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Inside

Adult Functional Literacy: A Catalyst for Effective Governance

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PRADAN' seeks is to build vibrant institutions for women, led by women which will, in the long run, evolve into an effective demand system. Women will lead institutions that sustain livelihoods, strengthen programmes, influence local government to leverage finances, make local authorities more responsive to the community and, in time, become pressure groups for demanding rights, entitlements and state accountability on many fronts.

The Context

PRADAN's programme on Adult Functional Literacy (AFL) has been introduced in the Purulia district of West Bengal. The hilly and undulating terrain of the area—home to communities that rank very low on the Human Development and Gender Development Indices—is typically characterized by dispersed settlements, leading to poor access to rights and entitlements, lack of awareness and weak public services like health and education.

PRADAN, works with about 10,000 families across five blocks of Purulia, with a focus on the survival and livelihood needs of the poor and the marginalized as the central issue. Another key focus of PRADAN's interventions in the area has been the promotion of Self Help Groups (SHGs) and institutions of women, led by women. Currently, PRADAN is promotes and supports 678 SHGs, which have been organized into 60 cluster associations at the *panchayat* level, and gradual efforts are being made to federate them at the respective block level. The functional literacy programme was targeted to reach around 3,200 women across two blocks—Barabazar and Kashipur. The women's federation in Barabazar is called Shbuj or Shabuj Sathi Nari Shakti Sangha (SSNSS) and the one in Kashipur is called Panchakot Nari Samiti (PANSI).

The SHGs are the platform for women to come together and collectively address well-being concerns, as well as access livelihood and financial services. Whereas savings and credit form the primary basis of the coming together of these groups, in the PRADAN context, the SHG is also a 'support group' that enhances a sense of 'well-being' among its women members. The group helps the members create a vision and encourages them to explore and analyze their realities (that is, Look into their strengths, weakness and opportunities). It builds mutual trust and solidarity and extends help on issues concerning their lives, which also then becomes a strategy for reducing vulnerabilities. For example, When a women faces domestic violence and abuse, the members support each other and give the strength to the resistance to stop it.

A significant aspect of PRADAN's vision is to build vibrant institutions for women that are led by women and that will in the long run, evolve into a, force. Women will lead institutions that sustain livelihoods, strengthen programmes, influence the local government to leverage finances, make the local authorities more responsive to the community and, in time, become pressure groups for demanding rights, entitlements and accountability of the state on many fronts.

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The context for the current literacy intervention lay in developing the capabilities of women members and leaders, and in directing them towards this vision. If they were to grow as an institution, they would be able to sustain the change and engage with other institutions locally. However, federations need to have the necessary management and literacy skills. These newly formed federations are already beginning to get active on issues related to the Public Distribution System (PDS), Below Poverty Line lists (BPL), Mid Day Meal Scheme (MDM), the Integrated Child Development Services (ICDS) and the Mahatma Gandhi National Rural Employment Guarantee Act (NREGA), as well as issues of gender, violence and discrimination. Some of the SHGs that are older than ten years have begun looking at concerns of sustainability. These groups have a lot of funds at their disposal, but for management, and accounts maintenance they depend upon one or two literate persons. They are very dependent on them but there has been a steady turnover of these accountants from time to time. Now the women want to be able to read and write and manage the accounts of the group. Also, when they discuss issues specific to women, the presence of men is a hindrance, which many of the accontants are. This is the backdrop in which the need for literacy emerged amongst the federations and started setting discussed within PRADAN.

THE NEED FOR LITERACY

PRADAN has been working for several years in the Purulia district, West Bengal with poor rural women on livelihood issues. Given the background detailed here, the need for literacy began to be discussed within PRADAN and women's federations. During the initial discussions on the need for literacy, an assessment was made of the existing status of literacy within the federation leadership. The data that emerged from the initial assessment is given in a Table 1.

Table 1: Literacy Levels among SHG Leaders

Literacy Levels among SHG leaders		
President	Literate	22%
	Non-literate	78%
Secretary	Literate	25%
	Non-literate	75%
Cashier	Literate	21%
	Non-literate	79%

Literacy Levels among SHG leaders		
Cluster Leaders	Literate	13%
	Non-literate	87%

Once a preliminary assessment of the literacy levels in the federation was made, the next step was to have a dialogue with the federation leaders, in order to generate some discussion with them about the value of literacy and to generate a demand for literacy. We also respected to motivate the federation leadership to take ownership and implement and manage a literacy intervention. This was the first step in introducing literacy and the literacy programme to federation leaders. Through them, the dialogue was to be taken to other potential learners, that is, to other federations, group members and leaders.

May be because of the many years of PRADAN's training the women's of the SHGs and federations, took their management and decision-making roles quite seriously. They took responsibility for implementing and managing all the livelihood programmes, such as land and water resource development activities and other agriculture-related interventions. The women and other community members have grown, in terms of acquiring the knowledge and skills over a period of time through PRADAN's capacity-building programmes. This includes information on new crop cultivation practices, insurance schemes and on government schemes, rights and entitlements.

However, issues arose in some aspects related to the implementation of micro-credit and livelihood programmes. For instance, the women found it difficult to prepare the muster rolls and had to depend upon literate people, which was usually the men in their families and communities. The women shared that they found this very frustrating. Women seemed to have a sense of interiority about the extreme dependence on others for much of their written work, even in their day-to-day SHG transactions. They said, *"Amra chokh thakteo andha. Nijer pass boi e koto taka achhe tao nije dekhe bolte parina.* (Though we have eyes, we are blind. We cannot even read the balance in our own passbooks.)"

The women felt helpless about executing the most basic savings and credit functions of the group, having to depend on the literate men for their day-to-day documentation. Sometimes this also became the basis for delays in conducting the activities of the group. Said the women: *"Jodi amra likhte partam amader samay mato meeting karte partam. Bairer loker upar bharsa karte hoto na.* "If we knew how to write, we would not have to depend on outsiders and could have fixed the meeting time according to our convenience)".

This sense of dependence because of the lack of literacy pervaded their personal lives as well. When discussing their children's education, one woman said: *"Aami thik jaani na, ki porey ki korey oraai jaane. Aamra hochhi chokh thakte kaana maanush, baachhader khali boli porte bosh, ar dekhi boseche ki na, ki porche bujhteo pari na.* (I do not know exactly what they study and what they know. We are blind despite having eyes. We can only tell our children to sit to study and keep an eye on them if they are sitting with their books. What they are studying, we cannot tell.)

Whereas illiteracy was often cited as a problem in the course of interactions with the women in the community, it was most prominently

articulated by federation leaders as they engaged in the process of drawing up mandates for their newly formed collectives. They cited literacy as a major barrier in developing and sustaining institutions, especially if they were to lead these institutions independently. In other words, literacy was perceived to be a barrier by some women for taking on leadership roles within the institutions. High levels of literacy were closely related to enhanced confidence and greater mobility. Leadership of the SHGs and the federations was, therefore, often perceived as synonymous with literacy skills within the community. In many instances, cluster members selected leaders from among their literate members, particularly for the federation, despite the fact that there was no such formal requirement. Women, who had good leadership skills but were illiterate got marginalized.

