



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

ASSESSMENT OF EXTENSION AND ADVISORY METHODS AND APPROACHES TO REACH RURAL WOMEN

— EXAMPLES FROM INDIA —

By Dr. Rasheed Sulaiman and T.S. Vamsidhar Reddy

MEAS Evaluation Series

July 2014



ASSESSMENT OF EXTENSION AND ADVISORY METHODS AND APPROACHES TO REACH RURAL WOMEN

— EXAMPLES FROM INDIA —

MEAS Evaluation Series
June 2014

Study Lead:

Professor Tahseen Jafry

Glasgow Caledonian University, United Kingdom

Research Team:

Dr. Rasheed Sulaiman

T.S. Vamsidhar Reddy

Center for Research in Innovation and Science Policy, Hyderabad, India



© Tahseen Jafry and MEAS Project.

This work is licensed under a Creative Commons Attribution 3.0 Unported License.

Users are free:

- To share — to copy, distribute and transmit the work.
- To remix — to adapt the work.

Under the following conditions:

- Attribution — users must attribute the work to the authors but not in any way that suggests that the authors endorse the user or the user's use of the work.

Technical editing by Kathryn Heinz. Production by Andrea Bohn.

This Discussion Paper was produced as part of the United States Agency for International Development (USAID) project “Modernizing Extension and Advisory Services” (MEAS).

www.meas-extension.org

Leader with Associates Cooperative Agreement No. AID-OAA-L-10-00003.

The report was made possible by the generous support of the American people through USAID. The contents are the responsibility of the authors and do not necessarily reflect the views of USAID or the United States government.

Table of Contents

EXECUTIVE SUMMARY	1
1. INTRODUCTION	2
2. SYSTEMATIC REVIEW OF PEER REVIEWED LITERATURE	2
What extension methods and approaches are being used?	2
Which of these approaches are targeting women?.....	3
What are the success factors?	3
What are the constraints - social, cultural, economic, technical, environmental, infrastructural?	4
3. SYSTEMATIC REVIEW OF GREY LITERATURE	5
What extension methods are used?	5
Which of these approaches are targeting women?.....	5
What are the success factors in reaching rural women?.....	6
What are the constraints in reaching rural women?.....	6
Recommendations	7
Evidence of successful agricultural extension approaches implemented by different organizations in India identified in the grey literature.....	8
4. CASE STUDIES.....	11
Case study 1: Use of ICTs to reach rural women: MSSRF’s initiatives in Puducherry, India.....	11
Case study 2: Transferring technical knowledge and skills to women farmers: ATMA Una, Himachal Pradesh	16
Case Study 3: Reaching women farmers through social mobilization: Community Managed Sustainable Agriculture in Andhra Pradesh.....	21
Case study 4: Community-Based Para-Extension Workers to reach rural women in Bihar: A case from Jeevika	28
Case Study 5: Producers’ Organization for Reaching Rural Women: The case of Intivelugu Mahila Dairy Producers Company Limited, Nizamabad.....	34
REFERENCES.....	39
Annex I: India Peer Reviewed Literature Data Extraction.....	41
Annex II: Details of the National Rural Livelihoods Mission (NRLM Aajeevika).....	48

EXECUTIVE SUMMARY

Very few peer-reviewed journal papers are available on agricultural extension approaches in India. The papers that are available focus on traditional approaches being used; for example, demonstrations and exhibitions and new/current agricultural extension approaches that are being implemented, such as Agricultural Technology Management Agency (ATMA) and the use of Information and Communication Technology (ICTs). There is limited literature available on which of the approaches available are reaching women.

A couple of papers evidence 'success factors' for designing programs to reach rural women, such as discussing the need for customizing programs based on local needs and socio-cultural contexts, and using bottom-up planning approaches. But again, this information is extremely limited.

There was some evidence on the constraints to reaching rural women. These were documented as: women are beneficiaries of programs rather than an integral part of a program/project, use of top down approaches, failure to recognize women farmers, lack of women in decision-making processes, and the gap between policy objectives and realities on the ground.

In terms of ways forward, there is some information indicating the need to address the practical and strategic needs of gender roles, giving consideration to culture and context as well as thinking about the design and delivery mechanisms of extension approaches to reaching rural women effectively.

The grey literature reviewed did provide some more information on women and extension in India. A number of different approaches to extension were identified: agri-clinics, ICTs, knowledge centers, group approaches, decentralized approaches, and market-driven systems. Of the approaches identified, we highlight the use of ICTs and approaches that empower women for specifically targeting women.

Sulaiman et al. (2003) is the only paper that we were able to locate that explicitly discusses success factors for reaching women. The following issues were identified: need for building social groups and networks, providing backup support services, mobilizing women, capacity building, and working in partnership.

In terms of constraints, limitations within both the public sector (supply driven, inflexible, lack of funding) and private sector (focusing on rich areas, not building social capital) were provided. Other constraints identified were socio-cultural barriers, lack of education, and the existing digital divide between urban and rural areas and men and women.

Some of the papers reviewed did provide recommendations for the way forward through developing demand-led programs and supporting and recognizing women farmers. They highlighted providing access rights to land and assets, as well as increasing their participation in program design.

A number of successful approaches being used in India were studied. The major initiatives implemented by the Government sector in reaching rural women focus their efforts on long-term initiatives with a strong focus on building social organizations of women (SHGs, CBOs, networks) and providing a wide range of support, including agricultural support. The NGO sector tends to focus their efforts on empowering women through long-term multifaceted development.

Five case studies were conducted to provide evidence of some of the extension approaches identified, specifically to determine what is working, why, and what the limitations are to scaling up. The case studies focused on use of ICTs, social mobilization, use of para-extension workers, and group approaches.

The case studies confirmed the findings of the literature reviews. What is working for rural women are approaches that consider demand driven bottom-up planning, wider linkages and support structures, long-term commitments for capacity development, trust, recognizing women's roles, and providing

women with ownership and responsibilities. Despite these successes, there is evidence that suggests there remains a need for ensuring that utilized approaches have an understanding of the local context/environment, and are not target-based, but based on needs and are supply-driven. This is the only way to ensure that women are not seen as just recipients or beneficiaries of programs but rather as an integral part of a process of change and reform.

1. INTRODUCTION

This report outlines the findings of both peer-reviewed and grey literature on gender and extension/advisory services in India. The reviews centered on the following key research questions:

What extension methods and approaches are being used?

- What are their impacts? What is the level of uptake? What is the level of adoption?

Which of these approaches are targeting women?

- What are their impacts? What is the level of uptake? What is the level of adoption?

What are the success factors of these approaches?

What are the constraints of existing approaches to reaching rural women: social, cultural, economic, technical, environmental and infrastructural?

This report also contains case studies that were conducted in India to provide evidence on the impact, scale in use, and benefits to women, as well as challenges and constraints of the selected extension and advisory services being used. They identified factors leading to the successes of the approaches being used, as well as constraints and challenges being faced by both the implementers of the approach and the recipients, namely women farmers. The case studies selected for this research analyze:

- (1) Use of ICTs to reach rural women,
- (2) Transferring technical knowledge and skills to women farmers,
- (3) Reaching women farmers through social mobilization,
- (4) Community-based para-extension workers to reach rural women, and
- (5) Producers' organizations for reaching rural women.

2. SYSTEMATIC REVIEW OF PEER REVIEWED LITERATURE

A total of 58 peer reviewed journal articles were identified through the systematic review process. However, during the data extraction process only 12 articles on India were found to contain material directly relevant to and in connection with the research question set out above. A breakdown of the articles review/data extraction process is provided in Annex I. This section summarizes the data extraction for peer reviewed literature read based on the four key research questions.

What extension methods and approaches are being used?

Extension organizations in general have been using a wide range of methods to reach rural communities with new information and knowledge, but only a few journal articles documented these.

Malhan and Rao (2007) argued that the current models of agricultural knowledge transfer in India are mainly based on traditional extension activities where knowledge is transferred to farmers through

person-to-person contacts, publications, radio and television discussions, and exhibit of products, fertilizers, and seeds at farmers' fairs.

Participatory approaches are also used for reaching farmers. For example, participatory varietal selection (PVS) approaches were used for promoting new rice varieties in villages in Eastern Uttar Pradesh, India (Paris et al., 2008).

Ali and Kumar (2011) used the case of the Indian Tobacco Company's (ITC) e-Choupal initiative to empirically analyze the role of information delivery through information and communication technology (ICT) in enhancing decision-making capabilities of Indian farmers. They found that the users of e-Choupal show significantly better decision-making aptitudes, as compared to non-users, on various agricultural practices across the agricultural supply chain. They also noted that socio-demographic backgrounds of the users, such as education levels, the social category to which they belong, income levels, and landholding size also play a significant role in impacting decision-making aptitudes. They emphasized the importance of designing ICT-enabled information systems to suit the socio-demographic profile of the user groups.

Riise, et al. (2005) presented a strategy developed by the Network for Smallholder Poultry Development (NESPOD), which involves not only disease control and the introduction of improved breeds, but promotes a holistic approach, taking into consideration social, cultural, marketing, credit, and general management aspects with a special focus on women. The tools involved include sensitization of village groups, organization of women in poultry groups, training of village vaccinators, farmer field schools for poor illiterate women, organization of local vendors, use of private veterinarians, and the involvement of national research, education and extension institutions as well as international organizations. They reported that the results are very promising in terms of creating non-subsidized activities with clear benefits for poor farmers and local entrepreneurs.

Which of these approaches are targeting women?

The extension approaches presented above are being employed to reach women. The most important among these is the group approach where women are organized into groups (Riise, et al., 2005; Paris et al., 2008), technology promotion (training, farmer field schools, video-mediated group learning, e-Choupal), and participation in value chains (Ali and Kumar, 2011; Riise et al., 2005; Paris et al., 2008; Malhan and Rao 2007).

Training on livelihood-supporting ventures is an important approach adopted by several agencies to reach rural women (Riise et al., 2005). In the context of Participatory Varietal Selection (PVS) in rice, integrating participatory research and gender analysis enabled women to gain confidence in making agricultural decisions. However, Paris et al.(2008) observed that PVS is only one step forward for reducing gender disparity in agriculture and suggested that women need to be provided with new knowledge and skills in managing crops and farm resources.

What are the success factors?

Balasubramanian, K. and Thamizoli, P. (2003) provide an interesting account of the group approach to extension in South India in their study. They highlight the success of knowledge transfer to women and contribute this to good participatory planning, regular feedback, and most importantly they take social and cultural structures into account, which determine the social construction of knowledge.

This is supported by Jafry (2012), who provided an overview to support the argument that the agricultural extension system needs to adapt to provide gender-equitable approaches to support the most vulnerable

farming groups. She argued that a gender-sensitive agricultural extension system is one support mechanism that can be used to design and develop meaningful programs.

What are the constraints - social, cultural, economic, technical, environmental, infrastructural?

Huq and Moyeen (2011) opined that the current approach to addressing gender is often weak and without adequate strategic focus on how programs could contribute to changing the wider picture of existing gender inequality. They concluded that instead of overemphasizing the “cost-effectiveness” criterion that may exclude gender from program interventions, enterprise-development programs should rather consider integrating gender as a matter of ‘priority’. The important considerations should be the ‘outreach’, ‘sustainability’, and tangible ‘impact’ that such integration could make in attaining gender-balanced development. They also noted that despite the intent for gender-balanced development in their strategy and policy documents, donor-funded enterprise development programs are still implicitly guided by the women in development (WID) approach that considers women as mere ‘beneficiaries’ of economic growth. Chen, M (1989) argued that donor agencies could help bring women into the mainstream of the planning process and the economy by commissioning studies of women’s work by sectors, and by supporting sector-based pilot projects that involve women. This supporting evidence was provided by quoting two sectors in India: dairying and silk production. She noted that the nongovernmental agencies working with donor agencies have effectively influenced government policy, though she did note that this did not take place in agriculture, where most women work.

On a similar note, Doorenbos et al. (1988) noted that agricultural policies, resource allocations, and service provisions that fail to recognize the extent of women participation in farming are irrational, and they reduce the efficiency and effectiveness of agricultural sector investments. They argued that special strategic interventions are required to reorient ministries of agriculture towards serving women farmers. They suggested data-based policy seminars for senior officials and administrators as examples of actions that help to bring about changes in attitudes and practice.

Lahiri-Dutt and Samanta (2002) analyzed government-initiated development experiences of rural women in eastern India. They observed that two of the reasons for unsuccessful government initiatives are the top-down approach and the lack of women’s participation in decision-making. The other problems identified are about women being considered as a homogeneous group, which is problematic because it fails to reflect the realities on the ground.

Raha, et al. (2012) critically examined the impact of the ‘Guidelines for Hariyali’, a rural watershed development policy launched in Rajasthan, Western India that has been implemented through a Public Private Partnership (PPP) for local communities. Their analysis focused specifically on how the ‘Guidelines’ have affected the livelihoods of Rajasthani women. Findings revealed that there are significant gaps between policy objectives and the realities on the ground, particularly in the context of women’s accessibilities and entitlements. They also noted that PPPs, if implemented properly, could empower women in the area of watershed management across rural South Asia.

Qusumbing and Pandolfelli (2010) critically reviewed recent attempts to increase poor female farmers’ access to and control of productive resources, focusing on Sub-Saharan Africa and South Asia. Based on a review of literature from 1998 to 2008, they found that compared to interventions designed to increase investment in human capital, only a minority of interventions or policy changes increasing female farmers’ access to productive resources have been rigorously evaluated. They noted that future interventions need to pay attention to the design of alternative delivery mechanisms, trade-offs between practical and strategic gender needs, and to culture- and context-specific gender roles.

3. SYSTEMATIC REVIEW OF GREY LITERATURE

What extension methods are used?

A number of different approaches to reaching women have been documented in the grey literature. These are highlighted below.

Glendenning et al.(2010) examines the challenges in using different agricultural extension approaches as it attempts to provide farmers with access to information. The paper specifically discusses the Indian national program of agri-clinics and agribusiness centers, started in 2002. Their analysis found that the agri-clinics are an important knowledge intermediary for farmers. Glendenning et al.(2011) went on to evaluate farmers' usage of the Agri-Clinics program implemented in India, concluding that agri-clinics are filling an important need of farmers by providing agricultural inputs and becoming a key information source for farmers. Furthermore, farmers who experienced their service (tested their soil and followed the advice) are willing to pay more for the service.

Verma et al.(2012) focus on the use of ICTs as an approach for agricultural extension and observed that most of the extension personnel in Udaipur District of Rajasthan (India) have a positive attitude towards ICT application in agriculture. However, NGO personnel have a more favorable approach towards use of ICTs than the Government staff. Sulaiman et al.(2011) reviewed the application of ICTs aimed at rural women in India and observed that, "While most of the ICT initiatives are disseminating new information and knowledge useful for rural women, many are not able to make use of it due to lack of access to complementary sources of support and services". The study also noted that among the varied tools, the knowledge centers and community radio were found to have the greatest potential in reaching women with locally relevant content.

Sharma (2006) argues for a group approach in extension, promotion of farmers' organizations at the grassroots level, and provision of ICT-based networking to all extension units, training centers, and research institutes for better communication.

Robertson (2012) discusses the Agricultural Technology Management Agency (ATMA), as presented by Swanson et al. (2005), as a case of successful decentralized, participatory market-driven extension systems that has augmented farmer capabilities with additional competencies, such as financial and market knowledge.

Which of these approaches are targeting women?

In the documents studied, the following approaches were mentioned to be useful for targeting women farmers:

- Use of ICTS, especially community radio and village knowledge centers - Sulaiman et al.(2011).
- Programs designed based on community demands- Sulaiman et al.(2003).
- Approaches in which the primary focus is on empowering women, so that they ultimately can be supported in taking up agriculture - Kiran et al.(2012).
- Approaches that focus on women's empowerment so that they would be encouraged to take up agriculture - Swanson, et al. (2005).

What are the success factors in reaching rural women?

Sulaiman et al.(2003) was the only author to discuss success factors. The authors identified the following factors that can be successful in reaching rural women. Sulaiman et al.(2003) reviewed the experiences of implementing agricultural programs for women in India and drew lessons and best practices in this area. The authors also presented the best ways for designing programs for rural women based on an analysis of case studies in India; these include: understanding local situations, building on existing social architecture, creating linkages with relevant stakeholders, and through consultations with other organizations (public, private, voluntary).

- New projects should build on groups, networks, organizational capacity and resources already in place and functioning from existing project initiatives.
- It should take on and build on lessons from existing projects.
- Apart from extending agricultural technologies on production and post-harvest practices to women farmers, new programs should concentrate on providing crucial back-up services and support (backward and forward linkages) to help women groups successfully adopt new techniques, crops, and enterprises to increase their incomes and employment opportunities.
- New programs should be planned with adequate resources for mobilizing women, forming groups, improving capacity and capability in technical, organizational and commercial (business/micro-enterprises) sectors, and support systems (credit, raw materials, and markets).
- New programs should be prepared jointly in consultations with other organizations (public, private, voluntary) that can potentially complement and supplement the efforts of the public sector (e.g., Ministry or Department of Agriculture).

What are the constraints in reaching rural women?

Glendenning et al. (2010) identified the following key constraints of public and private extension approaches in India for reaching rural women. These are given here:

Public sector extension approaches:

- Linear and supply-driven technology flow from research to extension to farmers
- Static, inflexible, hierarchical organizational structure
- Low level of outreach from extension services due to staff being overburdened with administrative functions
- Insufficient operational funds
- Various line departments insufficiently connected

Private sector extension approaches:

- They focus on resource-rich areas and a few crops where profits could be maximized

There is no social capital-building, as these approaches work with individual farmers who are resourceful. These findings are also supported by the recent report by The Government of India (2012), as “Most of the programs are only supply led. With watertight compartmentalization, schemes and programs for empowerment of women address the issues in a piecemeal manner. Due to lack of adequate convergence among these schemes implemented by various ministries, particularly, Ministry of Agriculture, Ministry of Rural Development, and Ministry of Women and Child Development, economic empowerment of women in agriculture, at best, remains scattered and isolated”.

Kiran et al. (2012) found that the majority of women in the Sultanpur district of Uttar Pradesh had medium or low levels of empowerment. Furthermore, women who are illiterate or less educated are even less

empowered and generally belong to the scheduled caste category. They identified the following constraints for reaching rural women:

- Socio-cultural factors (caste system)
- Lack of education

Consequently, they argue for the need to embrace a broad-based approach to guarantee gender equity and to empower rural women. They affirm that this approach should be considered in the rural policy formulation and the creation and implementation of agricultural and rural development programs and projects.

Swanson et al., (2005) identified the following as the key constraints of the Agricultural Technology Management Agency extension model:

- Few government resources to train and backstop the district and block-level extension staff;
- Limited resources available to support local extension programs activities at the district and block levels;
- No resources available to contract with NGOs to organize farmers and farm women into groups;
- No resources available to extend the IT system.

