newsreach

THE LIVELIHOODS AND DEVELOPMENT BIMONTHLY

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The Women of Unnatipatha Cheli Samiti

The New Entrepreneurs

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Making a tentative beginning at goat-rearing, the women from Kandhamal cannot be held back, as they manage their animals and deal with the market too.

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A farmer preparing the field for sowing *kharif* paddy, using the wet DSR method in Banjra village, Samnapur block (p. 18)

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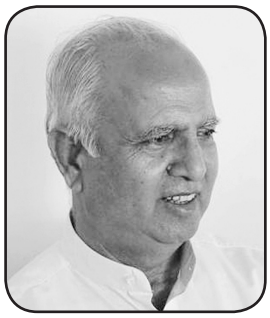
Newsreach, a bimonthly journal, is a forum for sharing the thoughts and experiences of PRADAN professionals working in remote and far-flung areas. *Newsreach* helps them reach out and connect with each other, the development fraternity and the outside world.

Remembering
Shri Vijay Sardana



Shri Vijay Sardana

Shri Vijay K Sardana, one of the most prominent faces of the development sector in the country, ended his battle with cancer on March 28, 2018. Trained as an engineer from the Indian Institute of Technology, Kharagpur, an MBA and MPhil from Delhi University, Mr Sardana found his calling in the social sector. He started his career in the sector at the Rockfeller Foundation, New Delhi, way back in 1967. Subsequently, in his long association with Action for Food Production (AFPRO), he strengthened his tie with the fraternity and guided many fellow professionals to follow the lead. His long stint in leadership positions in organisations such as Plan International, Aga Khan Foundation and Society for Promotion of Wasteland Development (SPWD) is remembered by many for his exemplary contribution to the sector. Mr. Sardana's contributions in the field of development in the last four decades have been in building multi-sectoral and cross-cultural teams; building partnerships and relationships chains; promoting research, networking and policy advocacy; enhancing civil society engagement; and promoting the general concept of philanthropy. After his retirement, he continued advising and mentoring many prominent development organisations such as PRADAN, Society for All Round Development (SARD), Kabil, etc., as a Board member. Strengthening governance function in the NGO sector was his passion and he continued this engagement till his last days. In his endeavour to develop a more tolerant and humane society, Shri Vijay Sardana founded Socio Research and Reform Foundation in 2008.

The development sector will miss this thoughtful soul, his radiant smile and the warmth of his heart.

Shri Sardana will be missed...!

"....I call him Vijaya Ji. I heard about him in 1980, when I was exploring the development sector. One of my professors encouraged me, telling me that Vijay Sardana, one of his favourite students and an alumnus of IIT, Kharagpur, was working with AFPRO, a leading rural development organisation. It was a surprise, at that time, to not feel like an outlier among the IIT engineers, as I thought about joining the development sector.

Ten years down the line in 1990, I finally met him, as a Board Member of PRADAN. He used to head the Southeast Asia operations in Plan International and was stationed in New Delhi. I was hesitant to approach him, considering the fact that he was more than 10 years senior to me; to me, he was a man of big stature in the public domain. However, when he discovered that we belong to the same alma mater, that is, IIT, Kharagpur, and to the same department, he extended to me his unconditional acceptance and our closeness increased as time passed.

We started working together closely since 2007 when he was inducted as an advisor by SRF Limited, for a community water-harvesting project, in partnership with PRADAN in Bhiwadi, Alwar district, Rajasthan. Vijay Ji and I used to travel together from Delhi to Bhiwadi for SRF review meetings. This was an additional attraction for me. In the four-hour journey to and from the project area, we would discuss myriad topics on various aspects of life, development, family, spirituality, etc. This joyful experience continued until 2012.

He had varied and challenging interests and was involved in these in various capacities. He even dared to trigger the initiative on some of the key issues that NGOs are currently facing, one such challenging agenda being 'NGO Governance'. It is a great challenge and I had no clue what could be done about it. I attended one such deliberation. He perused that agenda with great passion almost single-handedly. I salute him for his courage.

Our closeness turned into intimacy when he joined Kabil, the initiative I set up in 2012, as Board member. He volunteered to be a part of Kabil when I informed that I am setting it up. He had unconditional love and faith in me. He extended personal support to me: arranging expert support in registering Kabil as an NGO as well as getting other key compliances.

On the night of 23rd March, he called me to say that he would not be able to attend the Kabil Board meeting the next day, that is, 24th March 2018. That was our last conversation. I feel his presence and his blessings and guidance at all times."

Achintya Ghosh

"…..I met Vijay Sardana in AFPRO's Dev Pimpalgaon watershed development project in Aurangabad district in 1982. We had an IIT education in common and we became friends. He later came to visit the Association for Serva Seva Farms (ASSEFA) project in Jamui. where Achintya and I worked from 1982 to 1984.

Vijay then joined as the first Director of Plan International, and ASSEFA became its partner. Many years later, we worked together on the Board of the Society for Promotion of Wasteland Development (SPWD).

So, I have had a long association with Vijay and am sad to hear of his passing away. May his soul rest in peace.

Perhaps he would be happy to see that on 31st March, 2018, PRADAN will be receiving the Best NGO Award at the Business Standard CSR Awards."

Vijay Mahajan

"…..I am really sad …I knew Vijay from his AFPRO days and followed his career closely. His position in Plan International was a breakthrough. I remember him telling me when I was with Canadian International Development Agency (CIDA) and involved with Plan Canada that he had been offered the post in Plan India's operations….. I encouraged him to go ahead and also informed him that I am moving to Myrada where we will be partners…it was a fruitful partnership and that is largely thanks to Vijay, who understood the complexities of an Indian village organization. Thanks, Vijay, we in Myrada will remember you with affection. The foundation stone of our training centre in Hosur has your name on it since you inaugurated it… just last month we had it refurbished."

Aloysius P. Fernandez

"…..It seems like I have known Vijay Sardana forever at PLAN International, SPWD and PRADAN… always smiling with some thoughtful questions and a deep interest in whatever he was doing. I hope the family is coping as well as they can. PRADAN, I know, will certainly miss him in its annual meetings."

Bharti Ramola

"…..Extremely sorry to hear about the very sad passing away of Mr. Vijay Sardana on 28th March. May his soul rest in peace. Our prayers for comfort and solace to all members of his family."

Inderjit Khanna

"The message from Achintya Ghosh on 28 March 2018 that Vijay Sardana had passed away came as a huge shock. I had met Vijay in late May last year in connection with the work he was doing for The Coalition for Food and Nutrition Security; he looked in great shape. My prayers for peace to his noble soul and condolences to his family.

I got to know Vijay in 1980 in the course of interactions with late Col. Verma, his mentor, the anchor of the network of the Geo-hydrological Investigation Teams (GIT) at AFPRO and one of the founder Board members of PRADAN. I was then working in the Sukhomajri project and we would frequently interact with Col. Verma about the project and how to scale it up. Later Col. Verma introduced Vijay to PRADAN and he joined the PRADAN Board when Col. Verma stepped down upon completing his term. That brought about a long association with Vijay. He never missed a Board meeting. Having himself chosen a life similar to that of Pradanites, long before Pradan was born, Vijay was always supportive and would convey even his disagreements with a disarming smile!

Deeply supportive of the work of Civil Society Organisations, Vijay was involved in various networks to mobilize support for CSOs as well as improving their governance. The absence of this gentle soldier would be sorely missed."

Deep Joshi

"…..He was a big friend of and guide for PRADAN. He never missed any PRADAN meeting and was always ready with questions, observations and suggestions in every Board meeting that I have had a chance to attend with him. He used to connect with us at a personal level and was a great colleague. His professional and developmental credentials need not be mentioned; they were remarkable.

We from PRADAN express our deep-felt grief and condolences and hope his family finds strength in moving on without his physical presence."

D. Narendranath

Vijay Sardana in discussion with farmers of Morepani village during his visit to Kesla, Madhya Pradesh (2013)

AKANKHYA PARIDA

THE WOMEN OF UNNATIPATHA CHELI SAMITI: The New Entrepreneurs

Making a tentative beginning at goat-rearing, the women of Unnatipatha Cheli Samiti taste success and cannot be held back. They now monitor the health of the animals and deal with the markets too; thereby increasing their confidence and decreasing their dependency on men.

"THIS IS NOT ENOUGH. I WON'T SELL at this price. Take it at Rs 11,000 or leave it," says Sumanti Mallick. She counts the money given to her and hands over the goat to the buyer.

This is not a usual scene in a tribal village of Kandhamal. The scenario in this village, however, is changing. Today, the women have begun to negotiate prices in the market space. Sumanti Mallick and many other women of her village, and of some nearby villages too, can now be seen bargaining for a fair price, selling and managing the money that they earn in exchange for their livestock.

Sumanti Mallick and the women-folk of 'Unnatipatha Cheli Samiti', Sudra *gram panchayat* (GP) are now often seen negotiating with the traders for a fair price. *'Unnati patha',* which literally means 'Path to development', has truly been the conduit for many families towards progress.

Five years ago, Kateri Mallick of Jargi village, Sudra GP, in Balliguda block, used to be one of the poorest women. She lived with six family members, had barely any land, and largely survived by relying upon the Public Distribution System to meet the food requirements of her family

Backdrop

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Kandhamal is a place of serene beauty, cool climate and dense forests. It has more than 60 per cent of natural forest cover, in highly undulating terrain, receiving an annual rainfall of 1600 mm. The erratic nature of rainfall makes it difficult to fully depend upon an agrarian economy. And because of that, the place is also home to some of the poorest indigenous tribes. It is one of the poorest districts of Odisha, where the average income level of a household (HH) is at subsistence level. An annual income of Rs 30,000 is a distant dream for most HHs.

Five years ago, Kateri Mallick of Jargi village, Sudra GP, Balliguda block, used to be one of the poorest women. She lived with six family members, had barely any land, and largely survived by relying upon the Public Distribution System (PDS) to meet the food requirements of her family.

Kateri Mallick recalls with a sigh, "What to speak about those times, *didi*. Those days were very difficult for me and my family. We were so poor that we had only one meal a day. I used to go searching in the forest for *kandha mula* (wild yam), which I then boiled and gave to my children because I could not afford to buy vegetables and oil. I have spent sleepless nights thinking about how to get food for my children the next day."

She had to survive the year in three sets of clothes; her primary responsibility was to meet the HH expenses because she was the only earning member of her family. Her husband had been paralyzed for the last three years. Collecting *sal* seeds, stitching *siali (bahunia bahuli)* leaf plates, day and night, and selling them in the local market hardly fetched her Rs 6,000 in a year. She recounted, with a heavy heart, that she had had to stop sending her children to school because she needed the extra hands at work so that the house could run.

Kandhamal
BPL: 82%; ST-52%, SC-18%. Literacy (female): 36%
Kandha: 91% of the total tribal population
Area under forest: 72%, Sal forest
Climate: Cool. Annual rainfall: 1600mm
Irrigation created: 15%. Cultivated area: 15%. Fertilizer-consumption: 4.8kg/ha
Livelihood sources: Agriculture (30%); shifting cultivation (15%); forest produce (30–40%); livestock-rearing (20–25%); wage labour (10%)

Such was the ordeal that Kateri Mallick and many other women of that area face.

Her suffering began to abate once she decided try improved livestock-rearing activity. Although she didn't have a single goat to start with, she grasped at straws. She started to save little by little in her SHG; she purchased one goat and then there was no looking back. In 2013, she earned Rs 30,000, which she spent on the education of her youngest son. Now, she has a stock of eight mother goats, six kids and three bucks, and earns around Rs 20,000 per year. She no longer has to spend sleepless nights thinking about the next day's meal. Once she was a debtor asking for money from others, just to survive; now she saves money herself and even lends it to others.

Similarly, Alanti Mallick, a livestock-rearer of Pipali village and a member of the Livestock

These women are members of 'Unnati Patha Cheli Samiti', a Livestock Production Cluster, comprising 150 women farmers of four villages and formed in 2010. PRADAN has been engaged in scientific goat-rearing with these women rearers since 2006.

Production Cluster, goes to the bank and deposits money in her own account. This is the money she got by selling her goat. The money she earns from goat-rearing is spent on the education of her daughters. She has four daughters, three of who are studying in the capital city. Although she herself has never been to school, she wants her daughters to study and go for higher studies. She talks proudly about her eldest daughter, who has recently joined as a teacher in a private school at a nearby town.