Literacy was perceived to be a barrier by some women for taking on leadership roles within the institutions.

When PRADAN embarked on the process of building federations and clusters as institutions of women SHGs, led by women, literacy emerged as a significant missing link. Its new intervention would ensure that women acquire literacy and numeric skills to take on specific tasks (such as reading the cash book). It would also go to fulfilling the much larger agenda of ensuring women's empowerment, building grass-roots institutions and engendering confidence in the development processes. It is in this context that this programme fits into the overall strategic objectives of PRADAN. At this time, PRADAN also received support from an external resource agency—Nirantar, which had the necessary expertise on women's literacy and empowerment.

VISION FOR INSTITUTION BUILDING IN DESIGNING THE INTERVENTION

Given the context that has been laid out above, PRADAN designed the Adult Functional Literacy (AFL) programme as an initiative to empower women individually through literacy and also strengthen them as a women's collective and institution that engages with various other institutions. Through participation in this programme, it was envisaged that the women would not only acquire certain competencies (numeric and language skills) but also evolve a greater sense of agency. The underlying values and articulated goals were those of autonomy and transparency in group functioning, greater sharing of roles and responsibilities across all members, democratic functioning and dynamism in leadership and through all these, a participation in the larger and longer-term development processes in the region.

While these were the overall goals and values directing the literacy programme, there was some thinking on specific areas for building leadership within women's institutions. At the time the intervention was envisaged, there already existed federations, some fairly old, with their own structures and systems of governance and with some women already in leadership. The literacy intervention would, therefore, provide an opportunity to a larger pool of women to aspire for and prepare for leadership in the future. It would also encourage democratic functioning, greater transparency and open up the possibility of rotational leadership by generating a cadre of potential literate leaders.

There were consultations across various stakeholders in PRADAN's field area about what the programme would look like. The PRADAN team, the women's federations, members of the Education Management Group (EMG) and the community discussed the design and feasibility of the literacy intervention. The PRADAN team had no previous experience of working on literacy for adult women; they, therefore, identified Nirantar, to visualize and design the literacy intervention as well as ensure the capacity-building of the various players, who would be involved in rolling out the programme. Nirantar played an important role in facilitating these discussions—first with the PRADAN team and subsequently with the federation leadership.

If all the women were to be empowered and have access to leadership opportunities, it was important to have a literacy intervention for them.

The EMG was envisaged as a thematic leadership group, within the federation, in order to facilitate better management and monitoring of the literacy intervention. By and large, members of the EMG were selected from among the existing leaders of the clusters or federations. These women had already emerged as leaders beyond their own SHGs and had shown a commitment to the larger mandate and the future of the federation. In many ways, the demand for literacy also rose from among these women; they were, thus, not only the torch-bearers for literacy but also the potential learners at literacy centres and camps. Says Chintamani, one of the EMG members at the (SSNSS) federation, ""We are closer to the women than anyone else. So we are able to identify their problems and they also relate with us. That is why they listen to us."

When the EMG was constituted, it was envisaged that this group would not only play a management role in the literacy programme but also eventually institutionalize the linkages between literacy and the other activites of the federation's. This would also strengthen the federation as an institution and deepen its interface with other institutions in the external world.

ROLLING OUT THE PROGRAMME

At the outset, various steps were taken to motivate and mobilize the women for literacy. PRADAN had been working for several years on issues related to rural livelihoods but had not worked on women's literacy or education. It was, therefore, important to communicate the new programme to the community. Awareness meetings were organized at the community level by PRADAN and by the federation leadership. This was a mobilization exercise in order to orient and prepare the community for the literacy programme.

A baseline assessment of the literacy and numeric competency was carried out within the federation. Some of the data from this survey is in Table 1. This data was helpful in assessing the existing literacy status of the federation members and clearly showed the need for a literacy intervention because a large number of members were non-literate and all the literate members were in leadership roles. If all the women were to be empowered and have access to leadership opportunities, it was important to have a literacy intervention for them. So, human and financial resources were arranged for and the EMG was constituted.

FORMATION OF THE EMG

The EMG is the federation's own body that manages and monitors the literacy programme. Therefore, a lot of thinking went into who should become a member of the EMG. The EMG was selected by federations, primarily from among their existing pool of cluster leadership. PRADAN and the federation teams together defined the criteria for their selection. The first important criterion was that an EMG member should have the ability to mobilize the community and should be someone who is respected and accepted by the community. She must also be able to move around freely because the work of the EMG required some amount of mobility. Because she would also monitor the centre, maintain records and prepare reports, the criterion of an educational qualification of Class X was also kept. The programme was initiated in two locations—Kashipur and Barabazar. An entrance examination was carried out as part of the selection process in Kashipur. In the Barabazar federation, this was done on the basis of discussions within the federation and through a process of consensus.

SELECTION OF TEACHERS

A critical factor in any literacy programme is the teacher. Therefore, the selection and capacity-building processes for this post were of utmost importance. In the PRADAN intervention, a teacher is referred to as *'shiksha saathi'*. All the tiers of the federation from the governing board, cluster to the SHG members played a vital role in the selection of teachers. In the selection process, preference was given to SHG members, and where there were no suitable candidates from among the SHG members, women teachers were given preference. The teachers needed to have a fair degree of literacy and numeric skills. Therefore, a minimum educational qualification of having passed Class VIII was agreed upon.

A critical factor in any literacy programme is the teacher. Therefore, the selection and capacity-building processes for this post were of utmost importance.

After having defined these criteria, the leadership group was given the responsibility of distributing forms to those they thought might be suitable teachers. The federation's ownership of the literacy programme began concretely at this stage. As a preliminary screening, a written test was conducted by the PRADAN team, with the support of the EMG. The candidates' basic language and mathematics skills were tested. After that, the candidates were called for a training programme, during which they were again put through an assessment procedure through a written test. Their ability to grasp and transact the pedagogy was evaluated. Which means to understand the rules in this pedagogy, the process, the norms, the systems, the concept (all of the pedagogy) and also being able to teach or practice the same in their centre. They were also put through a sociometric exercise, through which their general conduct was evaluated, as were aspects of their participation, listening abilities, sensitivity, enthusiasm and responsibility. At the end of this teachers' training programme, the final candidates were short-listed.