Sulaiman et al., (2011) while reviewing various ICT based initiatives to empower rural women in India, identified the following challenges with this approach:

- Existing digital divide between urban and rural areas;
- Existing digital divide between men and women;
- New information and technologies transmitted through ICTs is insufficient to empower women without integrating these with all the other necessary support and backup;
- There is no “best fit” for all ICT. Every ICT had its advantages and disadvantages in reaching rural women in different contexts;
- Most of the available evidence on ICTs and women empowerment is anecdotal. To fully understand the developmental and empowerment implications of ICTs, further research is required.

Recommendations

Some of the grey literature read highlighted suggestions and recommendations for reaching rural women. These are highlighted below.

The Government of India (2007) in its “Report of the Working Group on Gender Issues, Panchayat Raj Institutions, Public Private Partnership, Innovative Finance and Micro Finance in Agriculture” (2007) made the following specific recommendations for targeting women farmers:

- Each Agricultural Technology Management Agency (ATMA) should have a special program for rural women and the details of this program need to be worked out through a demand-led program development strategy.
- Provide household extension support for women, including value addition via food and nutritional security at the household level through the promotion of kitchen gardens/nutritional gardens in urban, peri-urban and rural areas. Form kitchen and nutritional garden associations and provide support via training and publications.
- Provide awareness on household-level nutritional security (nutrient profiles, nutrient consumption, cooking methods, safe storage, kitchen and personal hygiene, and water and food quality, etc.) through mass media and extension staff training.

- Set up a National Household Nutritional Security Center/Cell at the Center and in every State. These cells should be linked to the Community Food and Nutrition Units of Food and Nutrition Boards located in States/UTs and also to the National Institute of Nutrition and nutrition departments within home science colleges in agricultural universities.
- To provide training, testing and certification of women's skills in agriculture on a modular basis. Also to provide recognition to the high degree of farm skills possessed by women who continue to be treated as unskilled, thus correcting an historic injustice. Women's capacity should be developed on a lifetime basis as part of the National Farmers Capacity Building Project. In terms of availability and feasibility, all training institutes must ensure that 50 per cent of trainees are women.
- All existing and new assets distributed through various schemes should be registered in the name of both husband and wife.
- Priority should be accorded to women while leasing out Common Property Resources such as wastelands, village ponds, and water resources.
- To the extent of availability, 50 per cent of resources in all missions and programs relating to agriculture being implemented by all ministries should be allocated to women. This should include National Dairy Plan of NDDDB for women livestock keepers.

Finally, a "Report of the Working Group on Agricultural Extension for Agriculture and Allied Sectors" (2012) makes the following recommendations to support women engaged in agriculture:

- Engender agriculture through access to land and assets;
- Strengthen skills, capacities and access to technology to empower women;
- Ensure participation of women in designing of training and research programs so that their needs are incorporated adequately;
- Adopt a holistic approach/cafeteria approach to program design;
- Carry out effective extension programs with the support of NGOs working in the field;
- Up scaling of successful cases of extension programs that have worked.

Evidence of successful agricultural extension approaches implemented by different organizations in India identified in the grey literature

The information provided here is drawn from several documents collected from the internet. They include project documents, reports, annual reports, and presentations. Based on this information, evidence on the use of the key approaches which illustrate how these approaches are being used is presented here. Details of the approaches are given in Annex II.

In India, the most common approach used in reaching rural women is by creating a group through the social organization of women and then implementing agricultural development initiatives through that group. Several government-anchored initiatives have adopted this approach because they exemplify a wider adaptability and are more sustainable than other approaches.

The key is *the social organization of women* with a central activity to bind the group together. The capacities and skills of the groups are developed through several rounds of trainings and exposure to build the capacity of these groups. The following are few examples of this approach being adopted by the Government sector:

- An initiative by the national government, the National Rural Livelihoods Mission (NRLM), Aajeevika, has been found effective in reaching rural women with developmental initiatives. The core approach adopted here is to organize rural women into self-help groups (SHG) and federating

these SHGs at a block level. This social organization is leveraged for implementing developmental initiatives, including agricultural development. The thrift and credit activity of SHG is expected to create a strong bond among group members. The NRLM implements initiatives that help in overall development of these groups. They provide access to credit, technology, and markets. Through diverse trainings, capacities of these groups to deal with different challenges are built. The Village Resource Persons, local educated and unemployed youth selected and trained by NRLM, will provide need-based support to these groups. Since the project is being implemented in large areas through government intervention, the impacts are widespread. The group approach, thrift and credit activity, multifaceted capacity-building of community organizations, and the local resource persons are the key elements of this approach that exhibit the potential for sustainability.

- There is a special initiative under NRLM called the *Mahila Kisan Sashktikaran Pariyojana* (MKSP), launched in 2010-2011. The program envisages empowering women in agriculture by making systematic investments to enhance their participation and productivity, and to also create and sustain agriculture based livelihoods of rural women through social organization and SHGs. The NRLM is implementing the program in partnership with State Departments/CSOs as implementing partners (PIAs) across the country with the funding at the ratio of 75:25 (center to state).
- Another government initiative, called The Society for Elimination of Rural Poverty (SERP), follows a similar approach as that of NRLM. Under this initiative, women are organized into SHGs and then these SHGs are federated at a village level as Village Organizations (VO). Based on this social architecture, several developmental initiatives are implemented. This is an initiative by the Government of Andhra Pradesh state in its 22 districts. At present there are 11.5 million SHG members in 1,059,101 SHGs, which in turn are organized into 38,821 Village Organizations (VOs) and 1,098 Mandal Samakhya (MSs). The total number of beneficiaries are 2,998,906 women. Large-scale financial and implementation support by the government, long-term nature of the project, and multifaceted capacity development of women groups are the key features of this approach to ensuring wider scale impacts and sustainability.
- Similar to NRLM, the Government of Kerala State and the National Bank for Agricultural and Rural Development (NABARD) implemented an initiative called Kudumbashree. The main approach concerns organizing rural women into Neighborhood Groups (NHG) and federating these at the ward level into Area Development Societies (ADS), which are further federated at block level into Community Development Societies (CDS). At present there are 1.94 lakhs NHGs, over 17,000 ADSs, and 1,061 CDSs in Kudumbashree. The program has 37 lakh members and covers more than 50% of the households in Kerala. Based on this social organization, several development initiatives are being implemented, including government interventions. The capacities of these groups are built through regular and multifaceted initiatives. The key features of the initiative exhibit wider scale impacts and sustainability.

Several NGOs have also adopted the social organization approach to reach rural women. These are similar to the above-mentioned approach of creating social organizations and then undertaking agricultural development initiatives. Some of the key initiatives are:

- **PRADAN:** This large NGO reaches rural women through promoting SHGs. They work with over 225,800 families in 4,500 villages across seven of the poorest states in the country. A majority of the beneficiary families belong to the Schedule Tribes and Schedule Castes. PRADAN works with families who are marginalized, excluded from the economic, social, and political mainstream, and are therefore unable to participate in sustainable livelihood activities.

PRADAN brings women from similar social and economic contexts into SHGs and initiates thrift and credit activities. PRADAN builds capacities of SHGs and their leaders, connects them to

different agencies such as banks, government departments, and private enterprises. Based on these linkages, small business ventures are established by individual SHGs or groups of SHGs. In some areas, these SHGs are federated and promoted as producers' companies, cooperatives, and mutually aided trusts. Till today they have promoted over 16,555 SHGs, 4 SHG Federations, and 65 producer institutions. These include 3 Producer Companies (one each for Dairy, Tasar and Agriculture), 15 Poultry Cooperatives, 40 Tasar Reelers' Mutual Benefit Trusts, 1 Poultry Federation, 1 Mushroom Growers' Cooperative, 1 Dairy Cooperative, 3 Agro/Horticulture Cooperatives, and 1 Cooperative of Palaria Adivasis, thereby providing livelihoods to 138,459 families.

- Gram: Gram is an NGO working for the self-empowerment of marginalized men, women and persons with disabilities (PWDS) in the drought-prone Telangana districts of Nizamabad & Adilabad in Andhra Pradesh. Their approach in reaching rural women includes promoting two community-based organizations (CBOs) – IIMF, a federation of 20 women mutually aided cooperatives (MACS) with a combined membership of 55,000 rural poor women and *Intivelugu mahila* dairy producer company limited (IMD). Both CBOs are member-owned and governed self-help organizations operating in 600 villages.
- SEWA: SEWA Gram Mahila Haat (SGMH) was set up to provide marketing facilities and other market-related support to the rural-producer groups towards their empowerment and economic self-reliance. The Commissionerate of Rural Development of the Government of Gujarat supported the initiative by allocating the requisite funds. The scattered rural producer groups have been motivated to form district-level associations. Objectives are to enable the rural producers to earn a regular minimum income of Rs.2000 per month by providing technical support in terms of upgrading skills and exploring new marketing opportunities. It also aims at providing working capital assistance to the district associations and facilitates the producers to become owners and managers of their collective enterprises. "SEWA Mart" markets the agricultural produce of small and marginal farmers. The products are free from chemical fertilizers and pesticides due to non-availability of irrigation facilities and resources. SGMH is to start a systematic approach to exporting "organic farm products" by initiating compliance to international requirements.
- RUDI is a rural distribution network to distribute the producer's product through a well-established network at the village level. The Rural Distribution Network is intended to internally rotate the scarce funds of the rural producers in a way that maximizes benefit and brings about positive changes in their lives and to provide multi-user facilities, and reduces incidental expenses and build-up an integrated value chain in order to enhance the efficiency of agricultural activities, to reduce the hardships of the producers and processors, and to create multiple employment opportunities and an efficient supply of agro-products to rural members. This network also gives assistance in post-harvest management of crops, sales management, and generates employment opportunities for the rural members through processing and marketing interventions. The entire operation of RUDI in one district ensures a stable direct employment to 500 women per month.
- Under ATMA several extension programs are organized and these include training, demonstrations, farm schools, and exposure visits. As per ATMA Guidelines, 30% of the beneficiaries in the programs have to be women. Krishi Vigyan Kendra (KVKs), which are funded by the Indian Council of Agricultural Research (ICAR), organize vocational training for youth, farmers, and rural women. Women do participate in many of these trainings but there is a wide variation across KVKs in this regard. There is no special quota for women in these trainings.

4. CASE STUDIES

Case study 1: Use of ICTs to reach rural women: MSSRF's initiatives in Puducherry, India

Summary

This case presents the ICT initiatives of the M. S. Swaminathan Research Foundation (MSSRF), a reputed NGO for reaching women. They employ a combination of ICT tools to transmit relevant agricultural knowledge to farmers, including telecenters. Women as the key managers of the telecenters encouraged more women to access information and services from the knowledge centers. With the increasing access of rural communities to mobile phones, MSSRF has initiated mobile information delivery through SMS, enabling the rural community to call experts to answer queries. Though the use of ICTs in providing information and knowledge support is effective in reaching a large number of people, it requires investing considerable resources in setting up infrastructure, training, and content development.

Box 1: M.S. Swaminathan Research Foundation

The M.S. Swaminathan Research Foundation (MSSRF) is an NGO established in 1989 with an aim of technology development and dissemination. It focuses on pro-nature, pro-poor, pro-women and pro-sustainable livelihoods. They operate on six themes: Coastal Systems Research, Bio-diversity, Biotechnology, Eco-technology, Food security and Information, Education, and Communication. MSSRF is one of the first NGOs in India that experimented with telecenters (village knowledge centers) in reaching rural communities with information.

Background

In the year 1992, an interdisciplinary meeting held in MSSRF concluded that ICT has great potential for supporting rural development and sustainable agriculture. In order to test this, some information centers were established in few villages in Puducherry in 1997.

With the financial assistance from the Canadian International Development Research Center (IDRC), they scaled up this activity towards developing these centers into full-scale information village centers or Village Knowledge Centers (VKC) in 1998. They started with seven but finally reached twelve such centers. Some of these centers were located in agricultural villages, while others were located in coastal villages dominated by fishing communities. The main reason behind establishing these centers was to leverage the potential of ICTs in equalizing access to information and achieving network effects for empowering rural communities towards making correct choices, thus improving their livelihoods.

The Approach

MSSRF has been using a combination of various ICT tools to reach rural farmers/women. These include text and voice messages to mobiles, mobile phone-based interactive sessions, village knowledge centers (information kiosks) managed by women knowledge workers, community radio, and newsletters. In Puducherry, the MSSRF's initiatives concerning ICTs can be broadly grouped into two categories, namely initiatives based on village telecenters and those without telecenters.

ICT initiatives based on village telecenters

The telecenters, or village knowledge centers (VKCs), are organized in a hub and spoke model at select villages. The VKCs in an area (for instance, Puducherry) are connected to a central Village Resource Center (VRC) for coordination and management support. Typically, the VRC is located in a MSSRF-owned building while the VKC are located in community owned buildings (for instance, buildings owned by Panchayat¹ or Temple Trust).

Selection of location: The location for VKC is finalized after several rounds of Participatory Rural Appraisals (PRA) and extensive discussions with community members. This stage usually takes several months for completion. MSSRF staffs consider this as a major activity and very important for success of VKC and its sustainability. These consultations are intended for assessing whether the local community is genuinely interested in the initiative and there if there is a demand for such a center in that village. Once the local community expresses their need, they are expected to provide assurance (1) that the VKC would be open to everybody, especially women and socially marginalized sections, (2) that the building for VKC is made available at no additional cost, and (3) that the electricity charges for running VKC are taken on by the community. To this effect, a formal agreement is signed between the community representatives and MSSRF, which assures ownership of the initiative by the local community.

Setting up the infrastructure for the telecenter: Computers and printers that are required at VKC are provided by MSSRF along with necessary software, peripherals, and basic furniture (tables, chairs, etc.). Each of the VKC has a notice board displayed on its wall.

Knowledge Worker (KW): Each VKC is managed by one or two Knowledge Workers (KWs). These KW are local youth from the VKC village – in most cases women – educated up to secondary school level. MSSRF and local village representatives collectively select these KWs. These KWs receive orientation training on various aspects of managing the center and also some training on using computers. Once a month all KWs from an area come together and meet at their respective VRC. These meetings are for reviewing activities, making plans, and problem solving. On few occasions short trainings are also organized during these meetings. The KWs receive an honorarium from MSSRF for providing their services.

Management Committee: The VKC activities are monitored locally by a management committee. This management committee is comprised of all the prominent members of the village (for instance, Panchayat head, school headmaster, doctor from the primary health center, influential villagers, and representatives from the youth and labors). This committee meets once in a quarter to review the VKC activities.

Content Management: The VKC contains digital information (stored in computers) on various aspects relevant for the local community. The VRC staff (MSSRF staff) decides on the nature of content for a VKC. They develop the content and supply to individual VKCs. For instance, this content could be about information on government schemes, the milk procurement system, livestock database, etc. Key aspects of agriculture that are relevant for a particular area (for instance, production aspects of major crops of a particular area) are also stored in those computers. All the content is in the local language to enable villagers to use it. Whenever villagers request additional information or information about a new subject (which is not available at the VKC), the KW forwards the request to the VRC. The MSSRF staff based at the VRC collects necessary information, translates it into local language and provides to the VKC.

Access to information and knowledge: Villagers visit the VKC to access and use that information. For instance, when someone wants to apply for a particular government scheme, they visit the VKC and contact the KW. Then the KW helps them in finding relevant information from the computer and also

¹ Panchayat is the lowest administrative arm of the local government. Usually each village (consisting of few hamlets) has a Panchayat.

helps in preparing application for the same. If on-line application is feasible, the KW helps in submitting the application. They do not charge for providing this type of support. However, charges are levied for personal use such as browsing internet, typing, and making a printout.

Important information (for instance, about meetings or trainings organized at the VKC, government schemes, etc.) is displayed on the notice boards, for the villagers to read and use. Software updates, replacing of old and non-functional computers and technical support is provided by MSSRF as required. Most of the VKC have loudspeakers. These are used to communicate relevant information for villagers, such as announcements about the distribution of essentials through the public distribution system, government vaccination schedules, and weather warnings.



Ms. Maladi, the KW at Embalam VKC explaining the way she helps villagers access agricultural information, stored in her computer. She has been working as KW for the past eight years.



Ms, Ezhilarasi, a 9th class student, and Mr, Gopi, a 12th class student, practicing computer skills at the VKC in Kurivinnattam. Ms. Adiparashaki, who has been working as the KW here for the past nine years, is happy that many kids in her village are benefitting from the training programs organized at VKC. She also earns some income by offering such trainings.

ICT initiatives without a telecenter

These are based on mobile phones, community radio, and newsletters.

Using mobile phones

For the last three years, MSSRF has been providing useful information through SMS to the mobiles of registered villagers. For this, villagers were encouraged to register with the VRC in Puducherry. Each day they send three messages, one each on agriculture, animal husbandry and a subject of general interest to the community. They realized that most of the mobiles used by villagers were not displaying the content properly as the program progressed because they were not enabled with the vernacular font. Lack of literacy among many villagers was another problem.



Dr. Thiagarajan Anburaj from MSSRF participating in a phone-in session at Puducherry VRC.

Based on this experience they started sending voice messages to registered mobile users. Each voice message is 60 seconds in length, covering topics that are relevant at that particular point in time. They could be about crop growing stages, weather conditions, etc. This service is free to all those who register for this service.

Along with these text and voice messages, MSSRF organizes a live phone-in program, at fortnightly intervals. Topics of these programs along with the time and date for the phone-in sessions are announced in advance through voice messages (about a week in advance). Individual villagers can register their questions by calling the common number in advance. At the announced time, MSSRF staff members call the registered farmers; they are allowed to discuss with the experts invited for specific sessions by the VRC staff. All these discussions are recorded in audio-visual mode and stored by the VRC staff for future reference and use. Each of these sessions lasts for 3-4 hours. Renowned persons in their respective fields are invited by the VRS and are paid an honorarium for this service.

Community Radio

MSSRF has been broadcasting useful information through 15-minute programs per day on a pre-decided topic over community radios in those areas. They have been using the community radios managed by local agencies – Puduvali Vani managed by the University of Pondicherry and Nile FM managed by the Manakula Vinayaga Engineering College – for this purpose. The fifteen minute sessions cover various aspects, including agriculture, fisheries, livestock management, climate, health, and nutrition. The content for these programs is developed by MSSRF's in-house resource persons based on various knowledge products available in their library. The recorded content is sent to the community radio managers for broadcasting. Encouraged by the success of this, MSSRF is planning to set-up its own community radio station in Puducherry.

Newsletter

The VRC at Puducherry has also been publishing and distributing a newsletter every two weeks. This newsletter covers various aspects, including agriculture, animal husbandry, fisheries, and health. All the VKCs receive a copy of these newsletters. Individual villagers are encouraged to subscribe to receive them. They have to pay nominal charges (only to cover the postal charges). Content for this newsletter is developed by the VRC staff.

Evidence of scale/impact/sustainability/benefit for women

At the moment, about 800 households are benefitting from the VKC. Through the other non-VKC initiatives, they are able to reach about 40 villages. Although there is no particular focus on women through these initiatives, the VRC staff informed us that most of the users are women. Even at the VKC, many women seem to visit and access help. The fact that most of the VKC have women KWs, women farmers feel comfortable to visit and access help from them.