Aalanti Mallick narrates, "I would have never been able to spend Rs 40,000 annually on my daughter's education if it hadn't been for livestock-rearing. The money that I got from this, I would divide equally and deposit into my daughters' accounts for their future security. Now I have 22 goats and 20 poultry birds."

When I asked her whether she ever spent the money for herself of her own will, she smiled and recalled an incident two years ago when her husband was out of town and she sold a doe in exchange for gold jewellery. Her husband had become furious when he returned and saw the doe missing. He called her dumb and asked her how she could sell his goat without his consent. To which she asked him how the goat was his alone when she spent most of her time looking after the goats. She argued that it belonged to both of them and she had an equal right to take a decision about its sale. She had made a profitable deal and was not dumb to waste her own money and resources. Her husband had nothing much to say after that.

Aalanti was smiling while narrating this conversation. The smile not only reflected her victory but also answered many questions. Questions of her status in this institution called marriage, her rights, her ownership, the value for her decisions. A sense of pride was evident in the entire discourse… the pride of having shifted from being a mere wage earner to an entrepreneur.

Perhaps, many such smiles can be seen on the faces of the women of these villages, which speak of their struggles, their efforts and their unique journey that has transformed them from being labourers to owners.

Journey of Change

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These women are members of 'Unnati Patha Cheli Samiti', a Livestock Production Cluster, comprising 150 women farmers of four villages and formed in 2010. PRADAN has been engaged in scientific goat-rearing with these women rearers since 2006.

In this indigent tribal-dominated area, even an annual income of Rs 10,000 was a tall order. The livelihood of the people was dependent on the collection of non-timber forest produce (NTFP). The people possessed very little land, and whatever they did was mostly fallow and unproductive. They kept one or two goats. There was no trace of vaccination or medication.

In an area such as this, the biggest battle facing the team was to develop affinity with the community and to mobilize them to come together to save money for themselves. Slowly, after continuous interaction, the people began to trust the team; PRADAN's journey with the community started with the formation of the very first women's SHG in the GP, in 2003. When we began working with them, the women didn't even have any money to save. Each day, they would keep aside one fistful of rice while cooking. They would bring in the rice to the weekly group meetings and save it, in lieu of money.

Initially, it was a struggle to make people realize the importance of scientific goat-rearing. Nevertheless, the team started its intervention of mass vaccination and de-worming, in consultation with the community.

There was an urgent need to build their livelihoods avenues. So, in 2005, when doing a survey and resource mapping for livelihoods planning with SHG women, the idea of scientific goat-rearing was conceived by the team. The livestock sector had the potential to provide considerable income, especially for the landless and for people involved in manual labour.

Although livestock was a small part of their livelihood portfolio, it held a great significance in their lives, culturally as well as economically. The animals were used in rituals as sacrifice to pacify Goddess Earth, were given as an asset for their daughters in marriage, or were a buffer for sale during emergencies. Even though livestock was often a shield, insulating families from contingencies, it was not a viable income-generating activity because of the low survival rate of the animals due to disease, especially because vaccination was taboo.

Many diseases were prevalent in the area, owing to which many goats died. Initially, it was a struggle to make people realize the importance of scientific goat-rearing. Nevertheless, the team started its intervention of mass vaccination and de-worming, in consultation with the community. Some of the women wanted to carry out the vaccination but did not because of resistance from the men. The resistance had its links and roots in their cultural traditions.

Through continuous discussions, perspective building and training, 30 members from four SHGs were convinced to start a scientific goat-rearing activity. After much perseverance and efforts, in 2006, the activity was initiated in two villages—Jargi and Kateribhata.

The main objective was to, at first, demonstrate the activity only in a small area, which after its positive outcome could lead to a wider acceptance and adoption of the practice. The women did not even have a single goat to start with, but they availed of a loan from their SHGs and bought goats to start the activity.

Men, on the other hand, were more apprehensive. They had a perception that, after vaccination, there would be more occurrences of diseases that would lead to the death of their animals. Their notion was not completely without basis because it arose from their previous experience in which many goats had died after being given vaccination by the Livestock Inspector (LI) of their area. The men, therefore, did not support the women in their initiative; this was a de-motivating factor and contributed to the snail's pace start of the activity.

When there was a need to construct a shed for the goats, the men flatly refused to help. They made fun of the women and bragged about how, without their help, the women wouldn't be able to construct the shed. However, when the going gets tough, the tough get going. And the women lived up to this saying.

The situation made the women more determined. They formed alliances among themselves and worked together, helping each other to construct the shed. They teamed up to build a wooden cart, which they used to get logs from the forest and successfully completed the building. That was a major stepping stone for the women farmers. The men, who were mere spectators, were quite surprised and shocked to see their women working independently. Some of the men were sorry for the stand they took and started supporting the women in their venture.

That year, there was outbreak of PPR (Peste des petits ruminants) disease (also known as 'goat plague') in the area. The families

Although the women came forward and engaged in this activity, the control was not in their hands; it was largely driven by their men. In many cases, the indecisiveness of the women and their dependency on the men for taking a decision to spend even a single penny for this activity were evident.

that had not vaccinated their goats lost all their animals. The only goats that remained were the ones that belonged to the 30 SHG members, who had vaccinated their livestock. Seeing this, many women and men developed a trust in vaccines and showed an interest in participating in the activity.

Slowly, more women came together and joined hands as news of the best practices spread from village to village by word of mouth. Although the women came forward and engaged in this activity, the control was not in their hands; it was largely driven by their men. In many cases, the indecisiveness of the women and their dependency on the men for taking a decision to spend even a single penny for this activity were evident. Rather than recognizing themselves as owners, they accepted a role as mere workers in this whole process.

There was urgent need to select a few persons and train them on scientific goat-rearing practices, in which women members first selected men representatives from the village, to provide basic health-care services to rearers. These representatives were called para-vets. They were trained in vaccination, de-worming, first aid, castration and feed preparation. They also procured medicines and vaccines in bulk and provided door-to-door services. After some time, there was a dropout of 90 per cent of the para-vets because they did not find the work lucrative enough nor did it offer them immediate returns. The activity, then, remained at a subsistence level. In order to reduce the dependency of this activity on male members, PRADAN shifted its priority from ensuring mass vaccinations to capacitate women SHG members and encourage them to work as para-vets.

Guiding women to ensure vaccination in their villages was one thing and getting them to hold the needle and vaccinate the goat by themselves was another. When the women were called for technical trainings, they were reluctant to attend them and wanted men as para-vets. The same age-old notion came forth where the men are perceived to be more capable than women. The women had a mental barrier that linked their illiteracy to their capabilities. Most of the women were illiterate and had never had a chance to go to school. All those missed opportunities and discrimination created a low self-image, preventing them from coming out. After considerable resistance, apprehension and persuasion, some of the women para-vets got selected by the SHGs. Most of the women broke their own barrier of self-consciousness and started their journey of learning. There were many more hurdles in their environment, however, that were yet to be overcome.

Saving money to buy goats, taking care of them, and cleaning their excreta was acceptable work for women but holding needles, injecting goats, moving to distant villages and giving training raised many eyebrows in the village. The societal norms considered the castration of goats a taboo and forbade women to do so. No women had ever done that, but these women para-vets dared to do it. Their husbands were outraged by this. Men, as well as some women, slandered them, which added fuel to the flames. Their families tried to keep them away from going to trainings.

Some of the para-vets decided to leave after hearing these allegations. However, after sustained discussions with the women, their husbands, families and SHG members, PRADAN professionals, gradually, helped the para-vets change their

So, the first couple of years of the initiation of the activity were difficult. There was a questioning of the outcomes of the activity and there was a violation of social harmony

decision. Once they got support from their family, they became determined to do something for themselves and the others and continued their trainings and work.

Sebati Digal, (an expert para-vet) recalls, "My husband shut the door and didn't allow me to enter the house when I got late coming back from the training one day. A PRADAN professional came and talked to him, only then did he let me in."

Pusari Digal, is a member of the Unnatipatha Cheli Samiti, of Jargi village. She has never had any formal education but has been trained as a para-vet and is one of the first women para-vets. She shares, "I am illiterate, and could not read the names of the medicines. I marked the medicines in pen and remembered them. My hands shook when I first held the injection. It took me a lot of time to hold it steadily. Once I gave the injection successfully, my fear went off. I had never thought I could ever do it, and I am glad that now I can."

So, the first couple of years of the initiation of the activity were difficult. There was a questioning of the outcomes of the activity and there was a violation of social harmony.

Realizing the difficulties, the women's Cluster worked consistently to support the para-vets. Gradually, the women mastered everything, from open castration to handling difficult cases. With the efforts of these women para-vets, there was a significant shift in the villages with regard to livestock-rearing. From the inception of this activity, there has been no outbreak of deadly diseases, the mortality rate has decreased to less than 4 per cent (the standard adult mortality rate is 8 per cent) and the average stock size has increased from 2 to 20 in this Cluster. With each successful case, people's perception of women para-vets is changing.

Pushpita Mallick a para-vet of the Cluster shares, "When I started goat-rearing I had only one mother goat, now I have 12. With the growth of my stock (now 23), I have also grown. When my SHG members selected me as a para-vet, I was reluctant at first. I hesitated to speak before a gathering. Now I go to different places as an expert to train other women like me. When I go out, my husband takes care of my children and the house. He takes care of the livestock too. Going to villages for training and interacting with women, gives me a unique sense of solidarity and through this I feel I have achieved many things in life."

Not only the para-vets but all the women too have developed confidence in this activity. The men, who once had a limited role in this activity, have started lending a hand in taking care of livestock. In families where getting year-round ration had been a struggle, this activity has contributed to providing food. The authority with which the women now assert their views has been a long time coming. The women, who used to shy away from speaking, are now negotiating with traders for selling their livestock. Those who were dependent on men's permission for spending any money, have now started saving the income from livestock in their own bank accounts.

Raji Digal, a women rearer from Kateribahat village, says, "We women look after the livestock, we clean their shed, we give them medicine, we take care of them like our kids so they belong to us. We own the livestock and we own the money out of it."

Livestock is not only looked at as a source of income by these women but it also holds a special place in their hearts. While taking care of their livestock, they develop an attachment to it as they would for their own child. Women share how difficult it is when they have to sell their goats. They do not consume its meat because of the affection they have for the animals

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The Livestock Production Cluster

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Looking at the ease of carrying out the activity, and the economic return with respect to labour, the women have started adopting this activity as a major livelihood option. In order to strengthen the activity and create a model, there was a need to collectivize. In 2010, these women formed a goat production cluster named, 'Unnatipatha Cheli Samiti', to combat a few of the higher order issues that arise during operations and scaling up of the activity.

Starting in 2006 with 30 families, the activity reached 100 families in four villages by 2010. Thus, that year, the Unnatipatha Cheli Samiti was constituted. It has a President and 12 Board members elected from among them. An annual membership fee of Rs 100 is being collected from each rearer. Along with the SHG-wise collection that is done at the Cluster level to create a pool of funds; savings are made separately by each Cluster member for the vaccination and medication of livestock in their respective SHGs. The women, in each SHG, maintain a separate rearer card to record their individual transactions.

All the transactions that take place in the monthly meetings of the Cluster are recorded in the cash book maintained by the book-keeper. The funds are then deposited in the bank; currently they have Rs 60,000 in their bank account. The money is utilized for procuring vaccines, medication, feed and purchase of quality buck. The Cluster also supports women in need by providing them with a loan, to carry out this livelihood activity.

Each member of the Cluster follows the improved practices. They have spent their own resources to construct their goat shed. Through this intervention, the average income of the families from livestock has now come up to Rs 20,000 to 30,000 per annum.

Punjungi Mallick of Kateribhata village proudly tells us about the gold jewellery that she bought that year for her daughter's marriage by selling her goat for Rs 25,000.

"I take care of my goats, I myself go to Balliguda to buy medicines and conduct the de-worming by myself. My husband doesn't understand anything. I manage the money, now. I buy clothes for myself and my husband; Last year, the money I got from livestock, I spent it in the construction of my house."

During the regular monthly meetings, the functioning of para-vets and also SHGs are reviewed, around the livestock calendar. The members have undergone capacity building trainings around improved practices. The members of each SHG have been trained to provide basic care and medication to their livestock. The Cluster looks after the vaccination needs of each SHG and has links to other stakeholders such as the Veterinary Department for vaccines and the purchase of poultry birds. The Cluster has also planned and has been pursuing the *panchayat,* to converge for shed construction through MGNREGA.