THE INITIAL STAGE AND THE ADVANCED STAGE

The literacy programme began by holding classes in the community literacy centres that were opened in each village. Every centre roughly covered members of two SHGs and the programme was attended by about 20 learners. These 'classroom' spaces were identified collectively with the community. It was jointly decided that these centres would run for six days a week and the actual time spent on teaching every day would be

around two-and-a-half hours. The teachers had to draw up a lesson plan for each day, incorporating the needs of both slow and advanced learners. Whereas a primer prepared by the State Resource Centre (SRC), was used as the primary text, the teachers were also encouraged to focus on objects of everyday use such as a wall clock, mobile phone and calendar as teaching aids. The average attendance in the centres during this phase was 77 per cent. Across the centres, it was observed that the progress in mathematics was particularly good.

During this time, besides the centres, block-level camps were also conducted. Initially, there was a great deal of apprehension in the team about getting women to stay for five-day literacy camps. At the first camp that was organized, there were problems in logistics. Many women did not agree to come for the first camp because it had been a drought year and they could not cope with the wage loss. However, the camp proved to be a fruitful experience, both for those who attended as well as for those who organized the camps. Each of these residential camps was attended by at least 35–40 women learners. The EMG had taken the responsibility of organizing and managing the camps. This made a big difference in the attendance and the quality of subsequent camps. Later, solidarity events were held at the cluster-level, in which a large number of women learners participated and shared their experiences.

Training and capacity-building were also key features of the initial stage of the literacy programme. Inputs for this were provided by Nirantar. Some of the training programmes were carried out in-house with resource persons from Nirantar. Some of the learning also took place through exposure visits to Nirantar's field programme Sahajani Shiksha Kendra (SSK) in Lalitpur district of Uttar Pradesh (UP).

During the advanced stage of the programme, a review and reflection process was carried out. The community-level literacy centres continued to run in this phase. Village-level camps were also organized. In addition to this, linkages and integrations were made with the existing programmes of PRADAN. Accountant training was held and *'adhiveshans'* (consultations) were conducted at the *panchayat* level. The training and capacity-building component continued to be strengthened during this phase.

CURRICULUM AND DEVELOPMENT OF MATERIAL

One of the most challenging aspects of the literacy programme for the PRADAN team was deciding on and developing the curriculum and material of study. In the initial review, it emerged that there were no suitable material for functional and empowering literacy in Bengali. In such a situation, the only material available was the primer.

The PRADAN team decided to begin by using the keywords of this primer and adapt them to the needs and goals of their own programme. For instance, activities were planned around the functional use of literacy and numeric skills, in the context of SHGs. An empowerment perspective was also incorporated. The first keyword in the primer was *'Aamra kara'*, which means 'Who are we'? The discussions around these keywords were built in such a manner that the women could discuss issues related to their identities as women and as women belonging to marginalized communities.

Subsequently, the PRADAN team decided to develop its own primer and proceeded to print it, with technical support from Nirantar. Since PRADAN had no previous experience in producing such material, it took a few months of working together to write, design, format and produce the primer.

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EFFECTIVE GOVERNANCE BY EMG

One of the most unique features of PRADAN's literacy intervention is that the sense of ownership and involvement of the federation members and leaders in the programme are high, in the sense that largely they have been largely managing the program.

The role played by the EMG is a clear indication of how this can contribute to implementing and managing a good quality literacy programme, and sustain the change that it helps to bring about. During a group discussion of the EMG, members said that they play a supervisory and monitoring role to see that the centres run well. More importantly, however, they play a supportive role when they find that things are not going smoothly. Each EMG member is given a number of centres near her own village to monitor. She visits these centres periodically. The members initially received a small incentive of Rs 60 for every centre that they monitored. This was later revised to Rs 150 per centre. In addition, they also receive compensation for wage loss in the form of Rs 250 per day for organizing the camps. When asked about their specific responsibilities, the EMG members responded, "We see if the centres are running well, if the teacher is coming on time and mobilizing women well, and whether she is staying for the full duration of the class. We are in charge of making payments to the centre teachers and helping them make their monthly plans. If attendance is poor, we go from door-to-door to speak to the women and their families and try to understand the reasons for their absence. It is our duty to motivate these women. We have also been trained by Nirantar to identify what kind of support the teacher needs in pedagogy and lesson planning. We provide her with material for her centre and also support the PRADAN team in developing material. We are also the resource persons for conducting the camps."

Literacy camps are conducted both at the block level and the village level, and are managed entirely by the EMG. With support from the PRADAN team, they first work on the design of the camp to suit the needs of the learners. During the camps, they are responsible for the overall management of the programme and also help in teaching and evaluating the learners. In the residential block-level camps, evening sessions are planned on specific themes such as gender, the National Rural Employment Guarantee Act (NREGA) and Janani Suraksha Yojana. Village-level camps, organized by EMG, were received with enthusiasm. During a group discussion, Sandhya, a senior EMG member shared: "We have received tremendous response for the village-level camps. In the village camp in Hullung (a village in Bansberra *gram panchayat*), my fellow EMG member, Khukhi, supported the teacher in teaching. The learners also kept requesting her to help them out."

Khukhi blushed at this appreciation. Being the only neo-literate member of the EMG, the journey has not been easy for her. With great confidence she balances both her roles as an EMG member and as a student in a centre. She regularly attends the literacy centre in her village and also motivates other SHG members to accompany her.

In response to a question on the process of the EMG selection, Bazar Rani Majhi, an EMG member of the SSNSS federation said: "At first, we were members of the SHG. Then we were selected by the SHG members as leaders to represent them at the cluster. Whereas all of us are cluster leaders, some of us have also been part of the federation leadership group.

However, when this programme was launched, we were given the responsibility of overseeing the literacy programme as a part of the EMG."

Bazar Rani has played an instrumental role in mobilizing the women in her village, both in her capacity as an SHG member as well as an elected member of the local *gram panchayat*, Tumrasol. She is one of the most vibrant members of the EMG and is actively involved in supporting the literacy programme.

EMG members have a fixed schedule for visiting the literacy centres, and of reporting about them at the cluster and federation meetings. PRADAN, in turn, facilitates the review meetings with the centre teachers, with the EMG and reviews the literacy programme at the cluster meeting forum. The division of this responsibility between the EMG/federation and PRADAN is very clear. Say the EMG members: "There are various stakeholders involved in running this literacy programme. It is not us alone; we all have worked together for it."

In moments of crisis, the EMG has emerged as a collective force to address several problems at hand. EMG member, Sandhya, said: "In some places, we were not able to find the right candidates because there were very few women who had the requisite literacy and numeric skills. We discussed this among ourselves and then recruited them from among the available candidates."

EMG members attend at least one cluster meeting every month. Once every three months, they also attend the federation meeting, to report about issues and concerns of the literacy programme and to share the progress made in the centres. If there are issues that crop up in the monthly EMG meetings and require larger discussions, two or three representatives from among the EMG attend the federation meeting, to consult with federation leaders.