The VKCs are established with strong involvement of local communities. There is a participatory process involved in the selection of the location for each VKC, identification of the KW, monitoring of the VKC/KW and contribution for running VKC. Unless there is a consensus among the community members, a VKC would not be established. Often this first step takes lot of time, but MSSRF staff involved with this initiative believes it is very important. According to them, community ownership that is established in this step has the potential to sustain the initiative.

There is community contribution in each VKC in the form of the building and electricity charges. MSSRF contributes for all the other infrastructure in the VKC in the form of computers, printers, software, furniture, stationary, telephone, loud speakers, etc. The maintenance of the VKC infrastructure is also covered by MSSRF. The KW, though, makes some money by providing services such as typing, and receives an honorarium from MSSRF. The key staff connected with the initiative believes strongly that this type of information and knowledge delivery to poor people must be funded by public and donor funds, as the poor are unable to pay for these types of services, and should therefore not be seen as a business opportunity.

Contributing factors for the success:

- *Long-term presence and commitment:* The most important factor that seems to contribute to the success of the approach is MSSRF's long-term commitment in that area. This has helped them implement it through and learn from a trial and error method.
- *Continued financial support:* MSSRF ensured continuous financial support for the initiative by generating external resources to continue supporting this initiative.
- *Linkages:* MSSRF could use its high reputation to attract the services of experts from the University/KVKs to contribute in the initiative. It also has a strong network with diverse agencies in the region, which has helped them manage this initiative without getting into other implementation hurdles.

Limitations of the approach:

- The approach needs external support over a long period of time. This is because the system established cannot generate sufficient resources to meet its demand. Moreover, it needs continuous handholding and capacity development of KWs and development of appropriate content.
- Managing this type of a system requires a local organization commit long-term to each region/village/area. This is because each of the stages involved in the approach must be implemented through several rounds of discussions and negotiations with the local people. Even after setting the whole system, there is a need for continuous handholding of the KWs and continuous development of relevant content for the VKCs.
- Developing locally relevant content (on different aspects of information requested) would require resources and persons with technical knowhow. (MSSRF as a reputed agency in the local area is able to leverage its position to attract expert volunteers for accessing necessary technical support. The organization also has its own senior technical experts that can quickly develop relevant

content based on the existing literature in their own library and with their personal technical know-how). If this model has to be replicated elsewhere, adequate resources (financial and human) must be ensured for successful implementation.

Case study 2: Transferring technical knowledge and skills to women farmers: ATMA Una, Himachal Pradesh

Summary

This case discusses the extension activities implemented through ATMA in the Una district of Himachal Pradesh, India. ATMA program guidelines stipulate a minimum of 30% participation of women in its field level activities such as trainings, demonstrations, exposure visits, and farm schools. In Una, there has been a greater participation of women in all activities and women farmers have benefitted through their participation in ATMA activities. ATMA has also been instrumental in forming a number of farmer groups and this acted as a platform for interactive learning amongst farmers and helped extension staff anchor its programs at the village level. Bottom-up planning has become possible due to the formation of groups and FACs (Farmer Advisory Committees). However, with few resources under its command, the effective reach of ATMA has been limited even though it contributed immensely to enhancing the quality and diversity of extension programs.

Background

Several agencies exist in India to support farmers, all of which operate independently without much interaction with each other. Moreover, farmers rarely had any opportunity to share their demands for support. Considering these difficulties, the Indian Government pilot-tested the ATMA approach in 28 districts in seven states from 1998-2005. From 2005-06, it was extended to all the remaining districts under central support to state extension programs for extension reforms (Box 2).

Box 2: Agricultural Technology Management Agency, ATMA

ATMA was established as a direct result of pilot testing Extension Reforms in India in 28 districts of seven states under the Innovations in Technology Dissemination (ITD) component of the World Bank-funded National Agricultural Technology Project (NATP). Under ATMA, grassroots-level extension is mainly channeled through the involvement of BTTs (Block level Technology Teams) and FACs (Farmer Advisory Committees), farmer groups/farmer interest groups, and SHGs. At the district level, each ATMA has a Governing Body (GB) and Management Committee (MC) that coordinates interactions among the different agencies (line departments, research organizations, NGOs, Krishi Vigyan Kendras, and other agencies associated with agricultural development at the district level.

Based on the “success” of this pilot in the seven states, in 2004 the Government of India decided to expand this model with its own funds across all districts in the country. However, the same technical support and funding available during the pilot stage was not made available at the expansion phase. Lack of dedicated manpower, functional autonomy, and attitudinal barriers at all levels further constrained ATMA from achieving its goals. ATMA did provide a platform for interaction between line departments and farmers; it also brought some new concepts, such as bottom-up planning and commodity interest groups, into field extension practice.

In June 2010, the central government issued revised guidelines on ATMA implementation to mainly address the constraints associated with the national implementation during the past five years. The revisions included hiring exclusive staff for ATMA at the district and block levels, inclusion of farmer advisory committees at the block, district, and state levels, and greater emphasis on ATMA’s links to the KVKs. ATMA is now operational in 603 districts of India spread over 28 states and three union territories.

ATMA was first introduced in Shimla in Himachal Pradesh and later in Hamirpur, Kangra and Bilaspur districts of the state during the pilot-testing phase. From 2005-06, it was extended to all the remaining districts under central support to state extension programs for extension reforms. Currently all the 12 districts of Himachal Pradesh have ATMA. Initially, the scheme did not have any provisions for dedicated manpower support at State, District and Block levels. Its functioning was mostly looked after by officers of State Departments on an additional charge. Moreover, there were little provisions for the extension system below the Block level. As a result, the implementation of the Scheme in the field did not exhibit the desired impact. The scheme has now been modified and strengthened with stronger manpower, infrastructure, and a gamut of activities.

ATMA in Una

In the Una district, ATMA has been operational since 2005-06. The SREP in the Una district was prepared during 2005-06 and was finalized by 2007. SREP has been prepared by involving all the stakeholders and farmers using Participatory Rural Appraisal (PRA). The SREP contains a detailed analysis of the information on existing farming systems in the district and research–extension gaps required to be filled. It also prioritizes the research–extension strategies within the district. It becomes the basis for developing work plans at the block and district levels. The GB, ATMA was also constituted during 2005 in Una. The District ATMA Cell comprising of the Project Director (PD) ATMA, Deputy PDs, and staff assist ATMA GB in the discharge of its functions. ATMA Management Committee (MC) is the executive body looking after implementation of the scheme. The main feature of the program approach is the convergence programs of line departments and operations on gap-filling mode; this is done by formulating an Annual District Extension Work Plan based on the Strategic Research and Extension Plan (SREP) through adopting a group approach to extension, addressing gender concerns, and ensuring multi-agency extension strategies among others.

The Approach

ATMA acts as a focal point for integrating Research and Extension activities and decentralizing day-to-day management of the public Agricultural Technology System (ATS).

Bottom-up Participatory Planning: Every year the District Action Plan is prepared on the basis of Block Action Plans and supplementary issues received from the farmers. At the Block level, two bodies viz. Block Technology Team (BTT) (a team comprised of officers of agriculture and all line departments within the block) and Block Farmers Advisory Committee (BFAC) (a group exclusively consisting of farmers of the block) function jointly. BFACs represent Farmer Interest Groups (FIGs)/FOs existing within the block on rotation basis to advise the BTT. The Block ATMA Cell consisting of these two bodies, Block Technology Manager and Subject Matter Specialists, provides extension support within the Block through preparation and execution of Block Action Plans (BAPs).

Dedicated extension personnel: One Block Technology Manager (BTM) was recruited in the Una block in 2011. After much effort, one ABTM (Assistant BTM) could be recruited in the block as well. At the village Level, there is a provision for selecting a farmer as a “Farmer Friend” (FF); he is given training to serve as a vital link between the extension system and farmers at the village level (ideally one for every two villages). The FF is available in the village to advise on agriculture and allied activities. The FF mobilize farmers’ groups and facilitate dissemination of information to such groups, individual farmers and farm women directly through one-on-one interaction or in groups, and also by accessing information and services on behalf of farmers as needed.

Technology Dissemination: The approach for technology dissemination has a combination of training, demonstrations and exposure visits, along with group formation to develop knowledge and skills on agriculture. The district-level activities are categorized in four groups: farmer-oriented activities, farm

information dissemination, research-extension-farmer (R-E-F) linkages, and administrative expenses. The farmer-oriented activities include development of SREP, mobilization of farmer groups, farmer training/exposure visits, and field demonstrations. Farm information dissemination activities include local-level agricultural exhibitions and information dissemination through printed materials and development of technology packages in electronic form. The R-E-F linkages-based activities include organization of farmer-scientist interaction, field days/*kisan gosthis*, and support for local-level researchable issues emanated from the SREP. Table 1 provides details of extension activities performed at Una Block during 2012-13.

Table 1: Farmers involved in various activities at the district/block (2012-13)

Activity (target in numbers)	Male farmers who benefited	Female farmers who benefited
Demonstration program (330)	235	175
Training within district program (90)	2317	2180
Training within state program (2)	60	67
Exposure visit within district program (50)	543	761
Exposure visit within state program(4)	54	119
Exposure visit outside state program (2)	40	141
CIg program FIG program (50)	429	563
Farm School program (20)	293	267
Kisan Gosthi program (10)	1518	629
Farmer scientist interaction program (2)	16	35

Source: ATMA, Una

Participation of women: Women's participation is ensured through a regulation that a minimum 30% of the beneficiaries should be women in all activities. Una block was assigned approximately 20% of the target set for the district. However, the block undertook 71 demonstrations and 38 trainings within the district, a figure much higher than rest of the blocks. In Una district the percentage women's groups are much higher than men's.

Evidence of scale in use/impact/achievement/benefits to women

New Technologies Promoted: Innovative farming practices that are being tried through ATMA at the state level are the introduction of System of Rice Intensification (SRI) and System of Wheat Intensification (SWI), popularization of polyhouse technology for growing off-season vegetables, introduction of tubers like jimikand, turmeric, and ginger to combat monkey menace, popularization of vermicomposting and organic farming practices, introduction of low-cost cooling chambers, introduction of milky mushroom cultivation, especially with landless farmers, popularization of dairy-based farming system, and popularization of pearl cultivation wherever feasible. Details from the field discussions are presented in Box 3.

Box 3: Details from field discussions

Case 1: Sulochana Devi is a resident of the Jalgaran Tabba village in the Una block of Una district. She is a part of *Tabba Krishi Samuh*, a farmer interest group formed in December 2012 comprising of 20 women. All the women in the group are farmers belonging to OBC and the general caste. They have monthly group meetings and have registered their group with ATMA and opened a bank account. The group has set its own bylaws for inter-loaning and charging interest from the farmers. She received trainings on making detergent powder, production of value-added products from green gram called *badi*, setting up a polyhouse, and undertaking protective farming in the off-season. She also attended discussions on improved agricultural practices related to the cultivation of maize, wheat and vegetables using organic fertilizers, organized by ATMA. She has started adopting line-to-line sowing after learning about its benefits from these interactions.

Few of the trainings were organized within the village, so for many she went outside her village and district. She feels that exposure visits to nearby villages, Ghanari village in Bhanjal, HP for detergent-making training, and to Palanpur district for polyhouse training, made lasting impressions in her mind as she saw and learnt from the practical experiences of women and scientists, respectively. She also feels that proper planning and knowledge building have helped her in gaining confidence for trying out innovative farming practices and cultivating newer crops/vegetables.

Case 2: Sudeshi Rani is a resident of Upper Arniala village in Una block of Una district. She belongs to a SC community. There are eleven members in her family. Her family has 20 canals of land (1 acre=25 canal/*nali*) and they cultivate maize, wheat, and vegetables. While maize and wheat are mostly grown for self-consumption, she sells vegetables in the market. She participated in an OFT (on-farm trial) for off-season vegetables with ATMA in April 2013. Seeds were provided by ATMA for Rs 400 out of which Rs 200 was her share. Her plot was used by ATMA for demonstrations of farm management practices of off-season vegetables.

Since then, her entire family has become involved in the cultivation of off-season vegetables like lady's finger, pumpkin, cucumber, and gourd using conservation agriculture and mulching techniques. They have also started growing brinjal, chilies, onion, and garlic by using organic fertilizers. The family benefited from increased production of vegetables, especially from the additional cultivation of off-season vegetables. After observing her success, other farmers from her village have been coming to her family for information and knowledge on these innovative practices. Apart from new knowledge on agriculture, she has gained more confidence in trying out new things.

Case 3: Saroj Devi lives in Dangaheda village, Barnoli Panchayat in the Una block of Una district. She came into contact with ATMA in July 2012 through the formation of Gauri Shankar SHG, comprising of 17 members. She has 3-4 canal of land and has a kitchen garden where she grows vegetables for own consumption.

In October 2012 she participated in mushroom farm school in her village (before that she had never seen mushrooms). She received information on preparation of compost, sowing of seeds, and taking care of the crop for optimum mushroom farming. After undergoing this training, she purchased 350 bags of raw material. ATMA used her site for demonstration to other farmers and she received Rs 7500 as subsidy for this. She spent Rs 20-25,000 on the purchase of bags, spent her idle time in cultivating mushrooms, and finally sold the mushrooms in the nearby *Sabzi* (Vegetable) *Mandi* for Rs 40-45,000 (she received Rs 20-25 per 200 gms of mushroom packets).

She has been able to enhance her income through mushroom cultivation, surpassing profit from any other activity her family has undertaken in the past. Initially, she had to make do with a room within her house for the activity. Presently, she is constructing two rooms on her land specifically for mushroom cultivation with the intention to extend the cultivation on a bigger scale. Moreover, she

has to spend only two or three hours taking care of the mushrooms in the morning. She has also received training on value addition in mushrooms under the ATMA scheme. She has learnt to make mushroom soup and mushroom pickles. She is bubbling in enthusiasm and confidence to take up new activities and enhance her livelihood.

Case 4: Naresh Kumari is a 56-year-old woman living in Charatgarh village of Una block in Una district. She has an eight-member family and belongs to general caste. Her family owns 10-15 canal of land. She is a hard-working lady. She used to make *badi* (something like nuggets used in curries along with vegetables) and sells them after making packets for local consumption.

Her association with ATMA started in 2010 when ATMA staff approached her to work as a resource person. She also formed a CIG in her village called Krishi Samuh Charatgarh in 2010, comprising of 20 women farmers. She received trainings on bag stitching, making tomato sauce, jam, jelly, squash, etc. from oranges, and on ways of meeting quality standards. She is able to sell all the products from her home and earn additional income from this activity.

She is highly appreciative of the demand-driven training she received from ATMA. She has also been to SAMETI (State Agricultural Extension Management Training Institute), Mashobra. Though she has always been willing to try out new things, she often hesitated. After getting in touch with ATMA, however, she has been able to execute and plan her activities. She used to feel alone, but she now feels recognized and part of a big association. She is confident of the future.

Contributing factors for success

Implementation of farmer-oriented activities: Field activities such as training, exposure visits, demonstrations, study tours, exhibitions, and organization of commodity interest groups helped women in trying out new technologies and enterprises. Sometimes these approaches are used in isolation but more often these are used together. Due to all these activities, the effectiveness of extension has improved considerably.

Better linkages with KVK: KVK, Una has been involved in training farmer friends selected by ATMA. It has also been assisting ATMA in organizing Farm Schools, participating in farmer-scientist interactions, and conducting on-farm trials as part of technology assessment and refinement.

Support from NGOs. ATMA took the help of two local NGOs in Una district, namely SOM Foundation, and Una Grahak Suraksha Samiti for organizing farmer groups.

Farmer groups: Farmer groups formed through ATMA acted as a platform for interactive learning among farmers and also served as a platform for extension to anchor its programs at the village level. Bottom-up planning has become possible due to the formation of groups and FACs.

Increased participation of women: Relatively high literacy of women and an existing social system of women being the driving force behind all income generation activities facilitated reaching out to women farmers through extension activities in this district. According to the project staff, women are more attentive in trainings and more receptive to experiment with new knowledge; therefore, the rate of adoption has been higher with women.

Additional staff: New recruitments (ABTMs) at the block level helped ATMA in implementing its activities and to respond promptly to the demands of farmers.

A new platform for interaction: ATMA has created a common platform for interaction with farmers and other agencies. Training conducted by MANAGE and SAMETI has gone a long way in changing the mindsets of the change managers.

Limitations:

Poor infrastructure: Various ATMA staff, especially the BTMs and ABTMs, have no space to organize their activities and this has been impacting their functioning. Lack of access to computers and other ICT tools have been problematic. If staff had access to these tools, their outreach could improve tremendously.

Lack of capacity to deal with marketing issues: The impact of the program could have been much better if it had the capacity to deal with the problems related to market being faced by many farmers.

Target-based approach: The focus had been more on implementation of activities rather than systemic reforms viz. bottom-up planning, multi-agency extension strategy, and coverage of allied sectors and convergence.

The budgets are too thinly spread at the block level. There are a total of 62 panchayats in Una block. Each panchayat has approximately five villages. Very few villages can be covered at the ground level with the current budgets and staff. Hence, the number of farmers that can be reached through extension activities is limited.

Case Study 3: Reaching women farmers through social mobilization: Community Managed Sustainable Agriculture in Andhra Pradesh

Summary

This case discusses the promotion of non-pesticide/biological-based/organic agricultural technologies among far women in Andhra Pradesh, India. This initiative evolved from another poverty reduction program implemented by the state government that developed a strong network of women. Most of the poor women are involved in agriculture and increasing cost of inputs has been one of the major constraints faced by them. This program tried to address this constraint through promoting the use of locally available biological technologies that could lower the cost of cultivation. Locally recruited field-level works (mostly women) at different levels inform, encourage and support farmers in applying these technologies. Apart from this, local entrepreneurs (mostly women) were trained to prepare these inputs and provide services locally. The program uses ICTs to transmit knowledge and has developed a well-organized support and monitoring system. The program has been impacting the lives of large number of poor women through these interventions.

Background

The Community Managed Sustainable Agriculture (CMSA) is an initiative implemented under the Andhra Pradesh Rural Poverty Reduction Project (APRPRP) by the Society for Elimination of Rural Poverty (SERP). SERP is a society under the Andhra Pradesh State Government's Rural Development Department. At the core of the APRPRP approach is the formation of women's Self-Help Groups (SHG), federation of these SHGs in a village into a Village Organization (VO), and further federation of these VOs in a block (*mandal*) into a Mandal Mahila Samakya (MMS). At a district level, these MMS are federated into Zilla Samakya (ZS). This results in well-networked women from village level to district level. Several diverse initiatives are implemented by using this women's network as a base to benefit its members. As of April 2013, there are 11,634,763 women members in 1,054,647 SHGs organized into 39,584 Village Organizations (VOs) and 1,098 Mandal Mahila Samakhyas (MMS) in the program.