Having ownership over the stock or control over the income is rare among women rearers. Certainly, these factors are barriers to women's empowerment; the greatest drawback, however, is a woman's self-perception. Her view of herself, (that of being a worker and not an owner) time and again, limits their growth.

The activity started with small ruminants; subsequently, the Cluster took up backyard poultry. Mass awareness has altered the community's view from being a fatalistic one to an indeterminist one. Earlier, their cattle's health was ignored and, in case of disease, its survival was left to fate; however, now they have started treatment of large ruminants also. When their cattle fell sick, they usually contacted the Livestock Inspector of their concerned GP and spent money on its treatment. Treatment for simple ailments and problems of cattle is now taken up by women para-vets.

Aiming to increase the scale of this activity and reach out to all the other women rearers, the Cluster arranged an exposure to their village. The people from many GPs, other districts, government officials and stakeholders visit their Cluster, to understand the livestock model and witness the change that has taken place because of the efforts of the women.

The Cluster has also established a link with the outside traders for selling goats. The women no longer have to go to the market looking for a buyer and a suitable price. Looking at the scale and the quality produced at that Cluster, traders now directly arrive at their doorstep to buy goats. The women negotiate with the traders and sell the goats even in the absence of the men of the household.

Tinuri Digal, of Jargi village shares with a smile, "Once my husband went to Balliguda market to sell the goats. He couldn't negotiate with the buyers so he returned disheartened. The next day, I went to the market and sold the goats for Rs 20,000."

Small Steps to Change

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Traditionally, in our society, a woman's role in an economic activity has always been devalued and has never been recognized or appreciated. The women perform all the day-to-day activities related to caring, feeding, cleaning and looking after the health and production of livestock. And yet, these are considered to be low-skill activities. Having ownership over the stock or control over the income is rare among women rearers. Certainly, these factors are barriers to women's empowerment; the greatest drawback, however, is a woman's self-perception. Her view of herself, (that of being a worker and not an owner) time and again, limits their growth.

Slowly, this notion has started to change; the tables have started to turn in this Cluster. For the last six years, women have been managing this activity and the Cluster by themselves. They have started to realize their own potential and are fighting and demanding equal rights over the assets that they have built through their toil and sweat. Smaller steps, taken by these collectives, have led them to where they have reached today. They now have greater access to knowledge, information and exposure to the outside world. Access to the market has increased their mobility, which was earlier limited and was the privilege of men. Women here are no longer dependent on their husbands, brothers or sons. They started as labourers and are slowly becoming owners.

"Recently, when my husband's phone broke, I went and bought a smart phone for him. He was surprised and happy to see his gift. I was happy because I bought it from my own money; now, I do not depend upon anyone." Sebati Digal

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Akankhya Parida *is based in Balliguda, Odisha*

MINU MARYDAS AND KRISHNA TIWARI

SAMNAPUR: Cultural Change in Agriculture

Initiating new techniques in farming, the women of Samnapur have started taking the lead in agricultural practices such as introducing the cultivation of vegetables, growing paddy through SRI, going to the market to sell vegetables and asserting their identity as farmers in their families and in society, thereby bringing about a sea change in the way they are perceived and in their confidence as decision-makers.

IT IS RAINING HEAVILY. THE SUN HAS NOT SET YET. THERE is no one in sight but one person. Far away, in the distance, there is a person ploughing the land, despite the heavy rain. This might not be an unusual sight in a village. In a culture that recognises the land as the mother, ploughing is done only by men so that the land becomes more fertile. However, in Kureili village in Samnapur block, despite the rains, the person ploughing the land is a woman.

Chandrakali is the determined and fearless farmer.

The story goes back a few years. Chandrakali was waiting in the field for her husband to plough the land. But her husband was nowhere in sight. It was about to rain, and she decided to plough the land herself. She put on a raincoat and ploughed the land for the first time. She was apprehensive at first, because she did not know whether she would be able to do it. Once she started, she got the hang of it. It was no rocket science. She did not fear anyone. If at all someone were to catch her, she was ready to pay the fine or face the consequences. She finished ploughing the land before her husband returned home.

Chandrakali presumed that perhaps these rules were actually created to give women some rest. Mercifully, that year, they didn't face any loss in agriculture yield despite the superstition that if a woman ploughed the land, the crops would fail

On his return, her husband realized, that after he had left someone had continued to plough the land. He asked Chandrakali later in the night and she told him the truth. To her surprise, he was not angry with her. He was glad to know that she could plough the land. He jokingly told her that from now on he need not worry about ploughing because she too could do it. However,, because there are certain rules of the village, he himself would have to do it. At that moment, she was glad that such rules existed, otherwise the entire burden of agricultural work would have fallen upon women.

She presumed that perhaps these rules were actually created to give women some rest. Mercifully, that year, they didn't face any loss in agriculture yield despite the superstition that if a woman ploughed the land, the crops would fail. It was an eye-opener for her. Chandrakali realized that women were definitely not restricted from ploughing because that would cause the land to become infertile. It became clear to her that some norms were made to relieve women from certain activities.

She never ploughed the land again. She believed that instead of bringing a change in these norms, which could be seen as a blessing for women (though not always), she would like to bring changes in the culture of agricultural practices.

We'll talk about these changes in a while.

There are many others, who share the same view and have worked towards bringing a change in their lives through agriculture in Samnapur block of Dindori district in Madhya Pradesh. The principal tribe here is Gond, and the others are Baiga, Kol, Agariya, Bhariya and Pardhan. The people's major occupation is agriculture and daily wage earnings.

PRADAN has been in Samnapur since 2005. At that time, the role of women in agriculture was very different. Women have come a long way today by asserting their role in decision-making and claiming recognition as farmers. Even though women are intensively involved in agriculture, usually it is a man's picture that comes to mind when one thinks of a farmer. Women are regarded only as labourers, not farmers. They are not involved in deciding which crops to grow, which method to use and so on. Women, it is assumed, have no knowledge about these things. However, some of the women have started to break this perception in Samnapur.

Ansuiya's story is one such example. Her family's main source of income is agriculture. Earlier, during the *kharif* season, the family used to grow paddy using the broadcasting method. In one of the agricultural trainings, conducted at the block level, the women were shown a video on growing paddy through the SRI method. Ansuiya was fascinated by it. She couldn't believe that one could produce 40 quintals of rice out of 1 kg of seeds. Even though she was apprehensive about the soil quality, she thought of trying it once.

She believed in learning by doing. Her father-in-law was not happy with this idea. He asked her to stay out of decisions on agriculture as she had no past experience in it. However, she remained firm on her decision and used SRI in around 30 decimals of land. In the beginning, the field looked empty. Her father-in-law mocked her saying, *"Iss baar humari bahu bela phikwayegi* (This time our daughter-in-law will incur losses in agriculture)." His mockery made her even more determined to work in the field. She worked day and night, just to prove her father-in-law wrong. After 15

Ansuiya strongly believes that there is no work that women cannot do. Even though social norms restrict them from carrying out certain activities such as ploughing, it does not mean that they are not capable of doing it

days, the field was filled with green paddy. She brought a weeder from the PRADAN office and did the weeding and cutting all by herself.

Earlier, the family used to produce 250–300 kg of paddy from five acres of land. Ansuiya's determination and hard work gave the family a produce of 10 quintals from 30 decimals of land. Everyone in the family was very happy and proud of her, especially her father-in-law. The following year, a few other members also started growing paddy through SRI or improved paddy methods. Today, most of the families in her village, Newsa, grow paddy using this technique. She has become an inspiration to many in her village. Her firm determination has motivated other members of her SHG to adopt this new technique in agriculture. Ansuiya is a trend-setter in her village and has inspired and given confidence to other women to become decision-makers in agriculture and not just be the labourers.

Ansuiya strongly believes that there is no work that women cannot do. Even though social norms restrict them from carrying out certain activities such as ploughing, it does not mean that they are not capable of doing it. She shared a very recent instance that was an eye-opener for her. Her husband was not home and it was time for milking the cow. She had never done it before. It was her husband who milked the cow every time. However, it was getting late and her husband was nowhere to be seen. So, she tied the cow and milked the cow herself. When her husband came back, he was amazed. He had not expected her to be capable enough to do it.

The next morning, her husband got ready to leave the house when Ansuiya stopped him. She reminded him that it was time for milking the cow. To this, he responded that now she also could do it because she had the experience now. His presence was no longer required, he said. This made her angry and she told him that she had taken the responsibility only for one day and not for every day. At that moment, she realized that it was good that some work was meant only for the men. Otherwise, the women would have to do all the work whereas the men would spend the whole day roaming around freely.

Many women, like Chandrakali and Ansuiya, are of the view that if men realize that the women can do all the work and that there will be no consequences in their lives or on the agricultural produce, the men would take a backseat and not do any work, including the heavy and strenuous work. They would want the women to do all the work—both at home and in the fields.

Lalita's journey is yet another inspirational example. After being involved with her SHG for some time, she got to know about vegetable cultivation. She wanted to grow vegetables in her land and placed this suggestion to the other members of her SHG. However, the others were not as enthusiastic as she was. None of them showed any support. Even though she was angry with the members, her motivation did not become less. She took a loan of Rs 7000 from the SHG. She grew brinjal, tomato, ladyfinger and long bean *(barbatti)*. She hired a few women as labourers and worked very hard in the field.

Owing to a lack of support in the market linkage during that time, she couldn't sell all the vegetables she had grown. However, she managed a no-profit no-loss return. Her father was very happy. He began to tell everyone, *"Pehle toh khet mein ghusti bhi nahi thi, aur ab dekho*

Over the years, women have started to break norms and set new trends, wherein they are the norm-setters. There have been many cases in which women have played a very influential role in enhancing the income of the family by engaging in livelihood activities, using innovative techniques and ideas.

(Earlier she would not even enter the fields and now look her)." Her fellow SHG members were also impressed. This raised her spirit and enthusiasm. Earlier, she could not even go to the market alone. Today, she has become an entrepreneur by starting her own *papad* business. With the help of five SHG women, she makes and sells different varieties of *papad* in and around Samnapur.

Lalita proudly states, *"Pehle mein zero thi, ab sau pe sau hun* (Earlier I was zero and now I am hundred out of hundred)." She ensures that whatever work she does, she involves the other women as well. She would like it to be beneficial to the other SHG members as well. She includes them in the vegetable cultivation and in her *papad* making business. Her wish is that all the other women become self-dependent and confident just as she is today.

Along with enhancing the livelihood of the household and reaffirming the women's role as farmers and decision-makers, efforts have been taken to reduce their drudgery as well. Women are involved in most agricultural activities, which are tedious and painful. Activities such as weeding, transplanting, etc., involve continuous bending of the body, affecting the women in the long run. In order to reduce this drudgery, various equipments have been introduced recently, such as the weeder. This not only reduces the amount of energy required in weeding but also saves a lot of time.

Over the years, women have started to break norms and set new trends, wherein they are the norm-setters. There have been many cases in which women have played a very influential role in enhancing the income of the family by engaging in livelihood activities, using innovative techniques and ideas. They have also taken the lead in the family to initiate activities (such as vegetable cultivation) that was alien to them earlier.

In Kureili, entire households are occupied in vegetable cultivation at present. After much persuasion by PRADAN, almost a decade ago, one family in the whole village agreed to experiment with vegetable cultivation. The family had more land than the others. They cultivated tomato and the result was unbelievable. Seeing the result, many others started vegetable cultivation from the following year. Farmers also brought about changes in the

Kumhari Bai using weeder in her maize field, Gaura Kanhari village, Samnapur

Agriculture was regarded just as an occupation to feed their families. It was not seen as a commercial activity but was a means of sustenance. Now, agriculture is seen as a means to enhance their quality of life. It is being seen as an occupation through which they can earn sufficient income.

techniques of paddy cultivation. They started cultivating improved paddy, using SRI methods.

In 2006, when some farmers in Kureili tried the SRI method for the first time, the neighbouring villagers made fun of them. They were told that the yield would not increase because there was too much space between plants. To everyone's surprise, however, the yield was more than twice the usual. Today, every household in Kureili that owns land is involved in vegetable cultivation and has adopted the SRI method. All the villagers brought about changes in the culture of their agricultural practices; earlier, they were only involved in the broadcast method of paddy and maize cultivation. Also, earlier the women did not have much say in the agricultural practices. Today, one can see women taking the lead in decision-making, with regard to agriculture and going to the market to sell their produce.

Chandrakali is one such inspirational farmer in Kureili. She was awarded the 'Best Farmer Award' from the block, this year. Through hard work and determination, she managed to earn more than Rs 1.5 lakhs from the six acres of land she owned.