One issue that was addressed effectively by the EMG and the federation together was the problem of low turnout in the centres. When the centres began, attendance was high for about six months, after which there was a sharp drop. This was a matter of concern and was discussed at length by the EMG in the federation meeting. As a solution, the federation began a campaign to motivate the women to attend literacy centres. The EMG and the federation leaders together conducted meetings in every village, spoke to the women about the reasons for their absence, and motivated and mobilized them to return to the programme. The result was positive and attendance picked up in the centres as a result of this campaign.

That the EMG members have so much clarity about their responsibilities and, in fact, make a clear distinction in their various roles, as SHG member, an EMG member and even as centre learners is remarkable. Second, their affiliation to the federation and their sense of ownership to the responsibility entrusted to them is motivating. They were quick to appreciate the critical role of literacy in their engagement with other institutions. Clearly, the experience of managing the literacy programme and running their own institution autonomously not only sharpened the management skills of the EMG members, but also significantly shaped their world view and sense of agency as individuals.

DIFFERENTIAL STRATEGIES, DIFFERENT EXPERIENCES

For PRADAN, the hiring of teachers from among the SHG members was the first experience ever at providing direct compensation to participants in their SHG programmes. The creation of this new 'post' also gave rise

to some tension within the federation. On the one hand, there was the federation and cluster leadership, who were not given any remuneration for the work that they did; on the other hand, there was now a cadre of teachers, who would be paid to run the literacy centres and teach the women, albeit for a limited project period.

Clearly, the experience of managing the literacy programme and running their own institution autonomously not only sharpened the management skills of the EMG members, but also significantly shaped their world view and sense of agency as individuals.

Within PRADAN's own field area in Purulia, it was interesting how these tensions were negotiated in the two federations. In the PANSI federation (Kashipur) around 80 per cent of the women in the federation leadership quit their roles, in order to take up the paid job of the centre teacher. By contrast, in the SSNSS federation (Barabazar), around 85 per cent of the women stuck to their roles as federation leaders. They motivated other women from the SHGs to take on the job of teachers.

When reflecting on this, the PRADAN team felt that in the SSNSS federation, the leadership had a clear understanding and articulation of the power of the governance role. They were not carried away by the prospect of earnings and did not want to give up the larger role of institution-building and leading their own institution. On deeper analysis, the PRADAN team also felt that this was an outcome of the differences in the values, facilitation and the processes that had been carried out. In SSNSS, the focus in selection of the EMG and the teachers was more on their literacy-numeric and interpersonal skills rather than educational qualifications. Other qualities that were given priority were the women's commitment as well as their ability to motivate and mobilize. The selection took place through an amicable process of identifying the right person to play the role through a process of discussion and consensus-building. Most significantly, the vision for institution-building was at the core of the EMG formation in SSNSS as well as in teacher selection.

In PANSI, the appointment of the EMG and the teachers had been more of a competitive exercise. Educational qualifications was emphasied for the purpose of 'efficiency', and interpersonal skills were not valued. In fact, a large proportion of the EMG members appointed ended up being educated men rather than representatives of women's institutions. In such an environment, many federation leaders sought out the job of a centre teacher rather than leading their own organization. The literacy programme took much longer to take off and stabilize here than it did in Barabazar, primarily for these reasons.

Over time and after reviewing these varied experiences, the learning was that there is value in prioritizing the leadership of women, especially in a programme which is purely for women, irrespective of whether they have the requisite 'mainstream' qualifications or not. The other important learning in programme implementation was the fact that in an initiative for institution-building and strengthening, the core principles of collectivism and due attention must be given to process. Only then will the programme pan out in line with the larger vision. And there are no shortcuts when it comes to empowering women and building institutions.

IMPACT OF THE LITERACY INTERVENTION

The impact of PRADAN's literacy intervention can be seen in various domains. Whereas the fundamental indicator is that the women have learned literacy and numeric skills, there are

many other parameters based on which this intervention can be seen as an 'effective practice'. One is, of course, the impact in the functional use of literacy-numeric skills. The other is in the women's individual, collective and institutional empowerment.

Women also said that they are using their literacy and numeric skills in personal contexts. If there is a mobile phone at home, they have begun using it independently. They have also begun using their skills on social occasions, in tasks that have traditionally been done by males.

FUNCTIONAL LITERACY

This was the stated goal of PRADAN's literacy programme and there are enough examples from across the project area to indicate that women are now using their literacy-numeric skills to read passbooks and the Financial SHC reports which are both very significant documents for all SHG members because it gives them details of savings, individual as well as group loans, repayment and the interest accrued. The women say: *"Amra samiti te nijer taka poyeshar hishabh rakhte parchhi.* (We are now able to keep our own books of accounts in the SHG.)"

Women also said that they are using their literacy and numeric skills in personal contexts. If there is a mobile phone at home, they have begun using it independently. They have also begun using their skills on social occasions, in tasks that have traditionally been done by males. Jashoda, an EMG member shared: "In Digardi village, Gunomoni didi, an SHG member, would earlier use a thumb impression. After coming to the centre she is now able to read and write. Recently, during her daughter's wedding, she not only wrote on all the gift tags, but also wrote and maintained accounts of all the expenses incurred during the wedding."

LITERACY FOR JUSTICE AND RIGHTS

The women also narrated stories of how they now take their full MGNREGA wages from the post office (where wages are deposited in individual accounts) whereas, in the past, they would not realize that the person at the counter was often not giving them their full wages. After joining the literacy classes, they feel more confident to question him about it. In a group meeting with the SHG members of Piyaldih and Rangadih villages, Joba Mahato said: "When I go to withdraw my MGNREGA wages from the post office, I can now read and understand the entries in my passbook. Earlier, the cashier would give ten or twenty rupees less. Now, since I can read my passbook, I fight back."

Literacy not only has a functional use but has also given women the opportunity to use it in a way that helps them get their rights.

LITERACY FOR AUTONOMY AND DEMOCRATIC FUNCTIONING

At the group and federation level, literacy has begun playing an important role in reducing the dependence of the women on literate leaders or on men (like the *'lekhok dada'*, or male SHG accountants), at least for their regular SHG transactions and book-keeping. The women said: *"Agey cash book onno lok pode bolto, ekhon nije podte pari.* (Earlier someone else would read to us from the cash book, now we can read it on our own.)"

Federation leaders, who were earlier not literate, now take notes of important discussions and decisions in the federation meetings, to share with others in their clusters or groups. Literacy has also positively impacted the participation of women in the group and in the democratic processes.

The EMG views the literacy programme as critical in the federation's attempt to enhance the capabilities of its members and as a stepping stone in the federation's ability to 'stand on its own feet.' As Chinta shared in a group discussion with the EMG members: *"This federation comprises women. As women become more self-reliant individuals and are able to maintain their own accounts, it is a strengthening of the federation's capacity itself."*

The women said that though they have been engaging with banks since the formation of the SHGs, the nature of their interactions has changed after the literacy programme.