Agriculture is the main source of livelihood for the poor in most of the areas where APRPRP is implemented. Most of these rural households have very low endowments of physical and human capital. These areas have limited access to irrigation and face droughts more often. The CMSA was initiated by SERP through the realization that increasing costs of cultivation due to heavy dependence on external inputs is the main reason for increasing indebtedness of the poor. To address this problem, they pilot-tested an approach called Non-Pesticidal Management (NPM) in 2005-06 that was being successfully implemented by some NGOs in selected villages in the state.

Based on the initial success of the NPM approach and other successful ecological farming experiences and ideas available elsewhere ('polycrop models', organic soil management, soil and water conservation, *in-situ* water harvesting practices, etc.), SERP started promoting these technologies. By 2007-08, the initiative had spread to more than 280,000 hectares. At this stage, a state-level Project Management Unit (PMU) was set up to manage and move the initiative forward. As on April 2013, the CMSA initiative is being implemented in 11,000 villages of 653 mandals spread in 22 districts. Over 1.97 million farmers are practicing CMSA activities in 1.6 million hectares.

The Approach

At the core of this approach is NPM and other sustainable agricultural technology promotion among federations of women SHGs. To achieve this, certain systems are created, as explained in the following sections. It is essentially a combination of creating awareness, training, and developing local entrepreneurs that compliment sustainable scaling up/out of the initiative, ICTs, and a comprehensive M&E system.

Para extension workers:

Village Activist: At the village level, a Village Activist (VA) – typically from the same village (*gram panchayat*) – is recruited for popularizing NPM and other sustainable agricultural technologies. S/he is responsible for engaging with farmers in the village to share new knowledge and organize various events to communicate knowledge (such as Farmer Field School sessions, trainings, demonstrations, etc.). They are expected to work with Village Organizations (VOs) in planning and implementing activities to promote agricultural development. The VA is a member of an SHG in most cases. The village organization's sub-committee (1-2 members of VO) monitors activities of VA. The VA is expected to attend VO meetings on a monthly basis and share plans and progress with regards to CMSA.

Cluster Activist: At the cluster level (6-7 villages together), a cluster activist (CA) – typically from one of the villages of the cluster – is recruited. S/he is responsible for conducting trainings, FFS sessions, demonstrations, etc. with the support of the respective VA. These are often members of SHGs with some educational background and communication skills. They have the responsibility of monitoring and supporting VA. They use several means to popularize selected sustainable agricultural technologies.

Use of ICTs:

The program has provided CAs with video CDs on different technologies promoted in CMSA along with pamphlets and posters. They use these materials during trainings and meetings. In some cases they are also provided with pocket projectors for playing useful content during SHG meetings, trainings, etc.

The CAs are also given GPRS-enabled mobile phones by the program. They are expected to upload information and photos about activities on a daily basis with these phones. Functionaries at higher levels such as the District Project Manager (DPM) monitor this information. At block (*Mandal*) level, the MMS sub-committee on CMSA monitors the activities of CAs in that block. All the CAs in each mandal participates in MMS' monthly meetings to discuss progress and issues.



A typical training/interaction session conducted by CA and VA in Chintaparthi village.



Mr. K. Govarchan, CA from Thottambedu mandal, playing audio-visual content on CMSA by using the pico projector, while Mr, Vasanth Rao, VA from Dongalamuduru, watches.

Input shops

1-2 NPM shops are established at each cluster. These are places where agricultural biologicals² promoted under NPM are available for interested farmers to purchase. In most cases, these are owned and managed by local villagers. Generally owners of NPM shops are SHG members. Their responsibilities include preparation of various biological pesticides and fertilizers as per the prescribed format and selling these biologicals to interested farmers of their areas. Since most of the raw materials that are used to prepare these biologicals are locally available, they procure them at no cost or low cost. They keep some profit and sell the final preparations. They are also expected to promote usefulness of biologicals among fellow farmers. They often spray these biologicals in farmers' fields based on their request, for a fee (Box 4). There are 400 NPM shops in Chittoor district.

Custom Hiring Centers

The program has started to establish 1-2 Custom Hiring Centers (CHC) at each cluster. These are places where small agricultural equipment is made available to farmers from those areas. These centers are owned and managed by local villagers. For instance, Mrs. Chamundeshwari from Karakula village in Thottambedu mandal owns a CHC. She has taken out a loan from her VO and purchased small agricultural implements such as a drum seeder, and planters. She makes them available for fellow farmers on a hiring basis. There are 62 CHC In Chittoor district.

Continuous Capacity Development

There are Department Computer Centers (DCC) where data about APRPRP activities from respective areas get collected and maintained. At each DCC, CAs from those respective areas meet on a monthly basis (the third Saturday of each month). During these meetings, the 'Mana TV' – a satellite TV channel established by the Government of Andhra Pradesh in collaboration with Indian Space Research Organization (ISRO) – program is telecast. This program is an interactive session lasting 2-3 hours, in which experts from the state capital deliver lectures on pre-decided technical topics. All the CAs from the state sit in their

² Naturally-derived microbials, plant extracts, beneficial insects, and other organic material that complement or replace traditional fertilizers and chemicals, and help lessen the impact of agriculture on the environment (Cox 2013).

respective DCC and listen to these sessions. Audiences of these programs have the option to teleconference with experts to clarify doubts and discuss issues.

Regular Monitoring

The para-extension workers, the CAs, and VAs are regularly monitored by the women SHG federation representatives such as MMS sub-committee and VO subcommittee, respectively. Along with this, the District Project Manager (DPM) of CMSA, assisted by Assistant Project Manager (APM), monitor and support activities of CAs. On top of these, the daily mobile uploads by CAs of activities implemented by them are monitored at various levels, including the PMU in the state capital. A rating is given based on these mobile uploads and high-rated CAs are eligible for incentives.

Box 4. An entrepreneurial NPM shop owner supporting her livelihood while helping her villagers reduce costs of cultivation.

Mrs. Nagaveni from Gandaboinapalli in Vayalpadu mandal has been active in the APRPRP initiatives from the beginning. She belongs to the Scheduled Tribes (ST) community and her family does not own any land. She was a VO leader. When CMSA was initiated, she was very much interested. She volunteered to own a NPM shop in her village.



Mrs. Nagaveni in her NPM shop

With the support of CA from her village – Mrs. Sai Jyothi – she established her NPM shop in 2011. She took out a loan from the VO to purchase necessary equipment such as drums, a sprayer, etc. She has been very active in the area in promoting the use of biologicals in crop production. She told the researcher that sometimes she sprays necessary biologicals in farmers’ fields without charging anything. When they realize the benefit, they become her customers. She is a wage laborer. During her free time she looks for prospective customers, then goes to them and explains about NPM practices. A VA from her village, Mrs. Shivakumari, and CA help her out by promoting NPM practices and letting her know of prospective customers. She carries necessary biologicals by herself, uses her sprayer, and sprays in requested farmers’ fields. She charges Rs. 20 per can of her sprayer. She charges for various biologicals in per liter basis.

She is very happy that slowly but steadily her customers are growing. As her husband is bed-ridden with a serious backbone problem, she is the sole earner for the family. Her son is studying 6th class and he helps in maintaining records of customers. Both CA and VA were very happy with her interest and entrepreneurial skills. Mrs Nagaveni has plans of shifting her NPM shop to a “pakka” building when she receives her house, which is currently under construction, being provided by the state Government. Thus she plans to avoid constant fights with her neighbors about the strong foul smell emerging from biologicals kept in her shop.

The District Project Manager (DPM) in-charge of CMSA along with Assistant Project Managers (APM) shares details of program implementation with Zilla Samakya during monthly meetings.

The State Project Management Unit (SPMU) of CMSA, which operates at the state level, consists of various technical experts and M&E specialists. They manage the program implementation, monitor the activities,

and provide feedback. They hold regular videoconferences with DPMs and face-to-face meetings on a monthly basis. A designated representative of PMU for a district visits project locations in that district on a monthly basis to monitor implementation of activities.



Demonstration of a multi-storied cropping model in Vayalpadu village

Evidence of scale in use/impact/achievement/benefits to women

In Chittoor district – which was selected for a detailed study – a total of 124,407 women from SHGs, spread in 744 Gram Panchayats (villages) of 29 mandals (blocks) are covered by the CMSA initiative. These are supported by 744 VAs and 148 CAs. There are 400 NPM shops that make biologicals available for farmers. In about 62 Custom Hiring Centers, small agricultural equipment is made available for farmers on a hiring basis.

Since the CMSA initiative consists of women SHG members, there is increased awareness, knowledge, and skills about the promoted technologies. The approach has enhanced the knowledge of members about ecological agricultural aspects, especially about non-pesticidal management of crops. The VAs, CAs, and NPM shop owners have developed their knowledge and skills in preparation and use of biologicals during different stages of crop growth. However, in most cases male farmers make the decision on whether to use these technologies in their crops, as evidenced during discussions with various people during the case study. Women who receive this knowledge during SHG meetings try to convince male members in their families to use them. However they depend on VA, CA, and NPM shop owners to reinforce these ideas among their men. Some men came forward to try these technologies, while a few others tested them in some parts of their fields. Some others tried a few of the technologies promoted. However, in all the discussions we had, women were of the opinion that this approach of providing new knowledge first to women is more useful. They all felt that it is important to share this knowledge with men as well, as they are the decision-makers when it comes to agriculture.

Reduced cost of cultivation due to avoiding of chemical pesticides seems to have brought significant economic benefits to practicing farmers. Along with this, improved quality of vegetables due to the use of biologicals instead of chemicals seems to help farmers in marketing their produce (Box 5).

Box 5. NPM vegetables are preferred by customers

Mr. N. Subramanyam Reddy from Ramachandrapuram village near Tirupati has been producing vegetables in his two-acre mango garden as intercrop for more than 30 years. He also sells these in Tirupati market to customers. When the 'rythu bazar' (a facility provided by Andhra Pradesh state government in all major towns for farmers to directly sell their produce to customers) was created, he was one of the first farmers to set up shop in that facility. He was doing his business the normal way until his wife, Mrs. N. Neelamma, was introduced to NPM practices during her SHG meetings. Mr. Gajendra, a CA from her village convinced her about the benefits of NPM. With these inputs she convinced her husband to practice NPM in their vegetable garden.



Mr. N. Subramanyam Reddy and Mrs. N. Neelamma were happy to share that their NPM vegetables get sold quickly and at a premium in comparison to other vegetable vendors in Tirupati rythu bazar.

Initially not very optimistic, Mr. Reddy wanted to try it in 2010 to avoid high costs of pesticides. Since then, he has been using NPM ways to produce vegetables. Along with reducing cost of cultivation, he is able to attract regular customers who prefer his produce to others due to good quality. They are also willing to pay Rs. 1-2 per kg more than the market price for that better quality. When the researcher met this couple in the 'rythu bazar' at 9:00 AM, they had already sold all their produce and were going home. When they were asked about increasing the area under vegetables, as there is so much demand for their produce, they expressed that it is not possible for them. Unavailability of labor is the major reason for this. Both their sons are employed as engineers in Chennai (a metropolitan city about 150 km from their area) and this couple do not have additional hands at home for agriculture. In the end they mentioned that they are earning a decent amount from their current level of production and they are happy with what they have.

Encouraged by this, currently they have plans of branding and selling NPM vegetables for a premium. Some Young Professionals (management graduates from reputed institutions recruited for a specific period) are helping them to develop these plans (Box 6).

Box 6. A roadside vegetable vendor plans to open NPM vegetable shop.

Mrs. Narsamma has been with the APRPRP project since its initiation. She is currently the Madanapalli Mandal Samakya (MMS) member and also in-charge of CMSA initiative. Other than that, she is a roadside vegetable vendor in Madanapalli. She purchases vegetables from her village and sells them by going in the streets. After selling NPM vegetables grown by farmers in her village, her vegetables get preference from customers. She purchased a basket of vegetables at about Rs. 120. She sells them for about Rs. 330. Thus, she makes a net profit of Rs. 200 per day.



Motivated by this, she has plans to open a NPM vegetable shop near bus-stand in Madanapalli. She discussed her idea with CMSA staff and they requested the Mr. Sundeep Singh, the Young Professional who joined CMSA in Chittoor district for a period of 18 months, to help her in making a business plan. She has plans to take out a loan from her VO and start her business.

Mrs. Narsamma, the MMS sub-committee member, who is also a vegetable vendor, plans to open a NPM vegetable shop in Madanapalli with the support of CMSA staff.

Contributing factors for success:

Social mobilization: The key strength of this approach seems to be the way women are organized into SHGs and federated at higher levels. This has been useful in planning and implementing CMSA.

Para-extension workers accountable to the community: The paraworkers (CAs and VAs) who are accountable to the community organizes regular meetings with the community to communicate new technologies. The approach is decentralized and community-based. In Chittoor district, there are 744 VAs working in equal number of villages, supported by 148 CAs. Community members from respective areas are aware of these workers and recognize them for their specific expertise. Knowledge provided to these CAs and VAs through different means reaches effectively to the community members.

Beyond knowledge and advisory support: An important feature of this approach is that along with technical knowledge, necessary inputs are made available locally through NPM shops and CHC. SHG federation organizes necessary finances (loans) to support this activity. Apart from this, there are plans to connect NPM farmers to markets. All these supporting factors create a favorable environment to apply new knowledge received by the members.

Continuous capacity development: The paraworkers are continuously updated with knowledge through regular interactions with technical experts. This helps the paraworkers discuss all technical issues from the field and obtain solutions that they can share with the members in their respective locations.

Long term effort: This program builds on well-functioning groups that have continued to receive handholding and professional support over the past several years. Moreover, this program is well resourced both in human and financial capital- this also contributes significantly to its sustainability and success.



Mrs. Rangamma in Dongalamuduru village in Thottambedu mandal says that although she was convinced about NPM ways after watching a show in her SHG through a Pocket Projector, her grandson bought pesticides and sprayed. She said that it would be useful to show these to such men in families.

Limitations of the approach:

The CMSA appears to focus on only few simple technologies. Because of this, the paraworkers with no formal training on agricultural production are able to deliver relevant technologies to farmers.

This program does not seem to address the wider information and knowledge support needed on agriculture. The technologies promoted in CMSA seem to be mostly supply-driven. Experts in the program decided about the usefulness of them for farmers; thus, they are being promoted through various means. It appears that communities are mostly receivers of this state level program with practically no opportunities for demanding other types of extension support.

This resource intensive approach is dependent on continued state support. This program is not sufficiently linked to other schemes/programs offered by other departments such as Agriculture or Animal Husbandry. Though linking these groups to other programs might add more value, this does not have sufficient attention.

Case study 4: Community-Based Para-Extension Workers to reach rural women in Bihar: A case from Jeevika

Summary

This case is about the agricultural component of a large-scale rural development program implemented in the Indian state of Bihar- the Bihar Rural Livelihoods Program, better known as “Jeevika”. The program is meant to improve the livelihoods of the poorest of the poor, and in Bihar the poor are mostly involved in agriculture as sharecroppers, leaseholder farmers, and agricultural laourers. The key approach to agricultural development in Jeevika rests on creating, supporting, and strengthening the capacities of a new cadre of knowledge workers called “village resource persons”. Through these VRPs, necessary agricultural knowledge is provided to women farmers. VRPs who are mostly women belonging to the same village are accountable to the village organization; the program develops their capacities to play this role through organizing a number of training programs. Jeevika through the VRPs have successfully introduced a number of technological interventions in agriculture that have benefitted farmers.

Background

Bihar is home to sharecroppers, leaseholder farmers, and agricultural laborers who mostly belong to the lower strata of society, those living on the fringes of society who are extremely poor. They have annual lease or crop-sharing agreements with the landlords, of which the lands are mostly fragmented. Farming is mostly rain fed in this case, as the poor farmers have little means of irrigation at their disposal. The landlords seldom invest in irrigation facilities and the poor farmers find it uneconomical to invest in irrigation facilities for fragmented land and short-term lease arrangements. Paddy and wheat are the main crops cultivated in Bihar. There is a huge gap between the potential yield and what farmers actually realize. Limited access to information and knowledge pertaining to agricultural operations also contribute significantly to the low productivity. These marginal farmers who form the majority of the poor population are the members of the self-help groups formed under the Jeevika program (Box 7).

Box 7: Jeevika

The Bihar Rural Livelihoods initiative known as 'Jeevika' is a joint initiative between the Government of Bihar and the World Bank, implemented by the Bihar Rural Livelihoods Promotion Society (BRLPS). The society was registered in 2006 and the project started in 2007. It started as a pilot in the nine districts Gaya, Nalanda, Muzzafarpur, Madhubani, Khagaria, Purnea, Supaul, Madhepura and Saharsa, and it was approved for scaling up in the whole state under the National Rural Livelihood Mission with a target of reaching 12.5 million poor households.

The Jeevika program is based on a core strategy to build vibrant women's community institutions in the form of Self Help Groups (SHGs). These SHGs are expected to become self-sustaining organizations through member savings, internal loaning, and regular repayment. At the primary level, these SHGs are federated at the village level by forming village organizations (VOs). At the next level, these VOs are federated at a cluster level. The project adopts a systematic pro-poor-targeting model and saturation approach. The majority of SHGs have been created from the women belonging to the socially excluded and the poorest of the poor, SC/ST households in Bihar.

Approach to Agricultural Development

Village resource persons: The key approach to agricultural development in Jeevika rests on creating, supporting, and strengthening the capacities of a new cadre of knowledge workers called "village resource persons" (VRPs). Through these VRPs, necessary agricultural knowledge is provided to women farmers (Box 8).

Capacity development of VRP: The capacities of VRPs are built for extending services on the technical aspects of agricultural operations through continuous trainings and exposure visits from time to time. The VRPs receive both residential (eight days in a year) as well as non-residential training (10-12 days in a year). The VRPs are trained in effective micro-planning, record-keeping and documentation, and on the package of comprehensive agricultural practices based on the seasonal calendar. For example, in paddy they would learn seed treatment, land preparation, vermicomposting, crop management, yield estimation, and field-testing. Often the trainings are conducted informally as a continuous process at the fortnightly meetings. All these helped in creating a pool of locally accessible resources for the resource poor farmers. Approximately, 40% of the VRPs are women. There is an increased emphasis on the selection of more and more women as VRPs to enable extension activities at the village and community level.

Box 8: Village Resource Person (VRP)

The Village Resource Person (VRP) is a local farmer identified by the Village Organization (VO). S/he is responsible for developing integrated livelihood plans for the SHG members and handholding with 50 – 80 SHG members under his/her command in the entire crop cycle. Cadres of VRP were trained during the pilot phase of 'Jeevika' using the technical expertise of an NGO, PRADAN (Professional Assistance for Development Action).

Jeevika hired livelihood specialists at the block level in the BPIU (Block program implementation Unit) and livelihood managers at the DPMU (District Program Management Unit) to support the VRPs. Modules were prepared and streamlined to train VRPs, and local experts from ATMA and KVK (Krishi Vigyan Kendra) were included for developing a package of best practices. Flipcharts and booklets were made and distributed at the village level for recollection and reiterations. PRADAN has long since withdrawn their presence as Jeevika has created in-house trainers and resource persons to conduct capacity building trainings of the VRPs.