Farmers celebrate International Day of Rural Women in Samnapur

Along with vegetable cultivation and SRI, she experimented with more techniques, such as growing lentils alongside the boundary of the paddy field *(medh)*. She has utilized the land resource available to her optimally.

Another inspirational farmer is Sukarti from the Bamhni village in Samnapur. Her family was involved in cultivation of only paddy and pulses. None of her family members in the village grew vegetables. She used to see farmers from other villages coming to Bamhni market and selling vegetables. One of the very few women sellers was her friend, Premvati, whom she became close to during the collective meetings at the block level.

Inspired by Premvati's story, Sukarti decided to grow vegetables one season. She was the first woman to grow tomatoes in Bamhni. She had no measuring equipment; therefore, she gave the tomatoes to her friend to sell them in the market. Seeing this, the *thekedar* started arguing with both of them. He told Sukarti that she could not sell her vegetables through someone else. She would have to set up her own stall. She requested him to allow her to sell her vegetables for that week and that from the

One can see a visible change in most of the villages (if not all) with regard to the culture in agriculture in terms of changes in the crops grown or adding new crops, adoption of new techniques for cultivation, change of perspective regarding agriculture from subsistence farming to commercial farming and also the role of women in initiating these changes in their families and asserting their identity as farmers.

next week onwards she would set up her own stall. After prolonged pleading, the *thekedar* agreed.

The next week, Sukarti set up her own stall. This time, the *thekedar* created another fuss. He asked them for more money than the fixed rate. Both the women stood firm and fought with him. They told him that they would not give him a single rupee more than the fixed rate. The *thekedar* got furious and frustrated and left them. Seeing their determination, a few of the other sellers also fought with him for asking for more money. "Today, almost everyone in the market pays him the fixed rate," says Sukarti with a proud smile on her face.

She shared that in order to earn more profit she would take her vegetables to Jabalpur because the profit margin was less in the Dindori and Mandla markets. Seven to eight years ago, when she was new to this sector, she found very few women selling vegetables in the market. This was a struggle as she had had to remain strong when dealing with the *thekedar* and other men. Now, the number of women has increased. Yet, it is not all satisfactory.

Recently, when Sukarti went to Baigachak to sell vegetables there were only two women in the vehicle, Premvati and herself. She has motivated some more women in her village to grow vegetables and to sell them in the market. She wishes to inspire many more. This year, she went to Bengal to understand and learn about the *machan* (trellis) technique. She also bought thread from there and plans to set up one in her field. She dreams that, one day, women will come to her village for exposure visits. And with her strong determination and willpower, we do not doubt her a bit.

We have come a long way today. We understand that this is not the end. Farmers are bringing about major changes in their culture. Earlier, the area witnessed cultivation of only cereals and pulses. The method of cultivation was broadcasting. Also, the role of women in agriculture was limited to just working as labour. However, today the picture has changed. Women have started taking the lead to initiate new farming techniques in agricultural practices such as introducing the cultivation of vegetables, growing paddy through SRI methods, going to the market to sell vegetables and in a way asserting their identity as farmers in their families and in society.

Earlier, many of the farmers did not take much interest in new agricultural techniques. Agriculture was regarded just as an occupation to feed their families. It was not seen as a commercial activity but was a means of sustenance. Now, agriculture is seen as a means to enhance their quality of life. It is being seen as an occupation through which they can earn sufficient income. Farmers have started to go to the markets and sell their produce. In a few villages, people from the *thakur* caste have also started practising vegetable cultivation. Earlier, this caste used to demean this activity.

Take Kureili, for example. The whole scenario of the village has changed because of one farmer's decision to experiment with cultivating vegetables. Most of the changes have taken place due to a ripple effect, wherein, people learned by seeing others and then following in their footsteps. One can see a visible change in most of the villages (if not all) with regard

The attitude of taking a risk and the readiness to accept consequences helped bring about these changes. Women, specifically, had to face extreme disapproval from family members. Today, the attitude has changed. Women have started going out to sell their produce in the market.

to the culture in agriculture in terms of changes in the crops grown or adding new crops, adoption of new techniques for cultivation, change of perspective regarding agriculture from subsistence farming to commercial farming and also the role of women in initiating these changes in their families and asserting their identity as farmers.

In the beginning there were challenges. Even though there were some farmers ready to experiment with a few changes in agricultural techniques and practices, the conviction and confidence was not high. Moreover, the sarcastic remarks from the relatives and friends did not help. The outcome, however, boosted the energy and confidence of the farmers. The attitude of taking a risk and the readiness to accept consequences helped bring about these changes. Women, specifically, had to face extreme disapproval from family members. Today, the attitude has changed. Women have started going out to sell their produce in the market. In one of the conversations, the women said, *"Hum jab jaate hain sabji bechne tab jaldi bik jaata hai kyunki jaan-pehchan ki didiyan humse hi kharidti hain* (When we go to the market to sell vegetables, all the *didis* we know buy our produce and the vegetables get sold fast)." Sarcastic remarks have now changed to appreciation.

For sure, there are many more miles to cover. Changes in agricultural patterns and perspectives can be seen in all the villages that PRADAN is working in but this is not so in all the households of those villages. In some cases, it has percolated into a majority of the village and in some cases into some households in a village. Overall, the change across the villages is yet to be seen.

A spark has definitely been lit; the fire is yet to be ignited.

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SM SEHGAL FOUNDATION

INNOVATIVE TECHNOLOGY: Clean Drinking Water in Villages

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Finding a way to harvest rainwater by creating freshwater pockets in existing saline aquifers is a novel and creative way to solve the drinking water problem in the arid regions of Haryana, which have very few surface water resources.

"MY DAUGHTER AND I USED TO CARRY AROUND 80 to 100 litres of water per day, not for our needs, but for the school. How else would the children have survived at school?" asked Saliman, an *anganwadi* worker at the school in Sukhpuri, Nagina block, Nuh district.

This one poignant statement depicts the sheer challenge of the activity, on the one hand, and the utmost dedication of an individual on the other. There are many more such examples.

The district of Nuh in Haryana is a semi-arid region with very few surface water resources. Groundwater is the primary source of water for domestic as well as agricultural purposes. However, because the groundwater is highly saline and of poor quality, it is unfit for human

The cost of boring a well is high; therefore, the villagers are compelled to purchase water from commercial water tankers. However, those who have limited resources are forced to fetch water from distant sources to meet their needs

consumption. Pipe water supply network is maintained by the Public Health Department of the district. This water is sourced from canals and tube-wells near the foothills, where fresh water is still available. Due to the erratic nature of the supply, even the domestic demand for water is hardly met. Most villagers suffer as a result of the lack of availability of potable water. The owners of sweet water bore-wells engage in water trade. The cost of boring a well is high; therefore, the villagers are compelled to purchase water from commercial water tankers. However, those who have limited resources are forced to fetch water from distant sources to meet their needs. These sources of water are either government tube wells, ponds or hand pumps.

In 2015–16, with the support of the Millennium Alliance (MA), the Sehgal Foundation, which works to strengthen community-led development initiatives, installed high-pressure recharge wells in four schools in the water-scarce villages in Nagina block. The aim was to create freshwater pockets in saline aquifers, to make water available for drinking purposes in these schools. This was done in four select schools where groundwater levels were shallow (around 15–20 feet below ground level).

Apart from installing high-pressure recharge wells, the project includes creating awareness about the usage and applicability of these wells in a way that the people can adopt this model in households and at the community level; this will, in turn, help mitigate the problems of water scarcity and salinity in these villages.

High-pressure Recharge Wells

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A high-pressure recharge well is a rainwater harvesting system that creates a freshwater pocket in a saline aquifer. An open cylindrical tank of reinforced concrete is constructed over-ground, with its foundations reaching deep beyond the existing groundwater level. The rainwater from the roof-top is channelized into the recharge well through PVC pipes. Because the tank is constructed above the ground, sufficient pressure is created. This enables the harvested water to push the saline water sideways creating a freshwater pocket within the saline aquifer.

This phenomenon occurs because saline water is denser than rainwater. The pressure exerted by the surrounding saline groundwater keeps the rainwater pocket intact. A hand-pump is then used to extract the harvested rainwater. The water passes through a bio-sand filter that removes physical, suspended, and biological contaminants. The filtered water is drawn through water taps in the school. The total roof area of all four schools is 2400 sq. m; and with an average rainfall of 600 mm, a total of 1.44 million litres of water can be harvested. The harvested rainwater is available for 9–10 months, depending on the usage and the average rainfall that year.

Susmita Guru, Social Scientist, Research, Monitoring and Evaluation, Sehgal Foundation, who assessed the impact made by the structure in schools says, “In the case of schools in Sukhpuri and Danibas, the installation of the structure has reduced the burden on children, in terms of bringing water bottles from

The students say that the water extracted from the high-pressure recharge well tastes good and is similar to the bottled water available in the market

home. Besides this, the assured access to clean and safe drinking water helps in maintaining the health of the students through proper hydration during the day at school, which is very important."

Sayira, a student of Grade VIII of the government school in Sukhpuri, says: "I used to bring a water bottle from home and drink only small quantities, fearing that it would finish. Now I do not need to worry about this anymore because there is sufficient drinking water available in the school."

Israil, a resident of Danibas village, said that he often asks his child to bring home some water from the structure installed in the school because the water is clean and tasty. The students say that the water extracted from the high-pressure recharge well tastes good and is similar to the bottled water available in the market.

The cylindrical tank built over the ground to collect the water from the high-pressure recharge well, Government High School, Sukhpuri, Nagina block

In schools, there has been a transition from purchasing drinking water to using rainwater extracted from high-pressure recharge wells. For one school, one water tanker lasts 20 days and costs Rs 700–1200. With schools being open on 230 days a year, the total financial savings amount to around Rs 11,000. The amount saved can be spent on other useful activities.

Replication of this model in households and at the community level is one of the objectives of the project. The model has yet to be adopted at the household level even though everyone realizes that the structure could be a solution to the ongoing water problems in the villages. However, on the flip side, the installation of high-pressure recharge wells is expensive. The average installation cost per school is dependent on the roof area. For a roof area of 600 sq m, the average cost of installation would be Rs 4,00,000. Acute drinking water scarcity has prompted the villagers and the school teachers to try out this model. However,

The challenges to scaling up are many. The very first challenge was to make people understand what clean and safe drinking water is and its importance. This included talking to the members of the school management committee, parents, teachers and students.

up-scaling to harvesting water at the household and the community levels will require technical assessment as well as a greater sensitisation of the people.

Siraju, of Sukhpuri village in Nagina block, wants to install a high-pressure recharge well in his compound. He says, "I am interested in installing the structure after my visit to one of the schools, where such a well has been installed. In fact, I often visit the school to understand the structure and its functionality of bringing quality water to the school. The water is clean and is tastier than the water I use at home. Due to the high salinity in the water, my family and I buy water for our household consumption, which is expensive. I think recharge wells could work out as a permanent solution to my everyday water problems, provided I receive financial support and technical guidance."

"The challenges to scaling up are many. The very first challenge was to make people understand what clean and safe drinking water is and its importance. This included talking to the members of the school management committee, parents, teachers and students. The second was to encourage a more participatory role, in contrast to a passive acceptance of the asset created. The third was to create awareness that it was important to meet the criteria of a shallow water table and certain characteristics of soil in the prospective area of intervention. For example, the intervention cannot be executed in clay soil because the infiltration rate of water in such soil is very low. However, with the passage of time, interventions have seen innovative tweaking and some improvisations, which have resulted in successfully overcoming the challenges concerned," adds Parth Gohel, Programme Leader, Water Management, Sehgal Foundation.

A similar model has been adopted in a school campus in Punhana block and the results are positive. We are also planning to experiment with this technology, in areas where the groundwater is deep and brackish. If the experiment is successful, the model can be replicated in other regions that have saline groundwater.

The above is just another step taken to address the challenge of water quality in this geographical area. Other new avenues are being explored on a continual basis through research and development. The idea is to find innovative and cost-effective solutions for the challenges at hand, bringing about all-encompassing changes.