Becoming fully autonomous will obviously take time. Dependence on literate members such as Kajala Mahato of Jan Kalyan Mahila Samiti, Karmabera village (of Bansbera gram panchayat, Barabazar block) will remain for some time. The women shared that since Kajala was not able to attend a block-level camp in Purulia, none of them went for it. Kajala, who has been a cluster leader in the past, has passed Class VII and has adequate literacy skills, still comes to the literacy centre regularly. She said: *"Didider shonge tuku joga jog di. Dupure gele mon tuku fresh thakbe.* (I support the women a bit and go with them. If I go to centre in the afternoon I feel refreshed myself)."

LITERACY BUILDS CONFIDENCE AND CAUSES SHIFTS IN RELATIONS WITH OTHER INSTITUTIONS

One of the first institutions in which women's relationships are changing somewhat is within the family. Sometimes, there is support from the family for the women to attend literacy centres. And sometimes there are sarcastic remarks like: *"Jaa, centre gele chakri pabi?* (Go. Attending the centre will get you a job, will it?)"

On hearing this, the women said they did feel angry and de-motivated, preventing many of them from coming to the centres. But when they discussed this in the centres, in the context of unequal gender relations, of the gendered division of labour and of how women are kept away from education, the women said they realized the following: "Only if we come to the centre we know its value. Nobody can take it ('*shiksha*'/education) away from us."

The relationship with other institutions has also undergone a change. The women said that though they have been engaging with banks since the formation of the SHGs, the nature of their interactions has changed after the literacy programme. For instance, earlier they would go to the banks but were dependent on others to fill withdrawal forms; this has now changed for some. For others, even if they do not fill up withdrawal forms, deposit forms or other documents themselves, they do try and check if the accountant is filling these correctly and even point out mistakes, if he makes any.

All the women experienced a greater sense of confidence in interacting with the bank officials and managers. They earlier felt scared of directly speaking to the bank officials; literacy, however, has given them the confidence to talk. When talking of their interface with a variety of institutions, interactions with the bank resonate most vividly with a majority of the women.

LITERACY BROADENS HORIZONS

A striking theme in the discussions with women learners, teachers, EMG members, federation leaders or with the PRADAN staff was the fact that the perceived value of literacy itself helps make a fundamental shift inside women's minds and makes them feel more 'powerful',

'in control' and aspire for more. As Chinta said: *"Shikkha na thakle kichhu na. Samaje matha ucho kore thakte parchhi na. Samaje atyachar shojjho kore jachhee.* (Without education there is nothing. We are not able to live in society with our heads held high. We continue to face injustice in society)."

All the EMG members felt that after attending the literacy centres, the women are more confident. They are able to protest. They fear less. There is a feeling of *"Ami pari.* (I can.)"

In many ways, this captures the essence of what the literacy intervention has done for PRADAN's SHG and federation members and leaders. Whereas they have been active in all kinds of livelihood generating activities and have had exposure to many interventions in the past, literacy has helped them to dream and to aspire for more.

Why Do Farmers Adopt or Dis-adopt ? SRI–A Short Report from the Field

B.C. BARAH, RAHUL KUMAR, SANJAY PRASAD AND AMIT KUMAR

The System of Rice Intensification has made its presence felt in the Indian agriculture scenario, by its fast speed and the promise to " grow more with less". Yet there has also been a lot and reports of disadoption. This preliminary report of a research lays out a number of reasons, predominantly rainfall failure related for farmer drop-outs.

Introduction

In India, rice is grown on 44 million ha of land, producing approximately 90 million tonnes of rice, with an average productivity of 2 tonnes per ha. Rice occupies 46 per cent of the total area under cereal cultivation and contributes 47 per cent of the total food production. The annual production of more than 90 million tonnes is the highest contribution of a single crop to the total food grain production in the country. At the same time, India is the second most populous country in the world, with the population crossing over 1.2 billion in 2011, and the demand for rice is growing every year. It is estimated that in 2025 AD, the requirement will cross 140 million tonnes, to feed the increasing population. To sustain present food self-sufficiency needs and to meet future food requirements, India has to increase its production of rice by at least 3 per cent per annum. Rice, unfortunately, requires large quantities of water for cultivation and 1 kg of rice uses an astronomical 3,000 to 5,000 litres of water, depending upon the variety being cultivated. Owing to increasing water scarcity, some parts of India are shifting towards less water intensive crops. But is this shift desirable in the context of the growing food insecurity among small and marginal farmers, particularly in less endowed areas?

Rice is the most important staple food for a majority of the population; therefore, it warrants an alternative method of cultivation—one that utilizes less water and achieves higher productivity. Empirical evidence clearly indicates that cultivation of rice through the System of Rice Intensification (SRI) fulfills the dual objective of increasing the yield of rice two to three fold, as compared to the current crop yield level, and also conserves water. Having observed the merits of SRI, farmers worldwide have adopted the practices and have reaped its benefits. At present, more than a million farmers in India have adopted SRI. This agro-ecological innovation has the intrinsic quality to produce more with fewer inputs of seeds, water, fertilizer, pesticides and, often, labour. These advantages have attracted many farmers.

SRI is a knowledge-intensive methodology and, for that reason, an intesive extension mechanism to deliver this new technology to the small farmers. A few state governments and civil society organizations (CSOs) have been playing a proactive role in disseminating information about SRI among farmers. Many state governments and civil society organisation have been achive in the promotion and implementation of SRI. There is now a need for an objective assessment of the progress made and the processes followed, in order to facilitate the spread of SRI throughout the country.

Traditionally known to be agriculturally less developed, Bihar has now emerged as a leader in the adoption of SRI methodology.

Traditionally known to be agriculturally less developed, Bihar has now very active in the adoption of SRI methodology. The government has introduced several pro-poor and small farmer-oriented initiatives and put a number of multi-pronged policy strategies in place, which could herald a change in the food production scenario of the state. Similarly, in order to come out of the low-yield trap, Odisha has also implemented several initiatives for increasing rice production. Interestingly, both the states have some similarities in this regard: both face abject poverty and both are classified as having a rain-fed farming system with low productivity levels of the most important crop—rice. It is felt that an understanding and comparison of the status and process of rice cultivation practices, including SRI, will be useful. The primary goal of a study of this kind will lead to an understanding of the process of adoption and dis-adoption of SRI by various farm sizes, particularly small farmers.

OBJECTIVES OF THE STUDY

a. To examine the status of adoption of SRI and to study the causes and effects of the dis-adoption behaviour. A comparison of the performance of SRI in rain-fed and irrigated areas.

b. To assess the impact of SRI on household food security in rain-fed and irrigated areas.

c. To analyze the farmer's perception of the sustainability of the practice and derive policy imperatives through the analysis.