Female candidates are given preference over the male candidates when evaluating the candidate for selection. Other criterion for the selection of VRP are that they should belong to the SHG households, they should be a farmer, literate, capable of carrying on field assessments, and be active and able to have a working knowledge on maintaining the VRP registers. After interviewing 3-4 candidates, the VRP is selected. The VRP acts as a link between the VO and the SHG members and the members and Block Program Implementation Unit (BPIU).

The “area coordinators” and the “livelihood specialists” at the block level also assess the activities of the VRP every fortnight. Meetings are conducted at the cluster level for all the VRPs of that particular cluster. The VRPs are assessed based on the performance of the farmers they are supporting. Kisan days are organized crop-wise at the village level across the state. The livelihood committee for agriculture, the VO, and the VRP from a village within that cluster are involved in the assessment of best practices.

Role of VRPs: The core job of the VRP is farmers’ training and preparation of integrated livelihood plans (ILP) with the SHG members. The VRPs are given flip charts on crops for reference. Along with that they are responsible for carrying out demonstrations on farmer fields. Since 2012, the program has collaborated with Digital Green for creating videos of the best practices and training the VRPs in broadcasting and disseminating these videos, handling the equipment, etc. VRPs are responsible for providing continuous handholding support to women farmers under their jurisdiction. They systematically record data during the crop cycles. This data is maintained in VRP registers. Later on, this data is used to arrive at scientific conclusions, consolidation, transparency, and decision-making at both the local and program levels.

Accountability to the community: VRP is a staff of VO and reports to VO. The compensation of VRPs is currently being done under the project by the BRLPS. However, BRLPS transfers the fund to the VO and the VO makes the payment. If the VO, farmers, or SHG members are dissatisfied, then the payment gets delayed or the VRP is retrenched. There is a 10% attrition rate of VRPs every year. The community is quite active in replacing the dormant VRPs. The long-term plan is for the VO to be self-sufficient and pay for the services of the VRP.

Under the NRLM guidelines, a more community-driven approach is currently being tested for phasing out. For every 20 VRPs, a skilled extension worker would be selected at the cluster level out of the present VRPs to gradually replace the functioning of the livelihood specialist at the BPIU. Gradually, the training costs would be borne by the VO as well.

Evidence of scale in use/impact/achievement/benefits to women

So far, approximately eight lakh women have been mobilized through more than 60,000 SHGs and 4,000 VOs under the Jeevika program in Bihar.

Experiences from Muzaffarpur

Muzaffarpur district in Bihar was chosen for a detailed understanding of the process involved. It is one of the districts in which work was undertaken in the pilot stage. Under the State Rural Livelihood Mission (SRLM), the project has expanded to all the 16 blocks from the initial 7 blocks. As on July 15, 2013, there were 817 VOs and approximately 13,000 SHGs in this district under this program. The target is to have a minimum of VRPs equivalent to the number of VOs in the district and the state for a smooth functioning.

Promotion of SRI and SWI: 4,186 women farmers undertook SRI (Systems of Rice Intensification) in their fields in 2013 and 4,200 farmers tried the technique in wheat (Systems of Wheat Intensification, SWI). Similar practices have been tried in vegetables, too (Box 9).

Box 9: SRI in Jeevika

System of Rice Intensification (SRI) experiment was started in Nalanda and Gaya districts of Bihar initially in 2007 by the BRLPS with a handful of women farmers to improve their livelihoods. These districts have been following the rice-wheat system of cropping, making them ideal for the technical intervention of SRI and SWI. The land size is limited, so the project staff first worked on increasing land productivity. SRI was an experiment conducted by the BRLPS that utilizes the technical expertise of PRADAN, an NGO working at the grassroots. It was the first of this kind of experiment in Bihar. Prior to this, the farmers were neither engaging in line-to-line nor row-to-row sowing, but they were also broadcasting seeds and planting saplings close to each other. Not only did they learn to do all of this successfully, but also work on the seed treatment, root intensification, and regular weeding then mulching the weeds to generate green manure. Therefore, the system of adaptations has been developed. SRI is the story of shift from subsistence-based agriculture with high input costs, low production, and migration in the farming HH to a production surplus situation where these HH sell the excess produce and enhance their income.

There have been tremendous increases in crop yield using these techniques. Moreover, the poor have benefited from the decrease in input costs. These interventions have been possible due to the presence of VRPs at the village level. SRI would not have been possible but for the presence of the VRPs to enable learning, sharing, and handholding at the local level.

Participatory Varietal Selection Program (PVSP): In paddy and wheat, PVSP has been tested among the marginal farmers with the help of VRPs. Farmers are motivated by the VRPs to undertake small-scale trials on 10% of their land for testing the seeds provided by the SAU. The women farmers rank the criterion for seeds based on indicators such as shorter duration varieties, less irrigation and fertilizer requirement and maximum yield. VRPs maintain registers marking the progress of each variety tested in farmer fields as well. The purpose of PVSP is to understand the farmer preferences for suitable crop varieties and allow them to test, identify, and adopt the suitable varieties from a “basket of choices” provided to them.

The following four cases illustrate the improvements the VRPs could make in the life of people in the district.

Case 1: A case of progressing from agricultural laborers to farmers: Shobha Devi is a resident of Sabha village in Sakara Block of Muzaffarpur district of Bihar. She belongs to a backward caste. She has a six-member family including four daughters and her husband. She has 2.5 katha (1 acre=22 katha) of her own land. She became a member of Suraj Samuh in 2010. Her husband used to work as a wage laborer on other farmers’ land. Her family started rice farming only after becoming the member of the SHG because she could get financial assistance from the VO and technical assistance from the VRP. Her

family leased an additional one katha of land and on one katha of her land she tried SWI in wheat in 2012, SRI in paddy in 2012, and SCI in potato and maize. She found that the input costs were lower and production went up (90 kg per katha under SWI whereas under the traditional broadcasting method she could get only 85 kg from 2.5 katha). She has been able to try out the new techniques and use the knowledge as the VRP kept on providing the information within the village and helped her whenever any kind of problem-solving was needed. She has been able to supplement her income and achieve food security as well.

Case 2: From food-grain insecure towards more food-grain security: Dimple Singh is a Rajput woman belonging to Sabha village from Sakara block, Muzzafarpur. She is a member of Chanda SHG formed in 2010. She has 2 katha own land and has started leasing 5 katha of land since becoming a member of the group. She tried SRI in paddy in 2011 on 1.5 katha of land and on 0.5 katha for vegetables. In 2012 she tried SRI in paddy in 3 katha, in wheat in 1.5 katha, in Moong in 0.5 katha, potato in 2 katha and the rest for maize. This year she has gone for SRI in paddy on 2 katha of land with traditional farming practices on 5 katha of land in paddy. She has started growing paddy only since the advent of Jeevika program in the village. She has a ten-member family. Her family runs a petty shop in the village and the male members mostly go for wage labor work to meet the needs of the family.

Prior to using new knowledge and acquiring new practices, her family could produce only 70 kg wheat in 2 katha, whereas production has gone up to 150 kg post SWI. She feels that even the grain is better when produced using SWI techniques. However, she thinks that SRI for paddy is more laborious though the input cost is less (less water, less fertilizer, less seeds). She has been able to try out new practices and she keeps on experimenting with newer crops only because she received assistance and handholding from the VRP. She has benefited in terms of increased income, information, and improvement of soil health. Before using these techniques, her family was food grain sufficient for only three months, but now she has to purchase food grains for only three months out of the year.

Case 3: A progressive smallholder farmer: Parmila Devi from village Faridpur, block Sakara, district Muzzafarpur is a member of Om SHG. She is one the thirteen members of the group formed in the beginning of 2012. She is a Kushwaha (BC) by caste and has a four-member family. She has 2 katha of her own land and her family takes 4-5 katha on a sharecropping arrangement (the final produce is divided 50:50 with the land owner in this arrangement). In 2012-13 she cultivated rice and wheat following the SRI and SWI approaches, respectively. She grows maize, potato, and vegetables (like cauliflower); some of these she cultivated using the SCI methods of cultivation. There was a marked difference in productivity of her crops while following these new techniques. However, the systems of SRI/SCI are labor-intensive, hence they do not undertake these practices on the entire land.

She makes vermicompost herself after being trained by the VRP on the same. Her fertilizer costs have reduced to half the original costs. She used to purchase fertilizers for Rs. 12,000 every year, whereas now she spends only Rs. 6,000 for fertilizers. She sells the vermicompost and generates some income from that.

The presence of VRP has helped her in many ways. Initially, the VRP convinced her to try out newer methods of cultivation, and also preparation of compost. The timely information provided by the VRP during different stages of the crop cycle has been very useful for her. She has come a long way in one and half years. However, she feels that for smallholders like her, only limited improvements are possible in agriculture and alternative ways of income-generation would have to be pursued to make any significant improvement in their livelihoods.

Case 4: Making the best out of local support: Anuradha Singh is the resident of village Faridpur, Sakara block in Muzaffarpur district. She is a member of the Abhimanyu SHG formed in 2010. She is a BC by caste and has a six-member family. Her family owns 5 katha land. Prior to getting engaged in the Jeevika program they were subsistence farmers. Her husband had to go for labor work to supplement family income. At present, they have supplemented their income from many sources, wage labor being only the last resort.

She started cultivating paddy using the SRI technique in 2011 on 4 katha of land and experienced a 25-30% increase in productivity (before SRI, production was 330kg for 4 katha; after SRI, production increased to 415 kg). In 2012-13, she cultivated wheat with the SWI method and received an award for best practices (her production went up to 1qtl/katha from 70-80 kg per katha). She received a solar lantern and a certificate for her efforts. She also started growing vegetables using new techniques and preparing cauliflower seeds (she produced 5 kg seed this season and could generate Rs 1,200/kg for cauliflower seeds). Her father-in-law used to prepare seed nurseries, however, now she is preparing seeds in a systematic manner and she is able to generate more profit out of it. Vegetable production has gone up by 50%. Her fertilizer cost has been cut in half.

She attributes these benefits to the knowledge and handholding support she received from the VRP. She feels that the soil health has improved and productivity has gone up, even though the land size remained the same. The input costs have also reduced, benefiting them in every way. The quality of grains and vegetables has also improved.

Women can access knowledge and information directly from the VRP within their village. Hence, the presence of VRPs has increased the outreach of the rural marginal woman farmer. She has started making informed decisions related to farming, whereas before her role was limited to labor work on her farmland. With the advent of the Jeevika project, she is often the source of new information for her family members. Due to new and scientific agricultural practices, the productivity of crops has increased, thereby enhancing the food security and incomes of the HHs associated with the project. This has brought confidence to the women farmers, emboldened their voice within their household, and empowered them amidst poverty and hardships.

Contributing factors for success

- *Trust:* The VRPs are farmers themselves, belonging to the same village, and they too try the technologies they are disseminating in their own fields. This has helped in improving new technologies adoption as propagated by the VRPs.
- *Demand-driven:* Jeevika approach is to a large extent demand-driven, as the planning is based on integrated livelihood plans (ILPs) compiled at the block level. The block level plans are then consolidated at the district level and approved at the state level. Hence, it is not a top-down approach, but rather a demand-driven program that takes care of farmers' needs. The flexibility of functioning and the community-driven approach can be attributed to the success.
- *More women VRPs:* Women VRPs have been more successful in impacting the women farmers. They can easily access the female SHG members' households and take them to different fields compared to male VRPs. Male VRPs have to first talk to the males in the SHG members' family, convince them and then convince the women. With female VRPs it is the other way around. They only have to convince the women, who in turn convince their family members. Women VRPs initially had difficulty in attending residential trainings due to social pressures. This could be overcome over a period of time

once the communities were convinced of the authenticity of the program and the prestige in being associated in the capacity of the VRP with the program. At present, they feel empowered and confident due to the nature of their work and capacity building.

- *Accountability to the VO:* The VRP is accountable primarily to the Village Organization. If VRP is not performing up to the expectations, the VO could replace him/her. This accountability to the VO ensures provision of better services by the VRP.

Limitations:

- Convincing farmers to try practices radically different from the traditional agricultural practices is time-consuming and is often a thankless task. The quality and motivation of VRP affects the functioning of program.
- VRP is essentially a local person/woman. Often people do not take a familiar face seriously and women even less. Hence, they initially might find it difficult to create value of the advice handed out by them.
- Timely planning is a challenging task. Due to the seasonality of agricultural operations, success of technological interventions depends to a large extent on timely release of funds and procurement of inputs by the VOs. Often the technological interventions have to go hand-in-hand with integrated interventions. For example, water for irrigation is an issue for smallholder farmers. If there is inadequate water for irrigation, then even the best technological recommendations do not work.
- Currently, the program staff people, especially at the block and district levels, provide technical backstopping and problem-solving advice for VRPs. However, this could be a limitation if this program staff is phased out in the coming years.

Case Study 5: Producers' Organization for Reaching Rural Women: The case of Intivelugu Mahila Dairy Producers Company Limited, Nizamabad

Summary

This case presents how the first women's producer company evolved in India and how it facilitated access to new information and knowledge and helped rural women in improving dairy farming. The company emerged from the robust foundations of the social mobilization undertaken by an NGO over several years. This also ensured adequate financial resources for company operations during the initial stages. By using a combination of staff recruited by the company and livestock service providers of the area, required livestock management knowledge and services were provided to its members. The case reveals clearly the need for long-term efforts of social organization and capacity building to establish producer companies of small farmers. However, private companies with better resources, management, and marketing capacities are posing serious challenges. More efforts are required to develop these new capacities.

Background

The Ditchpalli Mandal in Nizamabad district is located in the Northern part of Andhra Pradesh. It is an underdeveloped area where (locally made cigarette) rolling is the major livelihood activity for rural women. This area is not considered suitable for dairy production, thus the Indian national government's major initiative of 'Operation Flood', which revolutionized the dairy industry in the country, was not implemented in this region. Villagers do maintain local breeds of buffaloes, but they manage them in a subsistence mode. Most of the milk produced is consumed at home and the surplus is sold to local buyers

such as hotels, sweet shops, etc. This area did not have a milk processing factory or organized milk collection system. As these farmers sell only small quantities of milk and largely sell as individuals, they were exploited by the local buyers. Milk purchase price used to be fixed arbitrarily, always against the interests of dairy farmers. During the flush season (when milk production goes up several times due to favorable climatic conditions), milk purchase prices go down significantly and in many cases milk producers have to give milk freely. A local NGO, Gram Abhyudaya Mandali (GRAM) decided to address these problems by establishing a milk collection system and promoting dairy as an alternative livelihood source for the local community.

GRAM (Box 10) has been working in this area since the 1980s. Over a period of two decades they had successfully promoted a federation of 20 mutually aided cooperatives of women – Indur Intivelugu MACS Federation (IIMF). This organization has over 55,000 women from over 500 villages. GRAM discussed with the IIMF functionaries the idea of bulking milk by collecting from farmers and selling it to a dairy. The key functionaries of IIMF very much appreciated this idea and they initiated activities to realize this. They appointed a sub-committee – Dairy Working Group (DWG) – to plan and implement relevant activities. They made several visits to successful dairies in the region and understood the requirements for promoting this activity. They approached several financial institutions for a start-up capital to establish Bulk Milk Coolers (BMC). These coolers would help in storing collected milk before sending to processing units.

Box 10 GRAM:

Gram Abhyudaya Mandali (GRAM) is a local NGO working towards rural community betterment in Nizamabad since the 1980s. Its key approach was to organize poor villagers into 'sanghas' (groups). In the beginning, they promoted both men groups and women groups. After realizing that women groups were more sustainable, they focused more on women in the later years. Eventually, when SHG movement became popular in the area, they divided their women sanghas into SHGs and initiated thrift and credit activity. After stabilizing activities in these SHGs, they federated SHGs of few villages together into a cooperative society and registered them under the Mutually Aided Cooperative Societies (MACS) act. Altogether they promoted 19 women MACS and one MACS for physically disabled persons. They federated all these MACS together into Indur Intivelugu MACS Federation (IIMF). The IIMF became independent in 2006 and started implementing various initiatives for the benefit of its members. The IIMF directors decided to pursue dairy development in the area as an alternative livelihood source for its members. This idea in the later years resulted in formation of the Intivelugu Mahila Dairy Producers Company (IMD).

In 2005 one of the IIMF MACS provided 35 lakhs as loan for establishing capacity for five kiloliters per day BMC to service a cluster of 25 villages. They initiated this as a sub-project under IIMF. Based on its success, a social venture capital firm – Manaveeya – provided a loan to establish nine more BMCs in 2009. With these ten BMC, the established milk collection capacity went up to 58 kiloliters per day. In December 2010, this establishment was registered as the Intivelugu Mahila Dairy Producers Company Limited (IMD). IMD has a total membership of over 25,000 women from over 250 villages. The board consists of women members from these villages.

The Approach

IIMF pursued a value chain approach to support women engaged in dairy farming by organizing them into groups and federating these groups at a higher level, and developing a producer company with these women as stakeholders. While technical capacity for milk production was enhanced through training producers, professionals were recruited to manage the enterprise/company.

The primary and most important activity of the company was to increase milk production in the area. This was possible only through promoting better livestock management practices by its members. The livestock owners of the region had less motivation due to the exploitative behavior of the local milk buyers. Because of this, their livestock management was mostly in subsistence mode. In order to change this situation, the IMD recruited staff to motivate farmers, provide them with better livestock management knowledge, and consider livestock as an alternative livelihood source. They recruited a Cluster Development Officer (CDO) to service a cluster of 10-15 villages. These were made responsible for visiting their respective villages and motivating farmers. Trainings on key livestock management practices were organized for CDOs. They were expected to transfer these new knowledge and skills to farmers.

Essentially, the producer company has every member's participation in its functions and decisions. The board of directors, who are members of the same community, is responsible for managing the company. Since progress in the company will ultimately benefit its members, they continuously devise ways of motivating farmers to adopt better livestock management practices.

A Procurement Manager (PM) was recruited to monitor and support the CDOs under the jurisdiction of a particular BMC. This person is typically a graduate with livestock management or dairy management experience. They are given targets to motivate the CDOs to increase milk procurement for their respective BMCs. The PM is assisted by an operator. The operator is responsible for receiving the milk at the BMC, checking the quality, chilling and pasteurizing the milk, and sending the milk to processing factories. For addressing technical problems in the BMC or milk collection centers, 1-2 technicians are also recruited at BMCs. The services of these technicians are shared by different BMCs. There is a team at headquarter's that monitors the activities of all these staff.



Mr. Rajeswar, the CEO of IMD, explaining their approach in reaching women livestock farmers.



Mr. Ravikumar, the Operator at Suddapalli, explaining the way they ensure quality in the milk collection, while Mr. Gangaraju, the Procurement Manager, listens.