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SM Sehgal Foundation *is a Gurugram-based organisation*

JAGAT BARIK

COLLECTIVE FARMING: Creating an Identity for Women Farmers

Applying their minds to adopting improved agricultural practices and shifting to vegetable cultivation on a large scale through collective farming, the women of Gaudaguda village unite to change not only agricultural practices but also show their potential at organizing themselves by bringing the market to their doorsteps, thereby streamlining processes

"WHEN I DECIDED TO CULTIVATE brinjal in 80 decimals of land that was earlier used for cotton production, my husband got very angry with me. He asked me how I would sell such a huge quantity of brinjal and told me that I would have to give him Rs 30,000 in case of failure. He did not support me in the any farm-related activity. I took up the challenge because my *Sangha* had decided to bring the market to our doorsteps. I earned Rs 80,000 from brinjal cultivation. If I were to add the value of the brinjal I distributed to my relatives and consumed, it would cross Rs 1 lakh. My husband and I are very happy. He is not talking about money any more; it's now in my hands and I can use it as per my choice," said Palai Jiraka with pride.

Palai Jiraka, a tribal woman, lives in Gaudaguda village in Kolnara block, Rayagada district, Odisha.

"My husband is the decision-maker; I follow what he says. I wish to cultivate vegetables in half an acre of land where we grow cotton, but it's up to him. If he agrees, only then can I do it. I can't take decision on my own."

She cultivated cotton every year. After joining a Self-Help Group (SHG), she started vegetable cultivation. Owing to the difficulty in marketing her produce, she cultivated in a small piece of land. Every year, she cultivated cotton in that land and earned around Rs 30000. This year, she earned Rs 80000 from the same piece of land because of the marketing support provided by her farmers collective. She has full control now over the income.

Background

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Kolnara block of Rayagada district is a tribal-dominated block where more than 72 per cent of the population is tribal. Of these, a majority belong to the "kandha" tribe and speak both Kui and Telegu languages. They depend mostly on agriculture, dongar (shifting cultivation in the hills) cultivation, on non-timber forest products (NTFP), livestock and wage labour for their livelihood. In these five traditional livelihood activities, women contribute the major work force; men, however, are the lead decision-makers in the family. Men usually plough the land, rear bullocks, buffalos and small ruminants and sometimes go to the forest to collect wood. In agriculture, paddy is the primary focus of every household, followed by cotton. Men favour cotton cultivation because they get bulk cash readily in their hands when they sell the produce. Cotton is a labour-intensive crop and women do most of the work. Women do not favour cotton cultivation because of the drudgery involved; they would rather grow pigeon pea or vegetables, from which they can both earn money and get food. Men, on the other hand, do not value the labour that women do and their contribution remains unnoticed. Semanti Mandangi from Pujariguda village says "My husband is the decision-maker; I follow what he says. I wish to cultivate vegetables in half an acre of land where we grow cotton, but it's up to him. If he agrees, only then can I do it. I can't take decision on my own."

Women seldom get recognition as farmers despite doing most of the drudgery ridden work in farming. Further, subsequent to this, a woman's position becomes vulnerable in the farm and family as well.

As long as the self-view of women does not develop, we realized that their role as economic contributors to the family will remain unrecognized. The women themselves have to create space for this. When this was discussed across SHGs, we found that women do not consider themselves as farmers and see their contribution only as another household task. Initially, most of the participants had a strong view that men are the farmers and when they were asked to draw a picture of a farmer they drew the pictures of men only. We then conducted a work division exercise in farming (here we consolidated different tasks done by men and women in paddy cultivation). After the exercise, the women were amazed to notice the magnitude of their contribution. Despite this, they however, said that because they cannot decide what crop to cultivate, what inputs need to be given, they follow what their husbands or other male members in their families ask them to do. Their contribution, although mammoth, is largely limited to labour work. The discussions concluded with the women arriving at some of these basic action points:

1) We, as farmers, will take decisions about farming, both for balanced food sufficiency and income.

2) We will develop our skills in different and better processes of agriculture.

Through collective farming, women would first create respect for themselves as farmers through enhancing their decision-making ability; develop their skills and knowledge; establish linkages with different government programmes and engage in collective input procurement, collective farming and collective marketing.

3) We will collectively develop a relationship with different stakeholders such as the market, agriculture department and bank.

4) We will together open individual accounts in the bank and save money in our own accounts.

5) We will reduce our drudgery in agriculture through mechanization and take required rest

Looking at these realities and issues, attempts have been made to get recognition for women farmers through collective farming. With the support of the Mahila Kisan Sashatikaran Pariyojana (MKSP), producer groups were formed in 51 villages. These village-level producer groups were further collectivized in three production clusters in Kolnara block. All the SHG members were members of the producer group. Some landless families were also included in agricultural activity through social arrangement and the land leasing system.

Several rounds of visioning exercises were conducted, both at the village level and at the cluster level, covering the entire block to define the objectives of the collectivization in agriculture. Through collective farming, women would first create respect for themselves as farmers through enhancing their decision-making ability; develop their skills and knowledge; establish linkages with different government programmes and engage in collective input procurement, collective farming and collective marketing.

Women collectively decided to cultivate vegetables for a cash income, and paddy and pulses for food. It was not easy for the women to negotiate with their husbands about their choice of crops. However, because the women were collectively involved, they convinced their husbands to allow them to cultivate a small part of their land as per their choice. The women then procured input material; they were given technical training on the package of practices for different crops and were provided handholding support by trained community resource persons (CRPs). Forums such as the farmer learning school, the producer groups in the village and the clusters at the block level became the platform for sharing, learning and decision-making, for the women.

Many women farmers started intensive cultivation of vegetables and managed a good yield. However, they were still apprehensive of cultivating vegetables on a large scale and the average cultivable area remained below 10 decimals. When we explored the causes of this stagnation in different forums such as farmer learning consolidation meetings, CRP reflection meetings and cluster meetings, the marketing issue came up first. They said, “We are not able to sell our vegetables for a better price; if we cultivate in big patches, who will buy the vegetables from us?” They sold their produce in the local market or in the village but were not able to fetch a good price. A few who were adept at negotiating were able to get good returns but most of the women were unequipped. That they had to carry vegetables and stay in the market for the whole day increased their drudgery. Therefore, they restricted themselves to smaller plots, cultivating vegetables mainly for household consumption.

Taking these factors into consideration, we explored some places where farmers had earned a substantial income from this agricultural activity. Women representatives and PRADAN visited Bandapipili village in Kandhamal district to

We saw farmers cultivating brinjal in more than 2 acres and earning around 2 lakhs per annum in rain-fed situations. There were systems of assured forward and backward linkages at their doorsteps

see farmers doing large-scale vegetable cultivation. Bandapipili had people from different communities farming collectively. The visit was an eye-opener for the women farmers and for us. We saw farmers cultivating brinjal in more than 2 acres and earning around 2 lakhs per annum in rain-fed situations. There were systems of assured forward and backward linkages at their doorsteps. This experience has strengthened our resolve more to focus on creating a sustainable system in our area.

On returning, the representatives of the farmers' collective discussed the drawbacks of the present mode of agriculture and tried to generate different options for improving the situation. Women discussed establishing a marketing system so that they could sell their vegetables at their doorsteps easily. They thought about selecting some service providers or community entrepreneurs to support them in the marketing system. They also consulted different local traders, to select those varieties of major crops that have a better market demand. Having done the background work, they organized a general body meeting of all farmers of their farmers' collective, to prepare the roadmap for a new way of agriculture with the slogan, *"Chinta hateiba, rojgar badheiba* (Eliminate tension, increase income)." The farmers openly discussed their challenges and arrived at the following few consensual decisions:

a) Cultivate one or two crops intensively, suitable for the area, so that these could be produced in volume for the market.

b) The farmers will cultivate vegetables in at least 20 decimals of land, with an average of 20 farmers per village, in a contiguous patch in 8 to 10 villages.

c) Vegetable cultivation to be initiated early, to benefit from the maximum market price. The farmers' collectives decided a specific time for each cluster, to complete the preparation of the nursery.

d) The general body of the farmers' collectives defined the role of different cadres, to support women farmers.

Initiatives by the Collectives in the Pre-Production Stage

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Input at the doorstep: Women farmers got quality agriculture inputs such as seeds and some medicines at their doorstep without any tension or transportation cost. Women's collectives help prepare the crop

Table 1: Production Clusters at a Glance

Name of the Cluster	Number of Villages	Number of Families	Crops Cultivated	Average Area (in Acres)	Date for Nursery
Dumuriguda	10	170	Brinjal, Chilli	30	2nd week of June
Mukundpur	11	198	Brinjal, Chilli, Beans	32.2	1st week of June
Suri	4	52	Brinjal, Chilli	7.7	2nd week of June
Gadesiskal	5	115	Brinjal, Chilli	14	2nd week of June
Total	**30**	**535**		**84**	

Women farmers adopted different integrated pest management (IPM) practices of mixed cropping, broader cropping and organic pesticides, to protect their plants from diseases and pests. Because farmers are cultivating crops in big patches, they collectively initiated preventive measures on their farms

plan for each member, based on the season, farmer suitability and market attractiveness, and also make a collective plan for their cluster. Accordingly, the collectives engage community entrepreneurs, to purchase quality inputs in bulk and supply these to farmers at their doorstep.

Increase in the area of cultivation: Once input supply and marketing at the doorsteps was assured, women farmers increased their area of vegetable cultivation from the average 15 decimals to 25 decimals. Some producer groups and village organizations (VOs) arranged land for the landless through some social arrangement or the seasonal leasing system.

Kami Patika and Usha Patika of Bandhaguda village of Mukundpur cluster are landless widow farmers. Earlier, they were cultivating vegetables in 5-10 decimals; this time, they took 1 acre of land on lease jointly by paying Rs 2000, and cultivated brinjal and chilli.

Community nursery and early initiation of agriculture activity: The collectives raised community nurseries at the village level, which ensured that good quality seedlings were available for the farmers at particular times. It also ensured proper monitoring of nurseries by members and CRPs. To maximize their profit, the farmers are cultivating early crops. With timely inputs and community nurseries, farmers ensured that they start harvesting crops 20 days prior to the usual time.

Use of farm implements: When farmers started cultivating on large areas of land and in contiguous patches, they needed to use farm implements such as power weeders, power sprayers, and battery sprayers.

Initiatives by the Collectives in the Production Stage

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CRP system: CRPs are selected from SHGs and groomed on different better practices of agriculture through the practical use of information, education and communication (IEC) material. Being the resource persons or experts of their villages, they helped other farmers on a voluntary basis to build the capacity of other farmers. Their efforts in the field with farmers helped ensure different practices in agriculture.

IPM practices: Women farmers adopted different integrated pest management (IPM) practices of mixed cropping, broader cropping and organic pesticides, to protect their plants from diseases and pests. Because farmers are cultivating crops in big patches, they collectively initiated preventive measures on their farms. For plant growth, timely weeding and ridging operations along with fertilizer applications are ensured.

Organic medicine selling: Farmers found it difficult for all farmers to prepare different organic medicines on their own. Some community entrepreneurs prepared organic medicines such as *Agniastra, Mahulastra* and *Mahaphal* and sold it at affordable prices at the village level.

Initiatives by the Collectives in the Marketing Stage

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Market exploration: Women farmer representatives and village-level community entrepreneurs visited different markets and tried to understand the system and rules of the market. They compared the suitability of different traders and shared in community meetings.

Representatives of the women's collectives have become the drivers of this process, taking decisions at every level. Co-ordination meetings were held regularly between representatives and the villagers to take stock of the whole process. It includes timely vehicle arrivals, and deciding on different markets, based on the volume of production, demand and market rate

This process helped farmers to broaden their knowledge about the price difference between retail selling and collective marketing.

General body meeting of farmers' collectives: A general body meeting of women farmers was conducted, to finalize the system and process marketing in their cluster. All the entrepreneurs and traders were called to these meetings, to discuss potential production, collection centre, packing systems, payment mechanism, etc.

Sorting, grading and packing: A high-quality product has its own demand in the market. The farmers and village-level entrepreneurs, therefore, took the responsibility to ensure quality packing of different crops. The farmers sorted, graded and packed the products at the village level. Because of this intervention, produce of different quality is packed separately and sold in the market. This has created a reputation of reliability about the women farmers of the area. In Nandpur village, farmers earlier sold tomato in bamboo baskets of different sizes; this has now been replaced with baskets of uniform size.

Record-keeping: Records are maintained meticulously at the village for input supply, production and the amount received after the sale of crops. Farmers are given receipts for the payments they make. Along with this, electronic weighing machines have been introduced for accurate measurement of the produce. Payment against the sale of the produce is recorded and handed directly to the women farmers, thus establishing their identity.