METHODOLOGY

In order to capture the changes in SRI adoption pattern across years, a longitudinal study is planned for three seasons starting 2011–12. The study aims to understand the adoption process over the seasons, and hence a panel data will be generated, accounting for both a cross-section and a time series data. The socio-economic dynamics of the adoption of the SRI process will be studied with the help of carefully designed village surveys with an interview schedule. A total of 1,500 farmers will be surveyed across seven districts from the less developed states of India, which are actively engaged in practising SRI. One of the criteria for the selection of sample farmers is the presence of prominent NGOs. Sample farmers, representing the irrigated and the rain-fed ecosystems, will be selected to enable a comparison of the two systems. This is an interim report from the first phase of the study carried out in the kharif season of 2012-13.

For this phase two representative districts were selected: one from Bihar and the other from Odisha. Blocks were selected based on the intensity of adoption (number of farmers adopting SRI in a particular block or village). As many as 28 villages were selected from Gaya and Keonjhar, using a stratified, random sampling procedure. Villages were stratified, based on the number of adopters of SRI and, hence, within the strata, the farmers were selected randomly. For the purpose of

comparison, a few non-adopters as well as farmers from non-SRI villages were selected . Thus, the sample comprised a total of 210 farmers as shown in Table 1. This sample of 210 farmers comprised 110 farmers from Gaya in Bihar and 100 from Keonjhar in Odisha. A dedicated team of surveyors were located at the selected districts and were trained for data collection. A well-structured questionnaire was designed and pre-tested for the study. The collected data has been compiled and cleaned for tabular analysis and other statistical tools have been used for report writing. The procedure for the selection of the village and farmer sample was as follows.

The older SRI farmers have been practising SRI for four to five years whereas non-SRI farmers in the selected SRI village are those who did not adopt SRI principles or tried these out and abandoned the efforts.

SAMPLE SELECTION

In Keonjhar, PRADAN is engaged in the promotion of SRI in three blocks—Banspal, Sadar and Patna. Urumunda, Lanjipada, Bayakumutia, Tentulikhuti, Baliapasi, Padmakeshrapur, Bardapal, Mahadeijoda, Hatikucha, Anusuan, Rengalbeda and Jharbeda villages were selected for the purpose of the study. Similarly, the villages of Tetariya, Bumer, Belharia, Seway, Chinuk Bigha, Mishribigha, Kamaldhara, Barkibigha, Mirljak, Kumawan, Chanda, Kauwar, Mudiyal, Ghantadih and Shekhwara were selected from Gaya district, Bihar. Because the adoption behavior as well as the adopters change over time, two types of sample farmers were identified—a few new adopters of SRI and a few others who have been practising this technology for a few years. The older SRI farmers have been practising SRI for four to five years whereas the non-SRI farmers in the selected SRI villages were those who did not adopt SRI or had tried out and then abandoned the efforts. A couple of farmers were also selected from a non-SRI village (Table 1). Simple statistical tools of tables, graphs and ranks have been used to analyze the survey data.

FINDINGS

Gaya

Gaya is the second largest district of Bihar, with an area of around 4,87,607 sq km. It is divided into four sub-divisions, 24 blocks, 332 *panchayats* and 2,889 villages. As per the 2011 Census, the total population of Gaya is 3,473,428. The Bihar Rural Livelihood Programme (a World Bank-funded project) and PRADAN have organized interventions in Gaya to promote SRI through the formation of Self Help Groups, or SHGs (an informal body of around 15–20 women involved in savings and credit activity). The average paddy yield of small and marginal households in SHGs farmer ranges from 0.8 to 1.02 tonnes per ha, which is just enough to meet four to five months of the total requirement of rice for a household. The project, introduced SRI in 2007 with 128 smallholders on 30 ha of land. with PRADAN as the resource open the average yield increased to nearly 10 tonnes per ha, which was phenomenally higher than the existing productivity. Based on the success of the pilot, SRI promotion was scaled up in the following three years with 5,146,8,367 and 19,911 smallholders (colloquium on SCI).

KEONJHAR

Keonjhar is a land-locked district, with an area of 8,240 sq km. As per the 2011 Census of India, the total population of the district is 15,61,990. The district is divided into two widely dissimilar tracts—the lower Keonjhar and the upper Keonjhar. The former is a region of valleys and lowlands whereas the latter includes mountainous highlands with a general slope from North to South. Rice is the

subsistence crop of the district. Agriculture is the backbone of the economy. People living in rural areas are mostly marginal and small farmers, with small landholdings that have poor irrigation facilities. Villagers have an extremely low income. More than 77 per cent of the total population of Keonjhar is below the poverty line (BPL). SRI was initiated in Keonjhar by PRADAN in 2007. There are now more than 5,000 SRI farmers in Keonjhar, including those promoted by the Department of Agriculture.

PROFILE OF SAMPLE FARMERS

The average age of the selected farmers in Gaya is high and the family size is large as well (both in comparison with Keonjhar). Most of the farmers in Gaya are small and marginal. They are a highly vulnerable group, in terms of food security to SCs. It was also observed that a number of farmers in Gaya are members of SHGs and the Farmers Club (FC). (Table 1)

Table 1: Profile of the Sample Districts in Bihar and Orissa

Profile of the Selected Farmers			
Particulars	**Unit**	**Gaya**	**Keonjhar**
Average age	Years	41.4	37.5
Average family size	Nos.	9.14	5.54
Average own land holding	Acres	1.37	1.95
Average leased landholding	Acres	0.05	0.20
Farmers in the SC category	%	12.7	8
Farmers in the ST category	%	25.5	60
Farmers in the OBC category	%	49	31
Farmers in the General category	%.	13	1
BPL farmers	%	52	84
Above poverty line farmers	%	48	13
SHG members	%	31	93
Common Interest Group (CIG) members	%	2	0
FC members	%	29	13

In Keonjhar, the average family size is relatively smaller and the average age of the farmers is also lower. The landholdings of the farmers in Keonjhar are small and marginal. A majority of the farmers are tribal. Dependency upon rainfall makes these farmers extremely vulnerable and their livelihoods highly insecure.

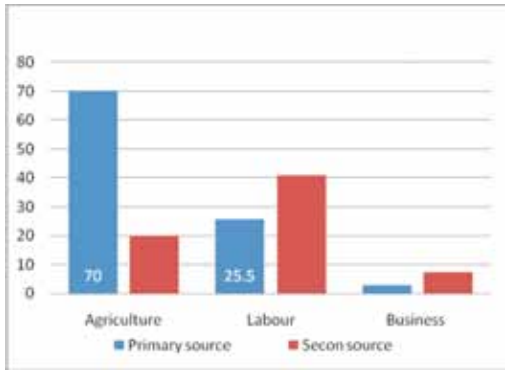

Figure 1: Sources of livelihood in Gaya

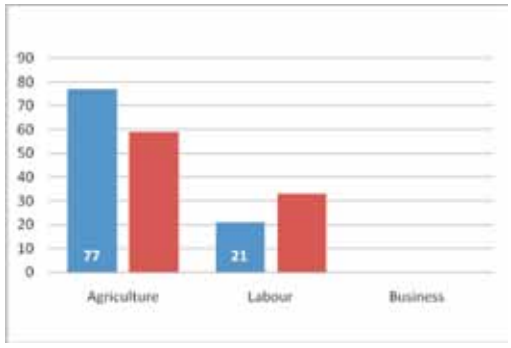

Figure 2: Sources of livelihood in Gaya

The survey shows that the primary source of income in both Gaya and Keonjhar is agriculture.