A Chief Executive Officer (CEO) and his office staff are responsible for overseeing the functioning of all the staff. The CEO participates in the monthly meetings of the Board of Directors. He reports to the board on activities of the company and follows up on the decisions taken in these meetings. At the headquarters are two women veterinary service providers who are diploma holders in veterinary education. They are responsible for visiting villages, meeting with women groups, and creating awareness about better livestock management practices. They are also expected to troubleshoot when necessary. Along with these women, the company uses livestock para-workers located within villages for disease management and artificial insemination services. The CDO facilitates the farmers groups in accessing services of the livestock para-workers.

Evidence of scale/impact/sustainability/benefit for women

The producer company has about 25,000 members, representing about 250 villages. All these members receive regular and equal support from the company. Though the company can potentially increase the member base (based on demand), it is currently focusing on providing better services to the existing members.

The company believes strongly that its success depends on the satisfaction of its members and therefore the company will provide continued support to farmers. Similarly, the members will work for the best interests of the company.

Due to the interventions of the company in the area, milk production has increased significantly. Considering this opportunity, many private milk companies started their operations in that area. They are offering better prices and services to woo the milk producers. To beat this competition, the IMD management and its staff are continuously looking for new ideas and ways to reach its members with better support. This situation is ensuring better services and high-level impact.

Women are the shareholders in the company and the company is headed by the board of directors consisting of only women. Their objective and activities are focused on helping their women members. Hence, the entire initiative is meant to achieve better conditions for women.

Contributing factors for the success:

The success of IMD approach in reaching rural women appears to be contributed by the following factors:

- *Long-term capacity development support:* The NGO GRAM, which supported the establishment and management of the producer company, has been working in the region with these communities for more than two decades. Apart from organizing producers into groups and federating them, they had introduced several livelihood promotion activities. During these years, they organized several awareness and training programs and enhanced capacities of farmers in various fields. This has been instrumental in the successful initiation of the producer company. GRAM still continues to play an advisory role in the company.
- *Community/women ownership:* The women beneficiaries own the company and so they have direct stakes in the success of the company. Due to this, all the activities are planned and implemented with focus on community betterment. Members also accept and adopt all information and knowledge transferred through trainings and awareness-building programs. All plans are developed and implemented by the professionals of the company in consultation with the board of directors, all of whom are community members.
- *Wider support to producers:* The company and its affiliated agencies such as IIMF ensure multi-faceted support to the communities. For instance, when the members wanted to introduce new breeds and new animals to replace their local breeds and old animals, they were provided with necessary financial assistance through easy loans. The company also assisted the members in identifying better breeds suitable for their location and in procuring them.

Limitations of the approach:

- *The competition from bigger companies:* The efforts of the producers' company helped increase milk production in the area, creating an opportunity for other private companies to procure milk at a higher price from this region without investing any resources in strengthening the supply. Many bigger private companies (such as Reliance, Jyothi, Tirumala, etc.) started their operations in that area during the last few years. They could offer better prices due to their advantage of being resourceful,

diversified, and efficient. This is of major concern for the producer company, as reductions in milk procurement could damage the company and this whole initiative.

- Creation of a producers' company is a long-term intervention, which can be achieved only after spending significant resources in building capacities of communities in enhancing the social capital, and technical and managerial skills.

REFERENCES

PEER REVIEWED LITERATURE

- Ali, J. and S. Kumar. "Information and communication technologies (ICTs) and farmers' decision-making across the agricultural supply chain". *International Journal of Information Management* 31 (2011), 149–159.
- Balasubramanian, K. and P. Thamizoli. "Social Differentiation in the Horizontal Transfer of Knowledge: A Case Study from South India". *Journal of Agricultural Education and Extension* 9 (2003), no. 2, 51-60.
- Chen, M. "A Sectoral Approach to Promoting Women's Work: Lessons from India". *World Development* 17 (1989), no. 7, 1007-1016.
- Doorenbos, J., B. Haverkort and J. Jiggins. "Women and the rationalisation of smallholder agriculture". *Agricultural Administration and Extension* 28 (1988): 101-112.
- Huq, A. and A. Moyeen. "Gender integration in enterprise development programs", *Women's Studies International Forum* 34 (2011), 320–328.
- Jafry, T. "Global trade and climate change challenges: A brief overview of impacts on food security and gender issues". *International Journal of Climate Change Strategies and Management* 4 (2012), no. 2, 442-451.
- Lahiri-Dutt, K and G. Samanta. "State initiatives for the empowerment of women of rural communities: experiences from eastern India". *Oxford University Press and Community Development Journal* (2002).
- Malhan, I.V. and S. Rao. "Impact of Globalization and Emerging Information Communication Technologies on Agricultural Knowledge Transfer to Small Farmers in India". *World Library and Information Congress: 73rd IFLA General Conference and Council, 19-23 August 2007, Durban, South Africa*.
- Paris, T.R., A. Singh, A.D. Cueno and V.N. Singh. "Assessing the impact of participatory research in rice breeding on women farmers: A case study in Eastern Uttar Pradesh, India", *Experimental Agriculture* 44 (2008), 97-112.
- Qusumbing, A.R. and L. Pandolfelli. "Promising Approaches to Address the Needs of Poor Female Farmers: Resources, Constraints, and Interventions", *World Development*, 38 (2010), no. 4, 581–592.
- Raha, D., H. Osbahr and C. Garforth. "Does watershed development implemented through public private partnership empower women? A case review from Rajasthan, Western India", *Journal of Cleaner Production*, 60 (2012), 1-16.
- Riise, J.C., A. Permin and K.N. Kryger. "Strategies for developing family poultry production at village level – Experiences from West Africa and Asia", *World's Poultry Science Journal* 61 (2005), 15-22.

GREY LITERATURE

- Cox ME, B. Wong. *Biological Crop Chemistry Primer: Green Shoots through Green Products* (Industry Note). Piper Jaffray & Co. 27 August 2013.
- Glendenning, C.J., S.C. Babu and K. Asenso-Okyere. Evaluation of value added agricultural advisory services (2011). Available at: <http://www.ifpri.org/sites/default/files/publications/ifpridp01125.pdf> accessed 07 April 2013.
- Kiran, D.D., B.K. Gupta, D.K. Pande. And A.D. Upadhaya. "Empowerment of Rural Women in Agriculture: A Socio-psychological Analysis" (2012). Available at: www.krepublishers.com/02-Journals/S-HCS/HCS-06-0-000-12-Web/HCS-06-3-000-12-Abst-PDF/S-HCS-06-3-139-12-192-Kiran/S-HCS-06-3-139-12-192-Kiran-Tt.pdf accessed 7 April 2013.
- Robertson, Andrew. *Enabling Agricultural Extension for Peacebuilding*. Rep. Vol. 320. Washington, D.C.: United States Institute of Peace, 2012.
- Sharma, V.P. (2006) Enhancement of extension systems in agriculture Available at: www.apo-tokyo.org/publications/files/agr-16-ees.pdf accessed 12 May 2013
- Sulaiman, R., T. Jafry, and M.A. Ashok. *Cafeteria for Women in Agriculture* (2012). Available at: www.ncap.res.in/upload_files/others/oth_4.pdf accessed 10 April 2013.
- Sulaiman, V.R., N.J. Kalaivani, N. Mittal and P. Ramasundaram. "ICTs and Empowerment of Indian Rural Women: What can we learn from on-going initiatives?" (2012). Available at: www.crispindia.org/docs/CRISP%20Working%20Paper-ICTs%20and%20Empowerment%20of%20Women.pdf.
- Swanson, B.E., K.M. Singh, and M.N. Reddy. "Decentralized, farmer-led, market driven extension system" (2005). Available at: <http://www.ifpri.org/sites/default/files/S05a2-Swanson.pdf> accessed 17 April 2013.
- Government of India. "The Working Group on Gender Issues, Panchayat Raj Institutions, Public Private Partnership, Innovative Finance and Micro Finance in Agriculture" (2007). Section on Gender and Agriculture. Available at: http://planningcommission.nic.in/aboutus/committee/wrkgrp11/wg11_gender.pdf accessed 5 May 2013.
- Government of India. Report of the sub-group on extension (2007), Available at: http://planningcommission.nic.in/aboutus/committee/wrkgrp11/wg11_subgenagr.pdf accessed 5 May 2013.
- Government of India. "Report of the Working Group on Agricultural Extension for Agriculture and Allied Sectors for the Twelfth Five Year Plan (2012-17)" (2012), Available at: http://planningcommission.nic.in/aboutus/committee/wrkgrp12/agri/wg_agriextn.pdf Accessed 12 June 2013.

Annex I: India Peer Reviewed Literature Data Extraction

Ali, J. and S. Kumar. "Information and communication technologies (ICTs) and farmers' decision-making across the agricultural supply chain". *International Journal of Information Management* 31 (2011), 149–159.

Q1: what extension methods and approaches are being used?

- The article examines the use of information and communication technology (ICT) in agricultural extension.

Q2: what of these approaches are targeting women?

- The article does not specifically cover targeting of women.

Q3: what are the success factors?

- The article does not present success factors.

Q4: what are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover the above aspect.

The article used the case of the Indian Tobacco Company's (ITC) e-Choupal initiative, to empirically analyse the role of information delivery through information and communication technology (ICT) in enhancing decision-making capabilities of Indian farmers. They found that the users of e-Choupal show significantly better decision-making aptitudes as compared to non-users on various agricultural practices across the agricultural supply chain. They also noted that users' socio-demographic backgrounds, such as education levels, the social category to which they belong, income level, and landholding size also play a significant role in impacting decision-making aptitudes. They emphasized the importance of designing ICT-enabled information systems to suit the socio-demographic profile of the user groups.

Chen, M. "A Sectoral Approach to Promoting Women's Work: Lessons from India". *World Development* 17 (1989), no. 7, 1007-1016.

Q1: what extension methods and approaches are being used?

- The article discusses the sectoral approach to understand women's role. By quoting cases from agriculture and allied sectors in India, the author argues for better understanding of women's role through the suggested approach.

Q2: what of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: what are the success factors?

- The article does not cover this aspect.

Q4: what are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not specifically cover these.

The article argued that donor agencies could help bring women into the mainstream of the planning process and the economy by commissioning studies of women's work by sectors and by supporting sector-based pilot projects that involve women. This supporting evidence was provided by quoting two sectors in India: dairying and silk production. Chen noted that the nongovernmental agencies working with donor agencies have effectively influenced government policy. She also noted that this did not take place in agriculture, where most women work.

Doorenbos, J., B. Haverkort and J. Jiggins. "Women and the rationalisation of smallholder agriculture". *Agricultural Administration and Extension* 28 (1988): 101-112.

Q1: what extension methods and approaches are being used?

- The article argues for rational agricultural policies for benefitting women. Some strategies have been suggested. For instance, building critical mass of women civil servants in agricultural ministries; action research involving both national administrators and field staff for enhancing understanding of women's role

in agriculture among male staff of ministries; appropriate institutional/structural changes in ministries for integrating services for women from mainstream provisions and budgets.

- The article also suggests some approaches for rationalization. For instance, data-based operational policy seminars; empowering agricultural extension with more women staff.

Q2: what of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: what are the success factors?

- The article does not cover this aspect.

Q4: what are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not specifically cover these.

The article noted that agricultural policies, resource allocations, and service provisions, which fail to recognize the extent of women's participation in farming, are irrational and reduce the efficiency and effectiveness of agricultural sector investments. They argued that special strategic interventions are required to reorient ministries of agriculture towards serving women farmers. They suggested data-based policy seminars for senior officials and administrators as an example of actions which help to bring about changes in attitudes and practice.

Lahiri-Dutt, K and G. Samanta. "State initiatives for the empowerment of women of rural communities: experiences from eastern India". *Oxford University Press and Community Development Journal* (2002).

Q1: what extension methods and approaches are being used?

- The article critiques the rural women's development programs implemented by governments in India.

Q2: what of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: what are the success factors?

- The article does not cover this aspect.

Q4: what are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article highlights the following constraints:
 - o The top-down approach adopted by government departments, while planning rural development initiatives.
 - o Availability of information.
 - o 'Blanket approach' based on one successful model.

The article analyzed government-initiated development experiences of rural women in eastern India. They observed that one of the reasons for unsuccessful government initiatives are the top-down approach and lack of women's participation in decision-making. The other problems identified include considering women as a homogeneous group and successful model up-scaling in large areas.

Malhan, I.V. and S. Rao. "Impact of Globalization and Emerging Information Communication Technologies on Agricultural Knowledge Transfer to Small Farmers in India". *World Library and Information Congress: 73rd IFLA General Conference and Council, 19-23 August 2007, Durban, South Africa.*

Q1: what extension methods and approaches are being used?

- The article argues for use of ICT in agricultural extension. It presents various initiatives in India in this regard. For instance:
 - o National e-Governance Plan in Agriculture (NeGP-A) for a more focused implementation of e-governance activities in the agriculture sector.

- Mission 2007 is a national initiative launched by an alliance comprising of nearly 80 organizations, including civil society organizations. Their goal is to set up a Knowledge Center in every village by the 60th anniversary of Independence Day.
- The Ministry of Agriculture, Government of India, is strengthening and promoting agricultural informatics and communications. One component of this program is AGRISNET, which envisages to support e-governance and facilitate improved services to the farming community through the use of ICT.
- A number of initiatives are taken by state governments to provide connectivity in rural areas, e.g., the Rajnidhi scheme and Janmitra scheme of Rajasthan and the Lokmitra project of Himachal Pradesh.
- The “village information shops” concept is being discussed, debated, and experimented at various places in India. Experiments include M. S. Swaminathan Research Foundation (MSSRF), Chennai, “Information Villages” of MANAGE in Ranga Reddy District in A. P., the Gyandoot.net initiative of District Administration Dhar, Madhya Pradesh, EID-Parry’s Wireless in Local Loop-based Village Kiosks in Cuddalore District of Tamilnadu, and “Warna Wired Villages” of NIC in Kolhapur-Sangli districts of Maharashtra.

Q2: what of these approaches are targeting women?

- The article does not specifically discuss the above issue.

Q3: what are the success factors?

- The article does not cover this aspect.

Q4: what are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover these.

The article argued that the current models of agricultural knowledge transfer in India are mainly based on extension activities in which knowledge is transferred to farmers through person-to-person contacts, publications, radio, and television discussions and product exhibitions for fertilizers and seeds at farmers’ fairs. They discussed the recent advances in information and communication technologies (ICTs) and their penetration and impact on Indian agriculture sector.

Paris, T.R., A. Singh, A.D. Cueno and V.N. Singh. “Assessing the impact of participatory research in rice breeding on women farmers: A case study in Eastern Uttar Pradesh, India”, *Experimental Agriculture* 44 (2008), 97-112.

Q1: what extension methods and approaches are being used?

- The article studies the Participatory Varietal Selection (PVS) approach and its impact on participating women’s decision-making authority.

Q2: what of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: what are the success factors?

- The article suggests the following factors for ensuring success:
 - Include female scientists in research teams.
 - Involve women in training activities on all aspects of crop production, especially on seed management.
 - Conduct interviews separately for men’s and women’s groups.

Q4: what are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover the above aspect.

While assessing rice variety adoption and new genotypes introduced through participatory varietal selection (PVS) in villages in eastern Uttar Pradesh, India, the article studied women farmer involvement in participatory research for screening improved varieties. They further assessed the impact on the decision-making authority on rice varietal choice, seed acquisition and disposal, and crop management after participating in PVS trials. Based on the analysis, they suggested that strategies must be made to empower women farmers in making sound and timely decisions on farm-related matters and to enhance their roles in accelerating new variety adoption. They also noted that integrating participatory research and gender analysis enabled women to gain confidence in making agricultural decisions, though PVS is only one step towards reducing gender disparity in agriculture. They need to be provided with new knowledge and skills in managing crops and farm resources.

Raha, D., H. Osbahr and C. Garforth. "Does watershed development implemented through public private partnership empower women? A case review from Rajasthan, Western India", *Journal of Cleaner Production*, 60 (2012), 1-16.

Q1: what extension methods and approaches are being used?

- The article examines the Public Private Partnership approach in watershed management, in the context of addressing women's needs.

Q2: what of these approaches are targeting women?

- The article is about targeting of women.

Q3: what are the success factors?

- The article does not present success factors.

Q4: what are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover the above aspect.

The article critically examined the impact of the 'Guidelines for Hariyali' (a rural watershed development policy launched in Rajasthan, Western India, which has been implemented through a Public Private Partnership (PPP) for local communities). Their analysis focused specifically on how the 'Guidelines' have affected the livelihoods of Rajasthani women. Findings revealed that there are significant gaps between policy objectives and the realities on the ground, particularly in the context of women's accessibilities and entitlements. They also noted that PPPs, if implemented properly, could empower women in the area of watershed management across rural South Asia.

Balasubramanian, K. and P. Thamizoli. "Social Differentiation in the Horizontal Transfer of Knowledge: A Case Study from South India". *Journal of Agricultural Education and Extension* 9 (2003), No. 2, 51-60.

Q1: what extension methods and approaches are being used?

- A farmer-to-farmer (trainee becoming the trainer) approach; farmers' group approach (farmers and laborers brought together as an association); employing ICTs for knowledge transfer (village resource centers).

Q2: what of these approaches are targeting women?

- All the approaches mentioned in the article are targeting women and smallholder farmers.

Q3: what are the success factors?

- The dominance of women among the participants.
- The importance given to marginal and small farmers.
- The involvement of people with less education.
- The participatory planning exercises for developing the training syllabus on the basis of needs and communication strategies.
- Regular feedback and follow-up measures have led to a new learning experience for the participants.

Q4: what are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover these.

While the article discusses the experiences of a project on the horizontal transfer of knowledge in South India, it noted that there is a need to develop sensitivity to the prevailing structural differences in the local situation. The authors argued that knowledge is socially constructed and that social structures, function, and processes distinguish social life. Social structures and functions are characterized by the social stratification in which significant social and cultural distances separate groups within a specified society. Thus, stratification assumes importance in the social knowledge construction, as different groups may have different interpretive frameworks for experiences. Through this argument, they articulated that carefully planned, appropriate training programs are largely effective.

Qusumbing, A.R. and L. Pandolfelli. "Promising Approaches to Address the Needs of Poor Female Farmers: Resources, Constraints, and Interventions", *World Development*, 38 (2010), no. 4, 581–592.

Q1: what extension methods and approaches are being used?

- The article discusses several methods/ approaches:
 - o Farmers' Field School (FFS).
 - o Female extension workers to reach women farmers.
 - o Use of appropriate training materials that suit local contexts.
 - o Use of existing social networks.

Q2: what of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: what are the success factors?

- The following are some suggestions for success, as suggested by the article:
 - o Continue strengthening women's land rights and investing in schooling.
 - o Promote divisible technologies or smaller input packages that are more affordable, as well as opportunities for groups to achieve economies of scale.
 - o Adapt program design or service delivery to client needs.
 - o Consider interactions among inputs rather than treating each input in isolation.
 - o Take gender roles into account when designing and implementing projects.

Q4: what are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The following are the challenges identified in the article:
 - o Lack of evaluation.
 - o Lack of alternative design and delivery mechanism exploration.
 - o Meeting women's diverse needs.
 - o Sensitivity to culture and context.