Monitoring and evaluation of the process: Representatives of the women's collectives have become the drivers of this process, taking decisions at every level. Co-ordination meetings were held regularly between representatives and the villagers to take stock of the whole process. It includes timely vehicle arrivals, and deciding on different markets, based on the volume of production, demand and market rate.

Bandhaguda: Journey of Women Farmers

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Bandhaguda is a tribal village comprising 40 households. It has around 60 per cent widows, and barring eight families, others are landless. The villagers were dependent on wage labour work for their livelihood. In 2009, two SHGs were formed in the village

Table 2: Production and Income Earned by Two Clusters in Kolnara Block

Name of the Agriculture Production Cluster	No. of Women Producers	Brinjal Production (in Quintals)	Average Rate/ Kg	Amount (in Lakhs)	Chilli Production (in Quintals)	Average Rate /Kg	Total Amount	Beans Production (in Quintals)	Average Rate/ Kg	Total Amount in Rupees	Grand Total in Lakhs
Mukundpur	140	400	9.5	3.8	20	28	0.56	83	26	2.158	6.5
Dumuriguda	120	450	9.5	4.3	28	28	0.78	-	-		5.1

In 2017, they produced 40 tons of vegetables and generated an income of more than 5 lakhs besides having adequate vegetables for their own consumption and distribution to relatives. This successful demonstration of collective farming has given the village the identity of a model village in the area

and eventually nine members initiated vegetable cultivation and earned Rs 7–10,000. That influenced other SHG members to take up vegetable cultivation. After the initiation of the women's identity as farmers training in the village, 30 women SHG members were motivated to do farming and formed a producer group. They have been cultivating tomato, chilli and beans for consumption and cash income purposes. This continued for some years; however, gradually the income they were getting from agriculture was not sufficient to meet the needs and aspirations of the family. In 2016, seven women representatives of the village visited Bandapipili village in the same block to see how collective farming operates and what system had been established.

On their return, the villagers took on the lead role and influenced other villages to change the agriculture scenario. After discussions about the backward and forward marketing system, the villagers planned *kharif* vegetables in big patches of land. They included 38 women farmers out of 40 families of the village in vegetable cultivation through land social arrangement and leasing system. They cultivated brinjal in 9 acres, chilli in 2 acres and beans in 1 acre of land. They ensured early initiation of nursery, community nursery and IPM practices. Through the efforts of the villagers and the support of the village-level entrepreneur, a pick-up started coming to the village to collect vegetables. In 2017, they produced 40 tons of vegetables and generated an income of more than 5 lakhs besides having adequate vegetables for their own consumption and distribution to relatives. This successful demonstration of collective farming has given the village the identity of a model village in the area.

Kumari Kadraka, a women farmer of the village, speaks about her experience: "I was involved in agriculture for long but due to the fear of marketing and landlessness, I had always done farming in a small area and was earning Rs 10,000 at best. This year, however, due to the efforts of the collective, we have cultivated vegetables in big plots by taking the land on lease. I earned Rs 50,000 from selling vegetables. My husband never used to help me in agriculture; this time, however, after seeing the plot, he has reduced alcohol consumption and started helping me. With the money earned from vegetables, I purchased an LED TV for my house for Rs 15,000. I now enjoy watching television with my husband in my leisure time.

Through collective farming, women are finding new energy and confidence to do farming on their own. This has changed the identity of small and marginal women farmers from being domestic labour to producers in the family and the area. Furthermore, the efforts of women farmers to bring the market to their doorsteps has reestablished agriculture as a viable source of livelihood. It has demonstrated the strength of unity through the self-operated system of collective farming and marketing. Moreover, it has demonstrated a path to get substantial income from agriculture. However, there is scope for adding value to various stages in the future. The process of collective farming has the potential to grow as an Agriculture Production Cluster. However, the collective needs to ensure more linkages network with the market and also converge with different government programmes and departments, to access different schemes for its women farmers.

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Jagat Barik *is based in Rayagada district, Odisha*

RITESH PANDEY, WANBORLANG KHYMDEIT AND KUNTALIKA KUMBHAKAR

WOMEN'S COLLECTIVES: Changing the Lives of the Rural Poor in India

Evolving a unique, farmer-focused research methodology, drawn from several complementary approaches, this research project brings about positive changes in the lives of women in this remote area, encouraging them to view themselves not as secondary drivers of agricultural output but as principal farmers, researchers, teachers and active agents of social change

People and the Socio-ecological Landscape

CHURINSORO IS A VILLAGE under Ayodhya *panchayat* of Baghmundi block, Purulia district, in West Bengal. This is one of the remote and most under-developed areas of West Bengal. A few years back, it was a hotbed of the Naxalite movement. It shares its boundary with Jharkhand and the jungles and hills on the border made it a haven for the passage of Naxalites. Government programmes and facilities were far away from the reach of the people.

The village people are a homogenous tribal group (*Santhals, Ho, Bedia, etc.*) and they maintain exclusive identities. Socialization is generally endogamous and they identify more with people belonging to their tribe; and within their community a level of cohesiveness exists. To some extent, these people are discriminated and isolated from mainstream society. Their livelihood basket is excessively laborious, involving back-breaking physical labour with low returns. Women suffer most in these conditions; their identity is that of a labourer, whether they work in their own fields, or on others'; go to the forest to collect wood or do earth-cutting work.

Most villagers are food insecure with only 50–60% of their food grain requirement being met through on-farm production. This then leads to migration out by family members, particularly young men, resulting in on-farm labour shortage and social upheaval

Technically speaking, Churinsoro falls in the East India Plateau (EIP) agro-ecological zone VII. The region is characterised by high but variable rainfall (1,100–1,600 mm, 80% from June to September), frequent and sometimes long dry spells within the monsoon, little irrigation (~8% of area), high runoff and soil erosion, terraced mono-cropped paddy lands and subsistence agriculture. Uplands are often degraded and make little contribution to overall productivity. Poor farmers have little, if any, of the lowlands, where rice has traditionally been grown. There is very little rainfed *rabi* crop and yields are generally low (rice <2 tonnes (t)/ha, pulses <0.5 t/ha). There is little mechanization; seeds of crops other than rice are usually hand-broadcast; weeds are removed by hand; and fertilizers (if used) are hand-broadcast. The use of inputs is inhibited by the extreme risk-aversion of these poor farmers, combined with the inherent risk of farming in this area. This results in a state in which most villagers are food insecure with only 50–60% of their food grain requirement being met through on-farm production. This then leads to migration out by family members, particularly young men, resulting in on-farm labour shortage and social upheaval. These drivers contribute to widespread malnutrition, low levels of literacy, particularly among girls, and limited access to medical services due to low disposable household income.

The Research Project

Considering the complicated context, the need to develop a scalable, context-appropriate model, which will ensure sustainable changes, was important. A research project was designed, with an aim to improve livelihoods by enabling local farmers develop flexible and responsive cropping systems, which utilize available water resources better, thereby building resilience to climate change/variability at the household level. This research project was built on the findings of the Australian Centre for International Agricultural Research (ACIAR) Project, 'Water harvesting and better cropping systems for smallholders of the East India Plateau', led by Professor Peter Cornish, University of Western Sydney (2006–11). The new project was designed for both research and development outcomes. The research component was funded by ACIAR, which aimed to refine and validate it over a larger geographic area in three districts in EIP. This process is driven by farmer-led, experiential learning, facilitated by PRADAN and supported by the ACIAR, Asian Vegetable Research and Development Centre (AVRDC), Advance Centre for Water Resource Management (ACWADAM) and Bidhan Chandra Krishi Viswavidyalaya (BCKV), to make the research transdisciplinary. The project was from a period of 2012–16.

The project has evolved a unique, farmer-focused research methodology drawing from several complementary approaches including Participative Action Research (PAR), Agricultural Research for Development (AR4D), systems thinking, trans-disciplinarity, and collective or social learning theories. A common characteristic to all these methodologies is maintaining a focus on the farmer as the centre of all research activity. The core element in our approach is our process of farmer engagement. Farmers are involved in all aspects of the research process, including:

- Identifying and developing research questions.

In tune with our farmer-focused approach, the project works with a group of women farmers, who are collectivized under Self Help Groups (SHGs). Churinsoro had 3 SHGs, which collectivized approximately all the households in the village

- Imposing experimental treatment in farmers' fields and maintaining agronomic management.
- Assisting in data collection and maintaining observations of treatment effects.
- Contributing to interpretation of experimental results, adding practical insights.
- Communicating research results to other farmers.

In tune with our farmer-focused approach, the project works with a group of women farmers, who are collectivized under Self Help Groups (SHGs). Churinsoro had 3 SHGs, which collectivized approximately all the households in the village. SHGs create a platform for sharing learning and building systems for mutual help; they are an approach to cohesiveness and collectiveness that bring remarkable changes in their lives. The project focused on community processes and SHGs were the platform.

Project Inception and Initiation Process

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Keeping up the spirit of participatory approach at every level, the first inception workshop with other project team partners—ACWADAM, AVRDC, BCKV, ACIAR and PRADAN professionals—from the respective project locations was conducted. In the workshop the model/ framework for the project was developed, which brought in the intersectionality of roles of each different partner and their distinctive research, combining it with development objectives. Some of the basic principles were outlined in this meeting. These were:

- The SHG would be our focus and the women will lead.
- No alien crop would be introduced initially; rather, the focus would be to understand the existing crops
- The research questions would be linked with the community's aspiration.

This workshop was followed by series of workshops and meetings with the other partner, the community of Churinsoro, especially the SHG members and their spouses. These meetings and workshops were predesigned, and participation of community, both women and men, was ensured. In this meeting, all other partners, that is, ACWADAM, AVRDC, ACIAR and PRADAN professionals, were present. PRADAN professionals were the key facilitators of these events. An overview of the objectives and the purpose of the project were shared with the villagers. PRA tools were used for problem mapping vis-à-vis the objective of the project, whereby the land problems across different categories of land, the crops grown in those lands, productivity, irrigation, livestock and such other problems were deliberated upon in depth. During these events, research questions and experiments were articulated and designed jointly with the community. The community as researcher was established from the very beginning. The point that it is their land, it is their agriculture and it is their research began getting embedded through these processes.

The Project Operations

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A. Selection of farmer researchers and the experiment plots

For an on-farm research activity, we require willing farmers. The engagement of the community from its inception set the way of them being equal partners. The first step in the project, once the research questions were arrived at, was the selection of

One category was the 'core farmer researcher', whose data would be collected intensively; the second category was the 'medium researcher', whose research data on some parameters would be collected; and the third category was the 'basic farmer researcher', whose production data would be tracked and collected

farmers. When discussing the agenda, the SHGs brought in a very interesting dimension. They said all members, that is, some 30 odd families, need to be involved in the research. This compelled us to think out of the box because, for us, experimentation and monitoring such numbers was an uphill task. Initially, we had planned for two types of farmers; one were the Researcher farmers, who are to participate in the research with ACIAR and PRADAN as partner, with a recommended package of practices for research in the new and innovative farming system. And the other were the Control farmers practising traditional agriculture.

Taking up the challenge, after discussion, we came out with three categories of Researcher farmers. One category was the 'core farmer researcher', whose data would be collected intensively; the second category was the 'medium researcher', whose research data on some parameters would be collected; and the third category was the 'basic farmer researcher', whose production data would be tracked and collected. This was required to compare and contrast the traditional crops grown with traditional practices. This was acceptable to the women and they quickly divided the households into three categories depending upon their interest in research and land holding. The point in landholding was very interesting because they thought with prudence that farmers with low landholding should not risk with the experiments.

Thirty households of that village hamlet were included, which led to better management of research activities. For example, the cattle grazing problem, cited as one of the major blocks for expanding vegetable and other crops, was dealt with smoothly. To attend to the need of fodder for cattle, villagers grew napier grass in small plots, which in itself is a step forward towards change in agriculture. After the selection of the farmers, women SHG members were given the space for selecting the land and/or plots for various research experiments. The minimum land requirement was 10 decimals of medium upland category, which the women identified, keeping in mind ease of management and demonstration. Taking the decision as an institution made the experiments in various plots easy.

B. Systems and processes

Weekly SHG meetings: One of the key components of the work was that the SHGs were at the helm of managing the research programmes. This was one of the focuses in our approach. The SHG weekly meetings became the forum for updating and discussing progress regularly. PRADAN professionals, in the beginning, attended the weekly meetings and later attended them fortnightly. In these meetings, the schedules of the experiment were set up. The details of each experiment, with instructions, were deliberated upon, explained and discussed. The women followed up with the schedule, monitoring and evaluating the progress. Any problems that came up were discussed and addressed by all the SHG members. The implementation of the components of the research in the field and the precision of following it was ensured in the field visit by them. The women themselves actively conducted the research, and would update the progress they had made in the meeting. They would explain to the men about the experiment and its components and would jointly do it with them. This becoming a part of their weekly

The idea was to build the capacity of women and impart all the relevant technical and other knowledge in simple language in this platform. The SHG members were trained in operating various agricultural tools and implements and in the new agronomic practices in the field

meeting made the monitoring and evaluation a seamless process.