One finds a clear, inverse relationship between poverty (%) and productivity (%)—lower productivity leads to poverty. Agriculture in both these districts is very traditional. Recently, SRI has drawn the attention of the farmers and is increasingly being adopted by them. Since the practice is new in these villages, the adoption was observed to be slow but is gradually gaining ground.

PATTERN OF ADOPTION OF SRI

A large number of farmers have been showing interest in adopting SRI practices because they are convinced by the results/yield for those who have adopted it in these two districts. Most of the farmers have adopted SRI on their own land whereas some others are adopting SRI on leased land and land under share cropping as well. Based on the available data, from the sample village, it was found that, initially in Gaya, seven farmers started practising SRI in 2007 on 6.9 acres of land. Subsequently, the number of adopters increased to 15 farmers in 2008, and in 2009, the number of adopters further increased to 18 farmers, covering 16.41 acres of land; two farmers initiated SRI under share cropping.

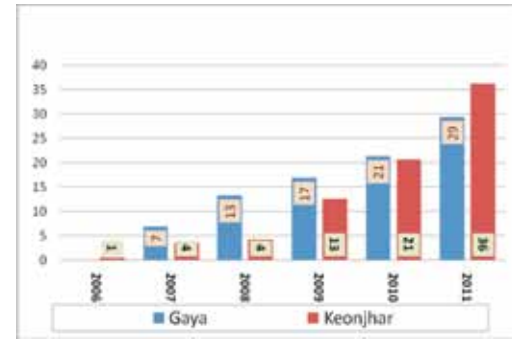

Figure 3: Adoption of SRI in Gaya and Keonjhar districts during 2006-2011

Table 2: Trends in the Pattern of Adoption of SRI under Various Tenancy Structures in Sample Villages

		Own Land		Leased land		Share Cropping		
Disttrict	**Year**	**Area (acres)**	**No. of Farmers**	**Area (acres)**	**No. of Farmers**	**Area (acres)**	**No. of Farmers**	**Total area**
Gaya	2007	6.9	7	0	0	0	0	6.9
	2008	12.93	15	0	0	0.37	1	13.3
	2009	16.41	18	0	0	0.48	2	16.89

		Own Land		Leased land		Share Cropping		
	2010	20.48	54	0	0	0.89	4	21.37
	2011	28.04	73	0.19	1	1.14	5	29.37
Keonjhar	2006	0.6	3	0	0	0	0	0.6
	2007	3.57	12	0	0	0	0	3.57
	2008	3.72	12	0.05	1	0.5	1	4.27
	2009	10.23	34	1.93	4	0.5	1	12.66
	2010	18.95	58	1.25	4	0.5	1	20.7
	2011	34.52	66	0.85	5	0.8	1	36.17

In 2010, there was a huge jump in the numbers of farmers (54 farmers and a coverage area of 20.48 acres) adopting SRI. The farmers practising SRI increased in shared cropping areas when four farmers initiated SRI on 0.89 acres of land. Seventy-three farmers initiated SRI on 28.04 acres of their own land; one farmer initiated SRI on 0.19 acres of leased land and five farmers adopted SRI on 1.14 acres of land, under the share-cropping pattern in 2011.

Similarly, SRI was initiated in Keonjhar in 2006 with three farmers. Between 2007 and 2008, there was a marginal increase in the number of farmers adopting SRI but 2009 witnessed a major increase in the numbers. This trend continued in 2010 and 2011 as well (Table 2).

INPUT USAGE PATTERN

The engagement of labour in conventional rice cultivation is more than in SRI. In Keonjhar district, on a per acre basis, 66 labour days were needed in conventional rice cultivation as compared to 40 days in the SRI method. However, for Gaya, the average labour engagement for conventional rice and for SRI remains the same—around 62 labour days. The nature of inter-culture operations is different in both the regions. The activity under inter-culture operations is weeding. In Gaya, the focus is on weeding but this is not very prevalent in Keonjhar.

Table 3: Average Labour Use in SRI

Use of Labour in the Conventional Method of Rice Cultivation and in SRI			
District	**Unit**	**Conventional Rice**	**SRI**
Keonjhar	Labour days per acre	66	40
Gaya	Labour days per acre	62	62

The inter-culture activities in are very important and the productivity of the crop depends upon the various inter-culture operations, and other management practices. The intermittent drying-wetting of the field makes it susceptible to weed growth; thus timely weeding operations are essential. Table 4 shows the practices and the intensity of engagement of various operations in both the districts. Not all the farmers engaged in STI method of cultivation follow all the principles of SRI till the end.

Table 4:- Inter-culture Operations and Other Management Practices in SRI

Input Usage Pattern		
	Gaya	**Keonjhar**
	% farmer	% farmer
Seed treatment	92.22	93.75
Marker for transplantation	98.89	82.5
First weeding	82.22	100
Second weeding	60.00	68.75
Third weeding	3.33	12.5

Seed treatment enhances the productivity of the crop (more than 92 per cent of the farmers used seed treatment); it protects plants from fungal and bacterial diseases. The use of markers during transplantation helps in maintaining proper spacing between plants. This reduces competition for soil nutrients and increases the productivity of the crop (over 80 per cent of the farmers of the sample followed this method). Weeding also increases productivity of the crop because it helps aerate the land. Later, the weeds are converted into biomass and provide valuable nutrition to the plants. The survey revealed that more than 92 per cent of the farmers from the sample treated their seeds but non-SRI farmers did not treat their seeds for the nursery. Along with this, almost all the farmers in Gaya used markers for transplantation and more than 82 per cent of the farmers conducted the first weeding, 60 per cent of the farmers conducted a second weeding and only three per cent of the farmers conducted the third weeding of the crop. In Keonjhar, around 93 per cent of the farmers treated their seeds before sowing, around 82 per cent of the farmers used markers for transplantation and almost all the farmers were engaged in the first weeding of their SRI crop. Little more than 65 per cent of the farmers conducted the second weeding and only 12 per cent of the farmers conducted the third weeding of the crop. Notably, the third weeding was not followed by most of the farmers. This could be because of the fact that after the second weeding, the plant density increases and when the leaf canopy increases, it becomes difficult to conduct weeding.