The article critically reviewed recent attempts to increase poor female farmers' access to and control of productive resources, focusing on Sub-Saharan Africa and South Asia. By surveying the literature from 1998 to 2008 they found that compared to interventions designed to increase investment in human capital, only a minority of interventions or policy changes increasing female farmers' access to productive resources have been rigorously evaluated. They noted that future interventions need to pay attention to the design of alternative delivery mechanisms, tradeoffs between practical and strategic gender needs, and to culture- and context-specificity of gender roles.

Jafry, T. "Global trade and climate change challenges: A brief overview of impacts on food security and gender issues". *International Journal of Climate Change Strategies and Management* 4 (2012), no. 2, 442-451.

Q1: what extension methods and approaches are being used?

- The article argues for a gender-sensitive agricultural extension system

Q2: what of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: what are the success factors?

- The article does not cover this aspect.

Q4: what are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover this aspect.

The article provided an overview to support the argument that the agricultural extension system needs to adapt to provide gender-equitable approaches to support the most vulnerable farming groups in the context of climate change. She argued that a gender-sensitive agricultural extension system is one support mechanism that can be used to design and develop meaningful programs.

Huq, A. and A. Moyeen. "Gender integration in enterprise development programs", *Women's Studies International Forum* 34 (2011), 320–328.

Q1: what extension methods and approaches are being used?

- The article argues that any development initiative in the country must consider 'gender mainstreaming' as a matter of priority and adopt the Gender and Development (GAD) approach as opposed to the Women in Development (WID) approach to ensure that women are enabled to act as 'agents' of the intended pro-poor growth.

Q2: what of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: what are the success factors?

- The article suggests the following issues to be considered for success:
 - o Gender focus in project documents and strategy papers.
 - o Gender equality among project staff.
 - o Gender equality in employment within assisted enterprises.
 - o Reducing the gender gap in enterprise promotion.
 - o Gender focus in design and intervention implementation.
 - o Service provider responsiveness to gender.

Q4: what are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover this aspect.

The article analyzed data collected from enterprise development programs that operate within the framework of Business Development Service (BDS) market development, women entrepreneurs associations, and BDS providers in Bangladesh. The findings suggest that the current approach to addressing gender is often weak and without adequate strategic focus on how programs could contribute to changing the wider picture of existing gender inequality. They concluded that instead of overemphasizing the "cost-effectiveness" criterion that may exclude gender from program interventions, enterprise development programs should rather consider integrating gender as a matter of 'priority'. The important considerations should be the 'outreach', 'sustainability', and tangible 'impact' that such integration could make in attaining gender-balanced development. They also noted that despite the intent for gender balanced development in their strategy and policy documents, donor-funded enterprise development programs are still implicitly guided by the women in development (WID) approach that considers women as mere 'beneficiaries' of economic growth.

Riise, J.C., A. Permin and K.N. Kryger. "Strategies for developing family poultry production at village level – Experiences from West Africa and Asia", *World's Poultry Science Journal* 61 (2005), 15-22.

Q1: what extension methods and approaches are being used?

- The article suggests employing a holistic approach with a combination of different tools. Considering the local technical and organizational aspects should develop this approach.

Q2: what of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: what are the success factors?

- The article suggests that developing and implementing an approach after understanding the local conditions, along with a combination of different tools, can ensure success.

Q4: what are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover this aspect.

This article presents the efforts of a Network for Smallholder Poultry Development (NESPOD) in supporting family poultry development at the village level by focusing on women and the poor. In order to involve women, a combination of different tools were employed, including village group sensitization, organizing women into groups, training village vaccinators, farmer field schools for women, and creating linkages between national research and extension institutions. The article concluded that a holistic approach based on local technical and organizational aspects can be successful even in a short period of time.

Annex II: Details of the National Rural Livelihoods Mission (NRLM Aajeevika)

This is a mission to establish efficient and sustainable institutions of the rural poor that enable them to increase household income through livelihood enhancements and improved access to financial and selected public services (skilled wage employment). It is also a SGSY restructuring, implemented through the Ministry of Rural Development. The mission works to:

1. Mobilize all rural, poor households into effective self-help groups (SHGs) and SHG federations;
2. Enhance access to credit and other financial, technical, and marketing services;
3. Build capacities and skills for gainful and sustainable livelihoods; and
4. Improve social and economic support services delivery to poor.

For NRLM, the Government of India is availing a credit from the International Development Association (IDA) for implementing the National Rural Livelihood Project. The Project is being implemented in 13 high poverty states accounting to 85% of the poor population, spreading over 100 districts and 400 blocks.

NRLM ensures that states adopt the saturation approach, where at least one member from each identified rural poor household, preferably a woman, is brought under the Self Help Group (SHG) network in a time-bound manner. There are regular meetings, regular savings, regular inter-lending, timely repayment and up-to-date books of accounts, and leadership development. The focus is on linkages, which include capacity building, micro-investment plan (MIP), strengthened existing member livelihoods, linkages with banks, and setting up a primary federation, and then comes the planning, promoting new livelihoods, new products, and creating social capital.

Higher-level federations form by aggregating SHG members, which provide a platform and space for SHG members to voice their demands (social and financial) in order to reduce their dependency on external agencies. These federations help in knowledge and technology dissemination and act as hubs of production, collectivization, and commerce. This further leads to livelihood services provision and facilitates largely the poor population's and women's access to public services and entitlements. Specialized institution promotions like livelihood collectives and producer's cooperatives/companies for livelihoods promotion, which work on scale, ensure backward and forward linkages, access to information, credit, technology, and markets. Following the principles of subsidiarity, the federation at each level has its own purpose, functionality, and identity.

NRLM provides support to the states to strengthen these federations and their capacity to build systems and mechanisms for good governance, planning and review, accounts, and internal, statutory and social audits, so that it can become sustainable. Government, NGO, and CO-formed existing institutions for poor women would be strengthened by NRLM in a partnership mode; this would help achieve their full potential for coverage saturation.

Support by NRLM in institution building is in two ways: (1) creating a large scale of 'social capital' institutions of poor and (2) capacity building of community cadre and community resource person. The main aim of building a cadre of community resource persons is to support the mission towards horizontal scaling and deepening the process.

Each state will strategize financial assistance routing to the poor's institutions in the intensive and non-intensive blocks within the overall guidelines provided in the NRLM 'Framework for Implementation'. The SHG structure and linkages to the banks grants the states access to repeat finance at affordable prices for the desired amount and customized repayment terms. These tools are crucial for society's poor and vulnerable groups in order to meet their consumption needs, to exit debt traps, and to invest in livelihood

assets. Banks have a critical role in providing services, including opening savings accounts for community groups, SHGs and their federations, deposit savings, and providing credit and remittances.

There is micro-insurance service coverage, particularly to cover life, health, and asset risks of the poor and vulnerable households, by seeking convergence with the insurance schemes of Government of India through this scheme.

NRLM developed a strategic partnership with major banks and insurance companies at various levels to create enabling conditions for bank and insurance companies, and the poor for a mutually rewarding relationship (both the supply and demand sides of the rural finance value chain). On the demand side, NRLM provides financial literacy, counseling services on savings, credit and insurance, and trainings on micro-investment planning, all embedded in SHG capacity building. On the supply side, NRLM will forge partnerships with banks to reach out to all poor members of society, and leveraging IT mobile technologies and institutions of poor and youth as business facilitators and business correspondents.

In knowledge management, the community cadres are resourced with a diverse knowledge set of local agriculture and allied areas, which in turn increase program delivery efficiency, program quality, and improves access to knowledge in the given group. Thus, the SHG aggregates would graduate into higher-level institutions supported by community resource persons (CRP), which would ensure inclusion and mobilization processes. ICTs serve as the backend support for increased access to knowledge products. They are in place to implement their team at the grassroots level. NRLM and state organizations like SERP and Kudumbasree have come together for knowledge transfer at the higher levels, i.e., imparting professional knowledge and institutional setup. This again transforms down through the project facilitation teams, NGOs, Panchayati Raj Institutions, and parallel through government departments like district rural development agencies, the Department of Agriculture, the Department of Animal Husbandry, the Department of Forestry, the Department of Health, and the Department of Women and Child Welfare. The State Mission Management Unit is implementing this program, and then the District Mission Management Unit and Block Mission Management Unit down to the grassroots level.

The social development aspects of capacity building at the community level and the training methodology are summarized below:

Table 2: Levels of social development capacity building and methodology

Levels	Areas of Capacity Building	Methodology
SHGs	<ul style="list-style-type: none"> • Planning of productive investment of the poorest families • Inadequate credit linkage • Inability to maintain regular accounts • Exclusion of the poorest, most vulnerable • Social action, accountability, and empowerment • Gender sensitization • Schemes and entitlements for the poor 	<ul style="list-style-type: none"> • Training sessions with media/visual aids • Handholding helping them with preparing MIPs • Dissemination of information • Exposure trips to other SHGs
CRPs	<ul style="list-style-type: none"> • Gender • Vulnerability and poverty • Preparing MIP • Bank linkage • Linkage with government departments • Schemes and entitlements • Issues of migration 	<ul style="list-style-type: none"> • Training sessions with media/visual aids • Regular dissemination of information • Exposure trips to banks and government departments

Levels	Areas of Capacity Building	Methodology
	<ul style="list-style-type: none"> • Issues of PWD 	
Federations	<ul style="list-style-type: none"> • Vulnerability and poverty • Gender and diversity issues • Understanding needs of the poor • Livelihoods of the poor • Entitlements of the governments • Social action, accountability, and empowerment 	<ul style="list-style-type: none"> • Training sessions with media/visual aids • Regular dissemination of information • Exposure visits to other federations
Participatory Monitoring Committee	<ul style="list-style-type: none"> • Issues of vulnerability and poverty • Gender and diversity • Livelihoods of the poor • Social action, accountability, and empowerment 	<ul style="list-style-type: none"> • Training sessions with media/visual aids • Dissemination of information • Handholding • Exposure visits
Social Audit Committee	<ul style="list-style-type: none"> • Principles of transparency and accountability • Gender and diversity • Vulnerability and poverty 	<ul style="list-style-type: none"> • Training sessions with media/visual aids • Handholding • Exposure visits
Livelihoods Collectives	<ul style="list-style-type: none"> • Understanding of livelihoods of the poor and vulnerable • Gender and diversity • Understanding problems of migrant laborers • Issues of PWDs 	<ul style="list-style-type: none"> • Training sessions with media/visual aids • Lectures • Exposure visits

Gender-sensitive communication strategy follows, to which women come more frequently. Separate meetings with men and women are held in the community intending to remove cultural norms and inhibitions to increase women's participation and leadership. As a part of pro-gender program, choices for women's livelihoods are made a priority. For instance, SHGs and its federations can play an instrumental role in strengthening many agriculture, horticulture, livestock, and forest producer supply chains and bringing newer options like training and SHG women's development on different sectors, knowledge and communication partners, providing services on financial, insurance, or banking sectors, providing technical skills to support machinery and agri-machines and tractor maintenance, or in preparing them for meaningful employment in hospitality, tourism, and elsewhere are being explored.

Partnerships have been made with different state NGOs and organizations for the implementation of the program like Pradhan, BAIF, SERP, Kudumbasree, ASA-Tikamgarh, CARD, Green Foundation, MSSRF, BRLPS, ASA- Jhabhua, Consortium of Panchayats, and ASA, to cover 2,088,700 farmers in five states (Andhra Pradesh, Madhya Pradesh, Kerala, Bihar, Maharashtra, Karnataka) in the year 2010-2011.



Details on Mahila Kisan Sashaktikaran Pariyojana (MKSP)

A subcomponent of NRLM-initiated livelihood enhancement and vulnerability-reduction interventions through a special program, "Mahila Kisan Sashaktikaran Pariyojana", launched in 2010-11. The program envisages empowering women in agriculture by making systematic investments to enhance their participation and productivity, while creating and sustaining rural women's agriculture-based livelihoods. NRLM is implementing the program in partnership with State Departments/CSOs as implementing partners (PIAs) across the country with the funding at the ratio of 75:25 (center to state).

The core agenda is to (1) create sustainable livelihood institutions around agriculture and allied activities, (2) to create sector-specific geographically specific best package of practices, and (3) create a wide pool of community resource persons for scaling-up livelihood interventions in the entire country. The mission has been further narrowed down to (a) sustainable agriculture (b) non-timber forest produce to work with partners.

(a) Sustainable agriculture: The inputs are localized, risks are mitigated, productivity is enhanced, food security is ensured and net family income increases. The important objectives of MKSP-Agriculture are as follows:

- (a) Create sustainable agricultural livelihood opportunities for women in agriculture;
- (b) Ensure food and nutrition security at the household and the community levels;
- (c) Improve women in agriculture's skills and capabilities to support farm-based activities;
- (d) Enhance the managerial capacities of women in agriculture for better biodiversity management.

Table 3. Partners of MKSP in different states

Sl. No.	Name of the PIA	States	Total Project Cost (in Crore, Rupiah)	No. of farmers covered
1	Zilla Samakhya	Andhra Pradesh	251.58	1,837,700
2	PRADAN	Bihar	14.30	60,000
3	Kudumbashree	Kerala	79.90	150,000
4	CARD	Madhya Pradesh	2.56	4,500
5	BRLPS	Bihar	97.60	112,500
6	Consortium of Panchayats	Kerala	60.60	30,000
7	ASA	Bihar	13.17	10,000
8	ASA-Tikamgarh	Madhya Pradesh	9.16	8,000
9	Green Foundation	Karnataka	6.25	5,000
10	ASA-Jhabua	Madhya Pradesh	13.35	10,000
11	MSSRF	Maharashtra	5.82	3,000
12	PRADAN	Madhya Pradesh	19.97	8,000
Total			574.26	2,088,700

(b) NTFP (non-timber forest produce) sector is to enhance livelihoods of NTFP collectors by promoting the entire value chain at various levels - regeneration, collection, processing, and marketing. The important objectives of MKSP-NTFP are as follows:

- Ensure a better control over institutions of the poor women NTFP collectors over the NTFP value chain.
- NTFP species regeneration promotion to improve biodiversity and productivity.
- Build the capacity of the community in modern harvesting and post-harvesting techniques to increase their income.
- Promote NTFP value addition to ensure higher returns.
- Develop market linkages for NTFP.

There is an agreement between SERP Andhra Pradesh and some states like J&K, Jharkhand, Chattisgarh, Madhya Pradesh, Haryana, and Rajasthan for the flow of community resource persons and professional resource person services, as well as the training cum field immersion assistance from SERP to these states. There is also an agreement with Kudumbasree of Kerala and Bihar/Jeevika to provide technical and implementation support.

Details on SERP

Society for Elimination of Rural Poverty (SERP) implements Indira Kranthi Patham (IKP) in 22 districts of AP. It works through the SHGs, exclusively women's groups. It aims to cover all the rural poor households in the state with a special focus on the poorest of the poor households. To address the above aim they focus on the functional areas such as Women Empowerment, Land Access to the Poor, SHG Bank Linkage, Community Managed Sustainable Agriculture (CMSA), and Institution-Building.

SHGs formed to encourage the participants' responsiveness and ownership of the programs. The SHGs are homogenous groups of women who collectively undertake an economic activity suited to their skills and resources, supplemented by state-matching grants. SHG is a channel through which *microcredit* is

routed to the poor to help them rise out of poverty. Programs were conducted to provide self-employment, to empower, and to incorporate rural poor women into the development process.

With their gender strategy, SERP aims to empower women by improving the ability of women to have access and control over assets, incomes, and various other services available at the village and individual levels. The Gender Program of SERP helps women increase their understanding of intra-family equity issues, decision-making levels, free mobility, and the necessity of building a safe environment.

With the SHG Bank Linkage Program, SERP expands credit lines to SHG members by linking SHGs with banks. To qualify for a bank loan, SHGs need to show commitment to financial responsibility through regular meetings, consistent savings, and good loan management. They create the loans from their own savings, the process of which reduces the risk of defaults. Facilitated by NABARD, SERP has been largely successful in providing the rural poor with access to loans resulting in the SHGs scaling up their operations.

Institution Building works at building Community-Based Organizations that aim to bring together the poor women and assist them to work collectively towards sustainable development. The CBOs, NGOs, or Samakhya at district level, Village Organizations at the village level and SHGs at the group level form the basic structure on which the foundations for the growth of rural poor are laid. This also helps the SHGs to enhance their capacities further.

The livelihoods value chain provides for sustainable livelihoods to the poorest of the poor, with SERP making livelihood-based interventions through land access to the poor, sustainable agriculture, dairy, non-farm livelihoods, and jobs for rural youth. About 4.30 lakh cases related to land disputes of poor were resolved and created the access to 8.76 lakh acres for the SHG members.

At present there are 11,548,174 SHG members in 1,059,101 SHGs organized into 38,821 Village Organizations and 1,098 Mandal Samakhya (MSs). In addition to the above (MSs), there are 726 Mandal Vikalangu Sangams, 4 Zilla Vikalangu Samakhya, 17 Chenchu Mandal Samakhya, 7 Fishermen Mandal Samakhya and 20 Yanadi Mandal Samakhya in the state. Total savings and corpus of SHG members by the end of November 2012 was Rs. 4,054.44 crores and Rs. 5,871.91 crores, respectively. Social capital created during the project period up to November 2012 is 173,841. The total number of beneficiaries is 2,998,906.

The SHG Bank Linkage is a great success as it has progressed, covering 352,485 groups with a loan amount of Rs. 8,084.16 crores in 4,324 branches, with Rs. 229,347 per group finance in the year 2011-12.

Sthree Nidhi: This program is a Credit Cooperative Federation promoted by 1,098 Mandal Mahila Samakhya of SHGs in association with the Government of Andhra Pradesh. The purpose is to address inadequate finance issues and to ensure timely credit availability, preferably within 48 hours, for meeting emergent and other needs of the poorest of the poor. Up to end of November 2012, Rs. 499.21 Crores were disbursed to 318,735 members of 81,297 SHGs in 14,657 VOs in 927 mandals.

Land inventory was taken with the financial support of MGNREGS in 22,833 revenue villages of 956 mandals in the state. The objective was to map the lands of the SCs/STs and to facilitate them to have secured title and possession; also MGNREGS aims to facilitate the land development under MGNREGS and other programs with increases in incomes by accessing sustainable agriculture programs like CMSA/RFSA, etc. Out of 3,070,700 households identified, 1,793,591 households have land and the remaining 1,277,109 HHs (42%) are landless. A total of 2,349,392 issues covering 2,326,393.25 acres of land have been identified. Out of 19.63 lakh pending land issues in the land-working mandals covering an extent of 23.22 lakh acres, 66% of the issues were resolved through the end of November.