The SHG platform was set up as the nodal forum for any communication by the other partners too. In the weekly meetings of SHGs, the partners explained their research component. The idea was to build the capacity of women and impart all the relevant technical and other knowledge in simple language in this platform. The SHG members were trained in operating various agricultural tools and implements and in the new agronomic practices in the field. For any new demonstration, the collectives were the base, and the Farmer Field School (FFS) model was followed. AVRDC, in charge of crop diversification and improving agronomic practices, followed the FFS model and the SHG became the platform. The ACWADAM staff trained the women in measuring the water table, infiltration and residual moisture, using corresponding instruments. They used to keep separate staff to do that in their other project. Here they were building the capabilities of the women, which was something new for them. The data they collected was accurate. A mini weather station was set up in one the members' households and the women were told how to operate it and what to measure. The low literacy rate was a hindrance in keeping record and reading the gauges, but the information was understood by almost all. Data interpretation and analyses was carried out with the SHG women, which built their level of confidence and understanding on the movement of water and its relation with crops.

Agriculture seasonal meeting at the community level:
These meetings were more like a community learning forum. These took about 4–5 hours, organized in the middle of the *kharif* and *rabi* seasons, and at the end of one cycle of research, which usually coincides with end of the agriculture season. These events were designed well in advance and all the partners—AVRDS, ACWADAM, BCKV and SHG institutions—participated in them. PRADAN played the role of the key facilitator.

The discussions in the mid-season meetings were about the research experiments that were happening, during the period. These meetings included field transacts in the beginning of the meeting during which observations were shared by everyone and commented upon. Space was created by the facilitator to hear specific community observations. A critical discussion on the five WHs (Who, When, What, Where, Why and How), supported by field transact observations, took place. Probable solutions and actions to be taken were also discussed jointly.

The end of the season meetings at the end of one cycle of research, including both the agriculture seasons of *kharif* and *rabi*, was an annual event attended by all partners. Data was shared through graphs and other simple tools; and analyses of the data, both scientific as well as community wisdom of the community, was done. The experience was consolidated and new action plans for the next year were set up.

C. Exposure, learning forum and out-scaling

The farmers' chosen plots for experiments were next to the road leading to the main road of a few other villages. Many farmers, therefore, became curious about the experiments being undertaken and the resultant crops drew their attention and triggered interest. Some

During the FGD, when the women were speaking about positive changes in their lives, they came up with the idea of helping others bring about changes in their lives. Thus, the idea of a learning forum emerged, inspired by the 'professional learning forum' used for school education

unplanned exposure happened initially when the community shared their experiences informally. During the second annual event, a focussed group discussion (FGD) on agriculture practices and its implication on their lives was also conducted in a workshop with three sets of farmers; research farmers, controlled farmers and spouses of research farmers. The purpose was to get a broader view and compare the research and control farmers, the changes that take place around them, and their perception and reaction to those changes. During the FGD, when the women were speaking about positive changes in their lives, they came up with the idea of helping others bring about changes in their lives. Thus, the idea of a learning forum emerged, inspired by the 'professional learning forum' used for school education. In the words of Louise Stoll and others: "Developing professional learning communities appears to hold considerable promise for capacity building for sustainable improvement."[1]

The SHG institutions in their various forum meetings spread the word about their planned schedule for inviting villagers to see their life changing achievements. These exposure visits were free, wherein farmers and SHG members from other villages came on their own to hear and observe the activities. The women, along with the PRADAN professional, designed the visit and the steps of the field transact. Building from their own experiential learning, women asked the visitors trigger questions, to help them explore better. The women also decided not to restrict the exposure visit to agriculture, but to also speak about the changes brought about in their life. In all, 28 exposure events were conducted, covering all the 90 SHGs spread across 34 villages. To make the learning comprehensive, each group was brought in for a visit at the beginning of the agriculture season when the land was being prepared and seeds were being sown. The next visit took place towards the end when the crop was in full fruiting stage and harvesting had begun. The women farmer researchers were confident about their knowledge and learning, which was reflected during the visit when they fielded all kinds of questions from the visiting farmers. Some offered to support the visitors and guide them in the field if they wanted to adopt these new practices.

The Outcomes and the Results

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During a mid-term review of the project, around 2015, we followed a detailed study to understand the outcomes and the changes that this research project was bringing in the community.

Methodology adopted to assess: In order to get both the qualitative and quantitative data, individual interviews with the research farmers were conducted, using a questionnaire that aimed at capturing the changes in different aspects of their life. The qualitative data was mainly obtained through group interviews, workshops and FGDs. Keeping the commitment to the project outcomes, we clustered them in three broad categories and the questionnaire followed the same three broad categories: first, the changes in agricultural practices and how it impacted women's lives; second, establishing the relationship between different practices in agriculture with women's nutrition and hygiene condition;

[1] *https://link.springer.com/article/10.1007/s10833-006-0001-8*

The idea of adopting SRI paddy in the lowlands and Aerobic Direct Seeded Rice (ADSR) in the mid-lowlands and mid-uplands came up. SRI multiplied production in their fields, thereby enhancing the food security[2] period and ADSR helped to bridge the hunger period to make the villagers fully food secure families

and third, gender dynamics, which broadly captured women's empowerment and how this process of engagement brought transformational changes in women's lives. There were 20 participants; each of them was asked a total of 37 questions (10 in the first, 12 in the second and 15 in the third categories), which took around 45 minutes to 1 hour time. An FGD was conducted with 16 women who answered 10 questions primarily based on the three categories mentioned above, in order to understand the role of a group/community process in change and the role the group plays in their lives and how they have integrated those changes. PRADAN professionals conducted the data collection processes.

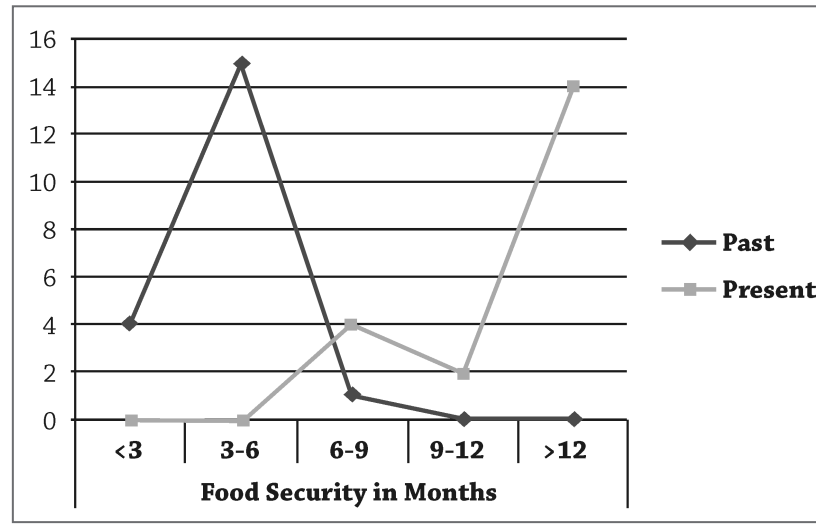

Figure 1: Comparison of Food Sufficiency/Security

The Outcomes and Results

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1. Change in the cropping system led to change in income and better living conditions

Paddy is the staple food of the villagers; hence, they wanted to cultivate paddy in a better way to get a higher yield. The idea of adopting SRI paddy in the lowlands and Aerobic Direct Seeded Rice (ADSR) in the mid-lowlands and mid-uplands came up. SRI multiplied production in their fields, thereby enhancing the food security[2] period and ADSR helped to bridge the hunger period to make the villagers fully food secure families. The graph[3] (Figure 1) shows the shift in the number of families to food sufficiency. The women adopted many new agricultural practices such as inter-cropping of maize with legumes for the first time, adding to the income of each family. The pit-and-trellis method was adopted for creepers; new tomato varieties were grown along with other vegetables such as pumpkin, garden peas, cabbage, etc. Pulses such as pigeon pea and horse gram were the newly adopted crops that brought cash and food diversity for the family. Data reflected that, at present, 70% of the families have 12 months of food security and 30% between 6 and 10 months.

2. Reduced deforestation and drudgery of women

The introduction of innovative tools such as the line marker,

[2]*Food security here implies availability of cereals/grains for consumption*
[3]*Data was collected from sample farmers through a questionnaire and consolidated.*

Sadhmoni *didi* says, "Besides food, I spend most of my earnings to pay for my child's education in a private school for which I pay Rs 1150 per month."

wheel hoe, cono-weeder and earthen-up machine in agriculture brought significant and relevant changes in farmers' engagement in agriculture, making it less time-consuming and reducing the drudgery. The new and innovative agricultural interventions brought better returns and decreased forest dependency tremendously. This impacted the health and environment of the women positively. Due to the diversity in agriculture, and the reduced time and drudgery, women now have more time for themselves, their children and family. As a result of food sufficiency and the increased income in the family, women are prioritizing their children's education. The study also reflected that 80% of the family now spent most of their income on their children's education and food. Sadhmoni *didi* says, "Besides food, I spend most of my earnings to pay for my child's education in a private school for which I pay Rs 1150 per month." The mindset of the women shows a distinct change, from when food used to be their main focus to thinking and prioritizing about educating their children and sending them to private schools for better education. This shift to a better lifestyle and well-being marks a significant transformational change in the women's lives.

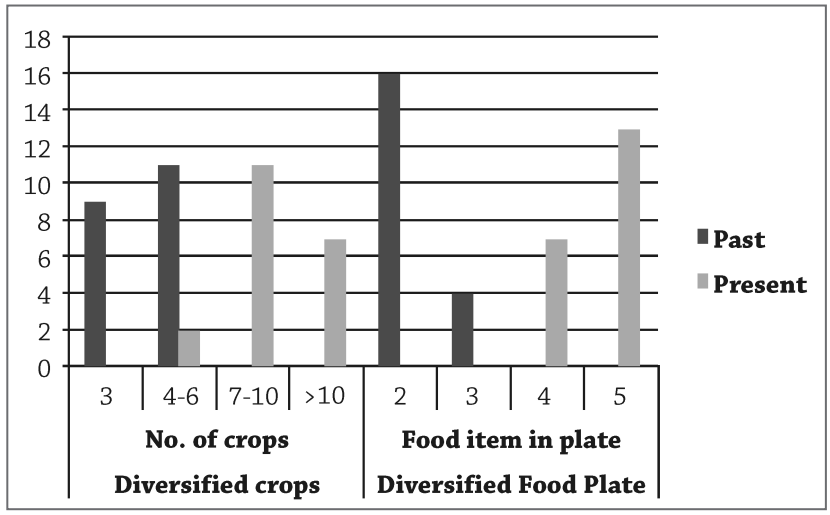

Figure 2: Diversification in Crops and Diet: A Comparison

3. Agriculture as a source of nutrition and hygiene[4]

New innovative agriculture practices brought food sufficiency to the families and food security in terms of quality and quantity of food intake. There was change in the food intake of the village women, in terms of an increase in the quantity as well as better quality. Five years earlier, women/families used to have one meal a day, comprising only rice with salt and, sometimes, wild leafy vegetables at night.

To appease their hunger in the day, they would eat wild potatoes or starchy corn, when available. However, after the project, they have three meals a day, which includes starchy rice in the morning and for lunch with different vegetables that they cultivate and buy from the market. Dinner is boiled rice, vegetables and *dal*. The study revealed that the vegetables, including French beans, peas, ridge gourd (which they consumed for the first time), bottle gourd, pumpkin,

[4]*The data and analysis has been drawn from the report of Sturat Vermaak and Damien Balzer, two undergraduate students of University of Wester Sydney, who did their research work in the project area.*

Hemlata Mandi proudly pronounces, "Now I have enough time for myself because I do not need to go to forest, so I oil my hair and bathe with soap every single day and wash my clothes with a washing soap, I feel healthy and good."

bitter gourd, cow-pea, chick pea, spinach, water spinach, mustard leaves, *dal*, etc., are now consumed by the families. The consumption of meat has increased in the last five years, with 65% of the families reporting that they have meat, eggs and fish 2–3 times a week and 35% have these 2–3 times a month. Earlier, families only consumed meat during festivals or when a relative visited them. The awareness and knowledge about good and nutritious food is quite high now among the women. Although the women find their current diet quite healthy and nutritious as compared to the earlier five years, they think there is need to improve their diet by adding consuming meat, fish, egg, pulses, vegetables, green leafy vegetables, milk and fruits regularly.

