of the arid zone feeds were found to be deficient in micronutrients.

The necessity of regular following of a de-worming schedule was explained along with the dose and method of application.

The requisite veterinary medicines for de-worming were also distributed to all the farmwomen attending the training program. The breeding and milk yield potential of different breeds was also discussed to improve the awareness of farmwomen, so that while purchasing dairy animals they can contribute in the decision making as proud owners of scientific knowledge.

There was also a session on economics of milk production and the trainees were motivated to be more aware, systematic and vigilant in maintaining records of breeding, calving intervals and milk yields to run their household dairy as an enterprise. The importance and practicality of a group approach in the form of self-help groups was emphasized to sensitize especially the non-group members to avail the benefits of loan and other facilities being provided by the banks and other Government schemes.

Three, off-campus training programs on preparation of Balanced Concentrate Mixture (BCM) were organized for these farm women in order to demonstrate the benefit of feeding balanced concentrate to dairy animals for optimizing milk production. Locally available feed material were utilized so that the farm women do not face the problem of procuring these materials, which is the most common reason for low adoption of certain technologies that require materials to be purchased. More so, in this region of India, women do not have easy access to markets, due to social norms of their seclusion. The farmwomen were explained the regular feeding of the balanced mixture depending on the lactation stage and milk yield attributes of their cows. It was observed that continuous feeding of balanced concentrate mixture resulted in the increase in milk yield ranging from 0.5 to 0.75 liters/day. Moreover preparation, feeding, handling and storage of this mixture were perceived by farm women to be easy and less drudgery prone. It was also economical compared to those available in the market with a saving of Rs.300/cow/month. Ponnusamy et al. (2017) reported that farm women realized 20% more income and 10% additional employment generation, had enhanced access to training, market, extension and financial services as a result of being beneficiaries of public private partnership model implemented in three selected States of India. The critical input from these field level demonstrated models would help to form a strong extension strategy for promoting partnership based models in agriculture.

Group Discussions

In the selected villages, pre-sowing discussions were organized to improve the knowledge of farmwomen about recommended package of practices. The farmwomen were motivated to adopt all the practices to achieve higher yields thereby achieve food and fodder security for the family. During the rainfall season (*kharif*) for three years, 2004, 2005 and 2006 a total of thirty six crop trials were laid out on fields of farmwomen to demonstrate the benefits of adopting all the recommended package of practices. It was envisaged to emphasize the importance of achieving self-sufficiency in terms of food and fodder by adopting dual-purpose varieties of *pearl millet* and arid legumes and fodder needs through *sorghum* and cultivation of grass. The group members were motivated to allocate land for cultivating suitable grass species to meet the fodder needs especially in the study area of Jodhpur, which faces cyclic droughts and farmers, face severe shortage of fodder.

Conclusion

The annual household income was higher for members of SHGs and share of income from livestock sources was 60% more than from other sources. Psychological empowerment of members indicated high self-perception than non-members. Members with assured source of income were able to feed and maintain dairy animals in contrast to daily wage laborers. Gain in knowledge on different aspects of scientific dairy management was observed. Technological empowerment has created greater self-confidence in members for scientific dairy management. Feeding of balanced concentrate mixture has resulted in increase in milk yield on continuous feeding for two months. Preparation and feeding of BCM was perceived to be less drudgery prone, easy to handle/serve, convenient to store and economical. Feeding of BCM would result in a saving of Rs.300/cow/day. Regular de-worming, incorporation of mineral mixture and BCM are the components of the technology package that would be adopted and continued after the withdrawal of the project.

Strategies to improve partnerships

Strengthening the technical, economic and management capacities of farmers' organisations is essential for them to be able to establish linkages with research and extension. Effective mechanisms for collaboration between actors is essential and the partnership between institutions involved can be worked out better according to the basic prerequisites and challenges as outlined by *Water et al.* 2007 (in Participatory Research and Development for Sustainable Agricultural and Natural Resources: a source book)

Approach used

- Demand driven, based on needs expressed by women
- Long term comprehensive training
- Village based training
- Exclusively organized for women
- Emphasis on skill components
- Review of subject matter covered in training program
- Same group of trained women formed part of another project a year later
- Technology package was offered to make farming system self-sustaining

What did not work well?

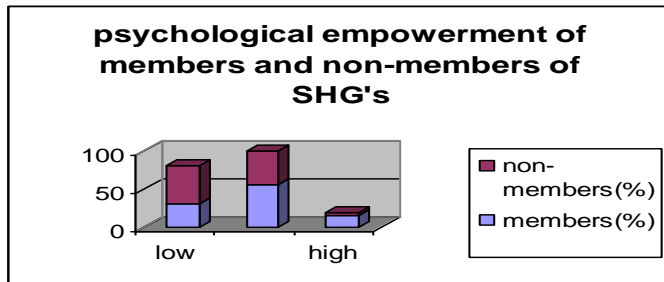
- There was no sustained effort of NGO to follow up on group sustainability
- The partnership between the NGO, Research organization and District Rural Development Agency could have been perceived from the inception and build upon during the course of the project
- Some of the members being fully aware of their low resource and financial capacity to maintain a milk cow had still opted and agreed to receive cow in loan, but had sold them later due to some or other reason

Lessons learnt

- Basic requisites for effective partnership
- Internal motivation
- Sincere commitment from all partners
- Good facilitation
- Shared responsibility
- Openness and transparency

Table 1: Demographic Characteristics of SHG members and non-members

Parameters	Members of SHG	Non-members
Land holding(ha)	11.17	4.00
Family size(number)	5.00	5.8
Literacy (%)	57.00	48.00
Livestock (ACU)	3.95	1.20
Annual income (Rs)	43,120	22,784
Share of livestock income (Rs.)	9,830	2,984
Living expenses (Rs/y)	20,150	16,292

**Fig 1:** Psychological empowerment of members and non-members of SHGs

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