Unnathi – Nirupedala Samagrabhivruddhi strategy aims to enable every poorest of poor family in the state to climb out of poverty through increased and sustainable livelihood opportunities established with the

aid of intensive handholding support. It has been implemented in phases. In Phase-1, the strategy is being implemented in 339 mandals in 3,163 GPs across 22 districts, covering 6.2 lakh poorest of the poor households (only SC & ST community) with the support of around 8,015 community activists. Around 82,560 families were identified based on their lack of assets and the vulnerable conditions from these villages; their livelihoods were supported through the poorest of the poor fund, land lease, and Sthreenidhi Special Livelihoods to the tune of Rs. 71.00 crores from April 2011 to date. In addition, entitlements like 45,571 ration cards, 96,444 MGNREGA job cards, and 83,064 social security pensions were ensured for the eligible families/members. Also 88,074 eligible but initially left-out women members were brought under SHG coverage with the formation of 7,630 SHGs. In Phase-2, the Unnathi program is expanded to 282 mandals, 2,022 gram panchayats covering 3,013 VOs with 7.2 lakh SC/ST families, including the villages covered under IWMP-poorest of the poor, thus the Unnathi program will be taken up in 621 mandals, 5,185 GPs and 8,120 VOs by covering 13.4 lakh households. The major thrust areas will be ensuring entitlements and supporting the livelihoods for selected poor families.

Community Managed Sustainable Agriculture (CMSA): Input-cost reduction by making available organic fertilizers and pesticides made from locally available material. Implemented in 2012-13 in 11,000 villages in 653 mandals of 22 districts, in 38.71 lakh acres with 19.67 lakh farmers. The flagship programs identified under CMSA during 2010-11 employ the poorest of the poor strategy, developing 36 X 36 model plots and SRI paddy. With CMSA practices, the savings varied from Rs.1,000 in the case of paddy to Rs.16,000/- in case of chilies, by which additional incomes to farmers ranges from Rs.5,000 to Rs.10,000 per acre. The benefit was household nutritional security to 1 lakh families.

Pala Pragathi Kendram(ppk) is a community dairy farm with eight milch animals housed under a single shelter. They will grow perennial fodder in 1.25 acres of land nearer to the cattle shed and milking will be done with the help of hand-operated milking machines. 89 PPKs were established in 2011-12 and 337 PPKs in November 2012 in the state, benefiting 2,755 SHG members. During the year, 1,158 SHG women members were trained as Community Managed Livestock Extension Workers to act as liaisons between the Community and Animal Husbandry Departments.

Rajasri backyard poultry rearing is being proposed to supply 5 lakh chicks to 50,000 poorest of the poor families at ten birds per family. Thus far, 6,000 families have been supplied 60,000 chicks.

The Community Marketing Strategy aims to enable the small, marginal farmers and NTFP collectors to obtain the best price for their agricultural commodities and forest produce. The marketing interventions through IKP VOs are being promoted mainly to eliminate unfair trade practices, to increase the bargaining power of small and marginal farmers in rural areas, and to generate employment/income to the VOs.

Employment Generation & Marketing Mission (EGMM) was set up to address the needs of the next generation of the large network of SHGs created and nurtured by IKP. It aims at to create employment/employability for the rural/tribal underprivileged youth. 60,302 youth are provided placements till the year 2012.

Key activities by SEWA

SEWA is majorly a trade union, but it also does service-oriented programs that aim to lift up the women. Up to the year 2006, rural women's membership was 60.77%, with 39.23% urban members. It is 5.2% (25,099) of the agricultural sector's women's membership with SEWA under the producers and services category. Women provide the share capital for the cooperatives and obtain employment from them. One

woman may be a member of one or more cooperatives. A democratically elected executive worker committee runs each cooperative. The largest cooperative is SEWA Bank with 125,000 members. Under dairy cooperatives there are 53 groups with 5,182 members, service, and labor cooperatives: ten with 1,200 members and land-based cooperatives and seven with 192 members. There are 21 land-based groups with 395 members and 11 forest producers-based groups with 220 members. There are also ten food grain and essential items distribution groups with 120 members and seven nursery-raising groups with 140 members. There is another program called DWCRA (rural producers') Groups (181 groups with 2,981 members). The Development of Women and Children in Rural Areas, or DWCRA, is a government-sponsored anti-poverty program from the Ministry of Rural Development. Each DWCRA group consists of 15 to 20 women from rural families below the poverty line. The group is given seed capital in the form of a revolving fund of Rs.25,000 to develop their own local collective business. In 1999, the Ministry of Rural Development merged all its different anti-poverty programs, including DWCRA, into a single program. However, the DWCRA groups already formed and registered with the ministry continue to function actively.

There are Savings and Credit Groups under which women from rural areas have formed their own savings groups and are learning to manage their own collective capital. Through these village-based groups, capitalization occurs among self-employed women. For the first time, assets are now built up specifically in women's names. These groups have formed their own district-level associations.

Both rural and urban women receive benefits like health services, insurance, banking facilities, childcare, and welfare, and they can be part of any cooperative with employment opportunities in those cooperatives.

SEWA bank in rural areas: SEWA Bank provides banking services at the doorsteps of poor women. This concept was revolutionary in Indian banking history with the desired impact of 32,781,286 savings in the 9 districts of Gujarat with 3,476 groups and 69,773 members. The rules for the women are very liberal. She first must be a group member, then after one year the group becomes established in saving, then becomes eligible for borrowing. The loan sanctioned is in the name of the group and is in direct proportion to its savings. It is for the group to decide the disbursement to the individual; that includes the amount, interest, and repayment schedule. The bank also provides support for releasing mortgaged land and other productive assets, meeting working capital needs, acquiring assets, and for creating productive infrastructure. The groups may rotate their own savings as loan.

SEWA Gram Mahila Haat (SGMH) was set up to provide marketing facilities and other market-related support to the rural producer groups towards their empowerment and economic self-reliance. The Commissionerate of Rural Development in the Government of Gujarat supported the initiative by allocating the requisite funds. The scattered rural producer groups have been motivated to form district-level associations. Objectives are to enable the rural producers to earn a regular minimum income of Rs.2,000 per month by providing technical support in terms of upgrading skills and exploring new marketing opportunities. It also aims to provide working capital assistance to the district associations and facilitates the producers to become owners and managers of their collective enterprises. SEWA Mart markets the agricultural produce of small and marginal farmers. The products are free from chemical fertilizers and pesticides due to non-availability of irrigation facilities and resources. SGMH is to start a systematic approach to exporting "organic farm products" by initiating compliance to international requirements.

RUDI is a rural distribution network to distribute the producer's product through a well-established network at the village level. The idea of setting up the Rural Distribution Network is to internally rotate the scarce funds of the rural producers in a way that fetches maximum benefit and brings about positive changes in their lives, while providing multi-user facilities, reducing incidental expenses and building up

an integrated value chain. This is intended to enhance the efficiency of agricultural activities, to reduce the hardships of the producers and processors, and to create multiple employment opportunities and an efficient supply of agro-products to rural members. This network also gives assistance in post-harvest management of crops, sales management, and generating employment opportunities for the rural members through processing and marketing interventions. The entire operation of RUDI in one district ensures a stable direct employment to 500 women per month.

Impacts of RUDI on the rural members were largely positive. Apart from encouraging self-reliance in the women and increased living standards, RUDI created multiple employment opportunities for women in rural areas so that they did not have to migrate anywhere in search of work. RUDI also enabled the elimination of middlemen, bridging the gap between the village and market, and the socio-economic development of the rural families.

There are other programs in SEWA in which women sew, do craft work, embroidery, and other artworks as a livelihood and it is marketed by SEWA Trade Facilitation Center.

National Insurance VimoSEWA Cooperative Ltd. – Ahmedabad: As of January 2010, 119,477 individuals (62,060 women, 36,258 husbands and 21,159 children) are insured under National Insurance VimoSEWA Cooperative Ltd., in both urban and rural areas. All insured members contribute a premium to the scheme. Between 1992 and 2008, 65,953 claimants have received benefits during the crises in their lives with a total payout of Rs.126,227,627 or Rs.126 million.

Details of Kudumbashree

Kudumbashree was conceived as a joint program of the Government of Kerala and NABARD-implemented through Community Development Societies (CDSs) of Poor Women, serving as the community wing of local Governments to eradicate poverty from the state through concerted community action under the leadership of local self governments. Built around three critical components, microcredit, entrepreneurship and empowerment, the Kudumbashree initiative has today succeeded in addressing the basic needs of the less privileged women, providing them a more dignified life and a better future.

The grassroots of Kudumbashree are Neighborhood Groups (NHGs) that send representatives to the ward level Area Development Societies (ADS). The ADS sends its representatives to the Community Development Society (CDS), which completes the unique three-tier structure of Kudumbashree. There are 1.94 lakhs NHGs, over 17,000 ADSs and 1,061 CDSs in Kudumbashree. The program has 37 lakh members and covers more than 50% of the households in Kerala. This network brings women to the Grama Sabhas and helps them bring the needs of the poor to the attention of the local governments. Most of the plan interventions of gram panchayaths and urban local governments in the areas of poverty reduction and women's development use the CDS network as agency.

Institutional tie-ups have been made with established training agencies. Services of Kudumbashree's training enterprises are utilized for conducting training programs. Pools of resource persons have been developed at different tiers, with specific orientation to deal with capacity building at their respective levels. Participatory methodologies are followed at all stages through content development to delivery.

Efforts of Kudumbashree are focused on three areas: economic empowerment, social empowerment, and gender empowerment. Capacity building of stakeholders is a very important part of these efforts. Training programs are imparted based on organizational training needs, enhancing the organizational network functioning. Enterprise training helps individual and group entrepreneurs enhance their business capabilities. Kudumbashree also provides financial services training on microfinance and additional support to the community organization for engaging with financial institutions in an effective manner.

Kudumbashree provides social and gender empowerment training for mainstreaming issues of the marginalized women as well.

Local Economic Development: This model involves community participation through the women's network in micro-level planning and development. It also involves resources convergence with programs at the level of local government, implemented through the following programs:

- **Collective Farming:** Done to encourage cultivation by neighborhood groups. Results in increase of agricultural production by bringing fallow and cultivable wasteland into agricultural use, and has significance as a food security measure. Women enter the program as cultivators as opposed to agricultural laborers. They control the means of production and have access to formal credit, which helps increase farming returns. The program is being implemented in all districts with the support of LSGs. Outcome: Financial outflow for farming incentives for the year 2009-10 was Rs 20.11 crore.
- **Samagra:** An initiative independently developed by Kudumbashree being implemented in the state in collaboration with the three-tier local self governments and other agencies. It is an attempt to address the entire production–supply value chain holistically, by scaling up productive activity both qualitatively and quantitatively and seeking viable supply opportunities.
- **Responsible tourism:** The trial and errors in 4 destinations helped to develop unique strategies in these areas concentrating in the tourism sector and the open market alike. Fresh vegetable and nonperishable supplies under collective farming are done through the Samrudhi shops (a 50 K unit of Kudumbashree, engaged in procurement-supply mechanism) to the service industry. This also promotes ethnic delicacies of Kumily, cultural groups of Sinkarimelam and Thiruvathirakali, representatives of Panchayat, RT Cell, Kudumbashree mission, service industry and Samrudhi, all of which are part of the committees.
- **Monthly markets:** These are organized by the women entrepreneurs. Local markets were organised in 1028 locations across the state. 65000 lady entrepreneurs and farmers participated in the Onam fairs, and over a Rs.12 crore turnover was generated over a period of 4 days.

Micro enterprises are further divided into different schemes:

Rural Micro Enterprises (RME) Program was initiated to help women to set up Individual and Group Enterprises. The minimum number of people required for a group enterprise is ten. Various activities like catering groups, traditional delicacies, paper products, supermarkets, direct marketing, various food products, and rabbit rearing have been formed under the RME program. Even traditional activities like goat rearing and dairy units have been set up under RME. Physical achievements: During 2006-2010, 10,333 entrepreneurship were started and Rs.42.54 crore was granted as subsidy.

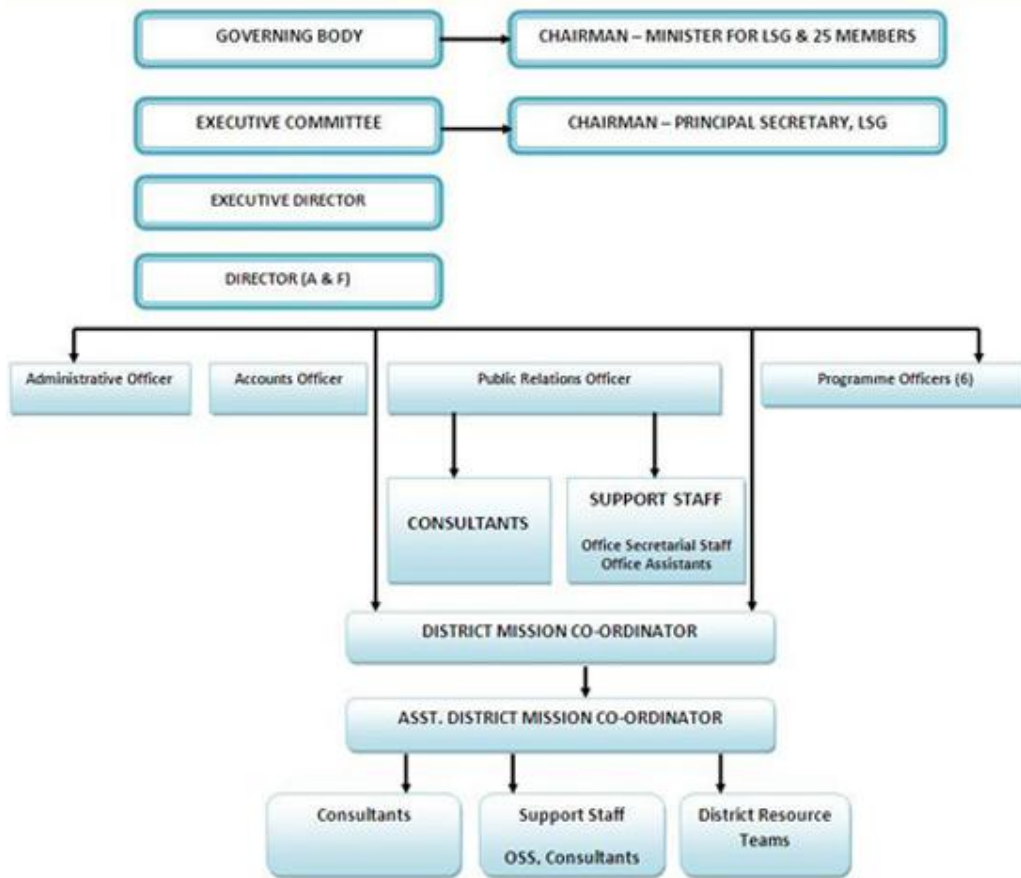
Yuvashree program was initiated to facilitate youth in securing sustainable employment opportunities leading to economic development by creating jobs for the poor and to identify innovative areas to set up micro enterprises for the youths from BPL families. Emphasis is on providing employment opportunities for the educated youth, in the age group of 18-40. This program also gave men from the Kudumbashree families a chance to set up their enterprises. Individual and Group (minimum of 5) enterprises are set up under this program; emphasis is given in setting up innovative enterprises.

- *Innovation fund* was initiated for supporting innovative micro enterprise. The main objective is to cover initial risk. The maximum amount eligible should not exceed 50% of the total project cost including subsidy plus innovation fund. *Technology fund* is planned to procure advanced and innovative technologies for setting up micro enterprises under Kudumbashree. The technology

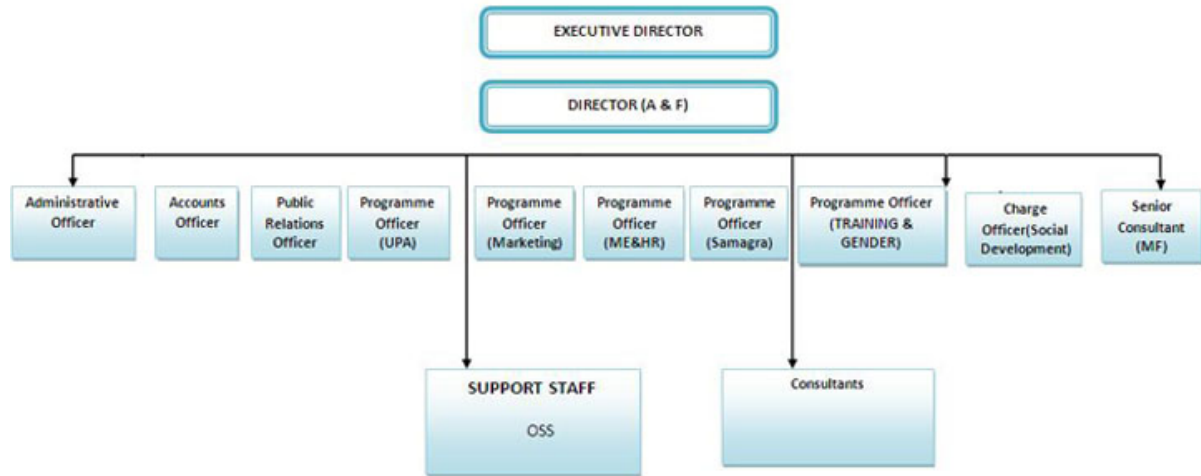
cost includes the cost to develop a new technology, technology purchase from the research organization/laboratory,/individuals/NGOs.

- *Revolving fund* is meant for meeting urgent requirements of working capital. One of the major issues faced by micro enterprise is the shortage of working capital due to delay in payments by wholesalers and departments. Kudumbashree succeeded in providing a revolving fund to units, which helped them harness working capital for continuous production-supply.
- *Santhwanam*: An enterprise to provide medical test facilities at one's doorstep
- *Lime solid waste management*: Outsourcing the city function of waste collection to women entrepreneurs.
- *Amrutham food supplement*: Nutritional food supplement provided through the 33,000 Anganwadi of the State to children in the age group of 6 months to 3 years. *IT & ITES*: Kudumbashree enterprises in the highly competitive world of information technology.
- *NREGS*: Under the National Rural Employment Guarantee Scheme, the ADS of the Kudumbashree are already involved in project execution. Community participation in labor-intensive projects is an opportunity for the community-based organization of Kudumbashree at the grassroots level to bring women to the forefront of the local decision-making process and to address concerns of gender equity in participation.
- *Social Development Program*: There are many other programs like Asray, Buds Balasabha, Balapanchayath, holistic health, and tribal special health projects under the Social Development Program.
- *Women Empowerment Program*: Under this program, Kudumbashree aimed at getting women to discuss the gender dimension of their issues. Locally contextualized modules on issues such as women and work, women and health, women and mobility, and women and entertainment are developed and deliberated in neighborhood group meetings. The different voices of women and their perceptions about the topics of discussion will be captured on a web-based portal accessible at the level of the local self-government. The portal is being developed with the support of the Minister of Information and Technology in the Government of India.
- Kudumbashree also emphasizes microfinance activity, which is the binding force of the NHG. Each NHG has operational flexibility in respect to its MF operations, within a broad framework. The various activities taken up under MF are thrift and credit operations, linkage banking, matching grants, interest subsidies for linkage loans (new scheme), and KAASS accounts and audit service society to ensure proper account keeping in the community network.

Organizational Structure



Organogram



STATE RESOURCE PERSONS/TEAMS