4. Improvement in hygiene conditions: An unanticipated outcome

The women said that, earlier, because they were very busy working in the forests, they did not have time for themselves and their children. Usually they used to bathe once in a month or two with mud and wash their clothes with ashes and warm water. Engagement in the agricultural research project allowed them time and more income to take care of themselves. Hemlata Mandi proudly pronounces, "Now I have enough time for myself because I do not need to go to forest, so I oil my hair and bathe with soap every single day and wash my clothes with a washing soap, I feel healthy and good." They also make sure that children stay clean and healthy, give them a bath every day before sending them to school and ensuring they wear clean clothes.

5. Women's empowerment and engagement in agriculture

Women's empowerment in this context was seen in multi-dimensional aspects that include decision-making power based on income, expenditure, time, labour, assets, skills and knowledge about new agricultural techniques. Being part of a patriarchal system, Churinsoro was also governed and headed by men in every aspect, right from decision-making to income, expenditure, labour, accessing skills, education and so on. However, the inception of groups and the agricultural research project initiated different gender dynamics among the villagers. The project and groups (SHGs) created space for women to be involved in decision-making, where they start saving their income, planning agriculture, deciding what crops to cultivate and which technique or system to adopt. The improved agricultural production, resulting from the research planned and decided

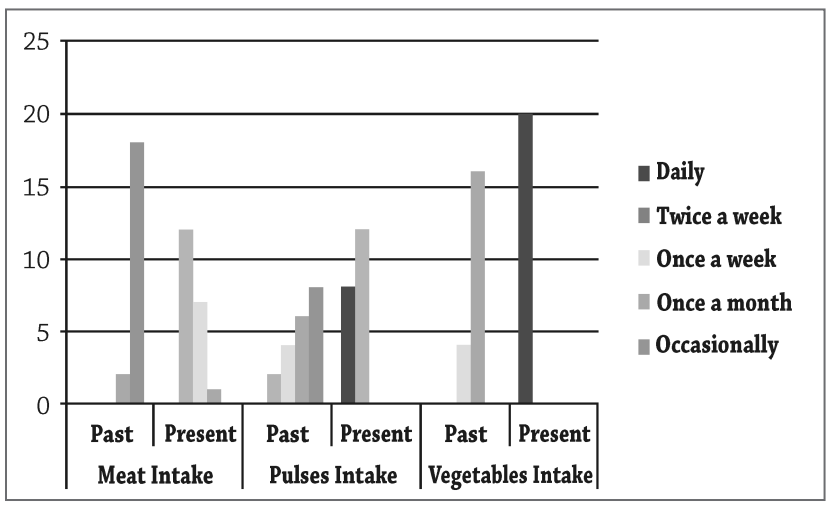

Figure 3: Diet Changes Past and Present

Hemlata Mandi claims, "If I give money to men they will finish it off drinking; that is why I take charge of the expenditure at home."

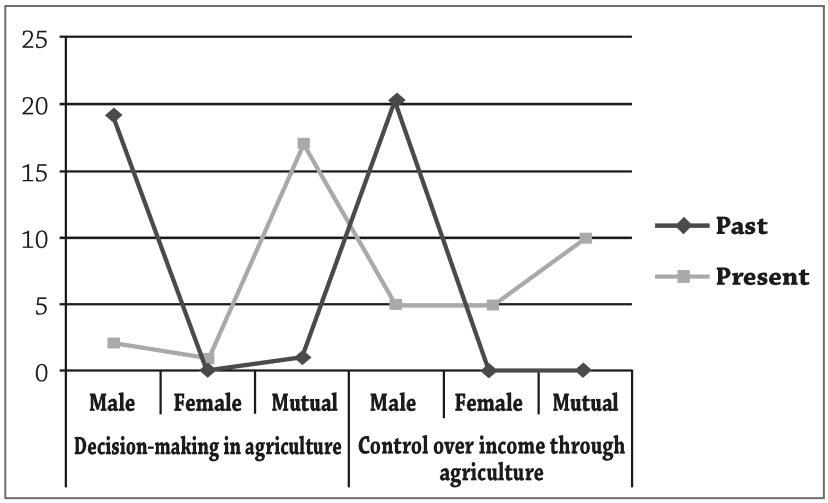

Figure 4: Change in decision making

by women, brought about a new perception of women among men and society. About 75% of the women shared that now they are treated equal to men to a large extent. A mutual decision-making process is adopted in their home and women have increased their say about the agriculture and the expenditure of the family. Hemlata Mandi claims, "If I give money to men they will finish it off drinking; that is why I take charge of the expenditure at home." This ensures a better family life as shown in the research conducted in many places around the world, that income controlled by women is more frequently used on food and health care for the family, particularly for children (UNICEF 2011; Smith et al. 2003).

A noticeable shift happened in the distribution of roles for agriculture work, with new innovative agriculture interventions such as a new cropping system and mechanization. The women shared that agriculture activities such as sowing/transplanting, weeding, harvesting, collecting of harvested crops, which used to be the duty of women, are now performed both by men and women equally. The women also shared that currently women are able to reduce their workload during pregnancy and in the lactating stage due to this role-sharing. The women articulated that their improved knowledge in agriculture gave them recognition as farmers. About 80% of them said confidently that they can teach other farmers what they have learnt.

The SHG is another factor contributing to women's empowerment, claims a group of women, "As a group we are one family; we share our strengths and weaknesses, sadness and happiness," says Anjani Mandi, an intelligent and shy middle-aged women. The SHG plays a vital role and is a learning forum for women, where they plan their agriculture, experiment, reflect and review their concrete experiences, to get a better yield and income the coming year. This group provides a space for women to save and take loans whenever required, reducing the need to borrow money from middlemen on high interest rates or mortgage their land. With their own money, they take loans at a small amount of 26% interest rate annually, with flexible repayment options. The SHG is also regarded as a second family by the women because through the group they help each other in agricultural research activities, from the planning and

This agriculture research program was unique for two reasons. First, the research was conducted with real farmers and on their own fields. Second, women were given primacy as farmer researchers

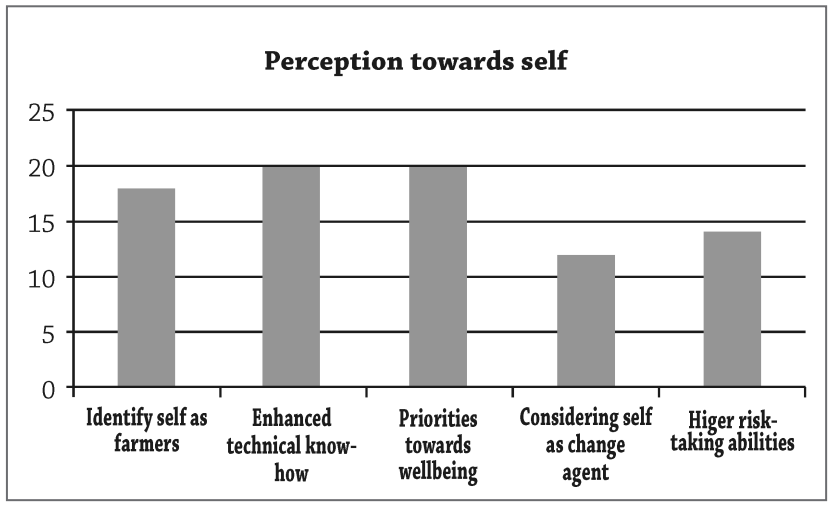

Figure 5: Perceptions of Women

sowing stages till the harvesting; this strengthens the processes and brings them success. The group integrates the changes and supports and encourages women to learn and act more independently and confidently. As a group, they (women) also reported that they teach women and men farmers from other villages what they have learned from the agriculture project. These women's groups started to establish an entrepreneurship model by teaching others for a remuneration of Rs 300 per day per group. The women say they feel *good and confident* and now aspire to continue good agriculture practices, grow new, high-value cash crops, access markets for their produce, housing, electricity, toilets and an all-weather road. Furthermore, in order to mitigate the gaps in agriculture, they are ready to take up an irrigation project, which will provide them surplus water and give them additional income and enhance their well-being. Figure 5 captures the change in perceptions of the 20 women SHG members, who were interviewed and who participated in FGDs.

Insights and learnings

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This agriculture research program was unique for two reasons. First, the research was conducted with real farmers and on their own fields. Second, women were given primacy as farmer researchers. The project mainly focussed on women as individuals, to enhance their sense of agency and build her capacity (human capacity). Experience shows that a local need-base planning is more effective than a project need-base planning because it incorporates data that is based on reality, providing more space to women to plan and act as per their needs and problems rather than stick to the strict guiding principles of a project, as is the usual way. Moreover, it takes into consideration indigenous knowledge and practices, thereby developing the women's capacity to solve their own problems.

The progress from a farmer to a researcher to a teacher is a gradual and continuous process. It involves planning, experimenting, reviewing and reflection, with insights and lessons being learned from the past experiences and changes implemented to improve performance in future activities. This process follows the model of cognitive development, as depicted in Figure 6.

Various PRA activities reveal that women do more than 85% of the farming work. They are not acknowledged for the work

These researcher farmers are now role models. Farmers from outside the research village observe them and their farming practices and desire to learn from them

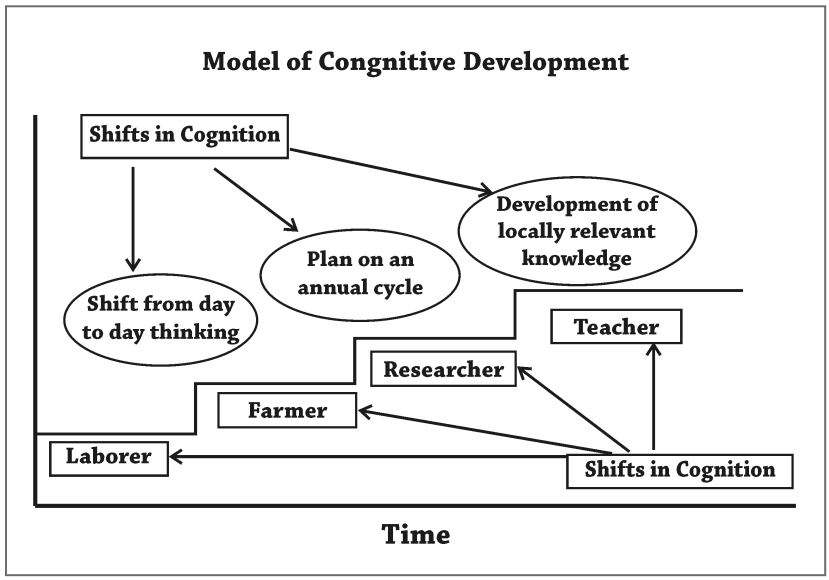

Figure 6: Model of cognitive development

they do. If they work on their family's farms, they are seen as assisting in family work. If they are working on someone else's field, they are treated as labourers and paid lower wages than the men labourers. None of the women considered themselves as farmers in their identity or as their occupation. The engagement approach and the processes[5] adopted in this project ensured a shift in their identity—from being a farm laborer to a farmer to a researcher and finally to a teacher. These researcher farmers are now role models. Farmers from outside the research village observe them and their farming practices and desire to learn from them.

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Ritesh Pandey *and* ***Wanborlang Khymdeit*** *are based in Baghmundi, West Bengal and* ***Kuntalika Kumbhakar*** *is based in Delhi.*

References are available on request at newsreach@pradan.net

[5]*We followed the learning cycle of 'Kolbs Learning theory' in our engagement.*

Vegetables being collected at a common place in Bandhaguda village, Kolnara block (p.32)

PRADAN is a non-governmental organization registered in Delhi under the Societies Registration Act. Working with small teams of professionals in several poverty clusters in seven states across central and eastern India, PRADAN builds and strengthens collectives of rural women, in order to stimulate their sense of agency and help them occupy space as equals in society. PRADAN professionals work through these collectives, to enhance the livelihoods and overall well-being of women, thereby striving for a just and equitable society.

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Jagat Barik in discussion with the women farmers in Badakhilpadar village, Rayagada, Odisha

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