Table 5: Distribution of the Benefits of Enhanced Production through SRI (% of farmers)

	Percentage of Farmers Who Achieved Increased Production	
Range of increase in Production	**Gaya**	**Keonjhar**
0–50%	9.09	33.33
51–100%	40.91	42.86
101–150%	25.00	
151–200%	25.00	23.81

SRI is an unprecedented innovation that enables farmers to achieve 'more output with reduced inputs'. SRI makes it possible for crops to mobilize bio-physical benefits of natural resources

Evidence clearly proves that SRI increases productivity and production at the farm level. Table 5 shows that 50% of the farmers achieved more than 100% increase in production in Gaya and 66% in Keonjhar achieved increase of over 100%. By disaggregating the above data further, the study found that in Gaya, 40 per cent of the sample farmers achieved an increase in rice production in the range of 51–100 per cent and 25 per cent of the farmers had a production increase in the range of 101–150 to 151–200 percent each. In Keonjhar, around one-third of the farmers increased their rice production in the range of 0–50 percent; 42.86 percent of the farmers in the range of 51–100% and 23.81 percent of the farmers had an production increase in the range of 151–200 percent (Table 5). Any increase in paddy production directly affects the food security of small and marginal farmers. During the data collection process at both the places, the farmers said that (in discussions during the survey process) SRI had a positive impact on their families, in terms of food security.

Table 6: Addition to Food (Rice) Availability Due to SRI

Additional Availability of Home-grown Rice in Months		
	Gaya	**Keonjhar**
Months	Percentage	Percentage
0–3	9.62	5.48
3–6	28.85	10.96
7–9	25.96	9.59
10–12	35.58	73.97

The increase in productivity by adopting SRI has directly affected the food security of families. Some of the families that were under the pressure of food deficit for a good part of the year now have surplus production. They are even able to sell their produce in times of distress. In Gaya, 9.62 per cent of the farmers had additional food availability for a period of 0–3 additional months, 28.85 per cent of the farmers had an additional food availability for a period of 3–6 additional months, 25.96 per cent of the farmers had an additional food availability for a period of 7–9 additional months and 35.58 per cent of the farmers had an additional food availability for a period of 10–12 additional months (Table 7). In Keonjhar, 5.48 per cent of the farmers had additional food availability for a period of 0–3 additional months, 10.59 per cent of the farmers had an additional food availability for 3–6 additional months, 9.59 per cent of the farmers had an additional food availability for 7–9 additional months and a major portion of the population, that is, 73.97 per cent had an additional food availability for a period of 10–12 additional months (Table 6).

A pertinent question now being asked is how such a gain on return to cultivation is possible and what the implications are of this gain on input usages. According to the farmers, the savings they have made on seeds, fertilizers, irrigation as well as labour have been particularly attractive.

There is an apprehension that SRI requires more skilled labour for transplanting and weeding, in comparison to the traditional method. The field survey does not indicate this to be true. Studies in Andhra Pradesh have shown that on an average, the ratio of labour use between SRI and non-SRI practice is 0.76

The cost of various inputs is calculated based on an irrigation charge of Rs 300 per irrigation per ha, the wage rate @ Rs 80 per day and seeds as per the prevailing rate during the survey year. SRI management practice recommends alternate wetting and drying (AWD) system of irrigation. AWD is a water saving technology. In AWD, the field is not flooded with water; instead, the field is covered with a thin layer of moisture for a certain number of days. The field is allowed to be dry for a few days between water applications. The slight hairline cracks that appear help improve soil aeration. Under this method of cultivation, a single seedling is planted per hill and the hills are widely spaced. Therefore, the number of seedlings required for the planting unit area is reduced to a great extent compared to the traditional method. For instance, with 25 cm x 25 cm square planting, only 16 seedlings are needed to transplant 1 sq m of the field. This implies that only 5–7.5 kg of seeds are required to plant a rice field of 1 ha, as compared to the 60–80 kg required in the conventional method of cultivation. This is the first obvious benefit of the SRI management practises to farmers. Based on the number of seedlings, the required per unit area and 100 per cent seed germination, the seed requirements in SRI are a tenth of those in the conventional method.

Table 7: Savings on Various Inputs through SRI

Based on Farmers' Perceptions		
	Input Savings in Gaya	Input Savings in Keonjhar
	Savings Per Acre (Rs)	Savings Per acre (Rs)
Saving in Irrigation (Rs)	503.75	76.58
Saving in Labour (Rs)	2,098.74	2,916.04
Saving in Fertilizer (Rs)	80.80	555.10
Saving in seeds (Rs)	722.10	223.89
Total	3,405.39	3,771.61

Indicating that the total labour use is at least 24 per cent less in the SRI method as compared to the conventional method. In Tamil Nadu, however, labour use is almost at par in both the methods. During the research process in Gaya, it was observed that on an average, each farmer was able to save around Rs 2,000 in labour costs.

CHANGES IN OTHER COSTS

There are two types of costs associated with the cultivation of rice. One is the input cost (as mentioned earlier) for crop production and the other is the cost incurred after the harvesting of the crop. Because there are several ways of altering input usage in SRI as compared to the conventional method, the cost incurred by the farmers is bound to be different in the two practices (perception survey shown in Table 7). SRI increases both grain production as well as production of dry matter. The increased volumes also require increased handling costs . Post harvesting of a crop cycle comprises harvesting, transportation of the crop from the field to homes, grain separation, winnowing and packaging. After completing all these activities, the grain is ready either for sale or for household consumption.

The adoption of SRI at the farm level is determined by various factors such as an increase in the production, savings on inputs, reduction in chemical fertilizers and the use of vermi compost—all of which are an intrinsic part of SRI. The survey reveals that a large number of farmers expressed a keen interest in adopting SRI.

Table 8: Comparison of Savings in Labour in Various Operations in SRI and CMP

	SRI		Traditional	
Gaya	Per Family	Per acre (Rs)	Per family (Rs)	Per acre (Rs)
Harvesting	172.62	534.83	156.78	385.76
Transporting	102.29	316.92	96.89	238.40
Grain separation	246.73	764.45	90.27	222.12
Winnowing	125.97	390.30	88.67	218.19
Packaging	93.86	290.81	59.26	145.81
Keonjhar				
Harvesting	393.17	891.35	1605.40	897.72
Transporting	280.98	636.99	1180.00	659.84
Grain separation	215.61	488.80	654.60	366.05
Winnowing	138.54	314.07	464.50	259.74
Packaging	103.41	234.45	352.40	197.06

In Gaya, the post-harvest cost in SRI was much higher than in the traditional cropping system. The harvesting cost in SRI was Rs 543 whereas, in the traditional cropping system, it was only Rs 385 per acre. The transportation cost of the produce under SRI was Rs 316 as compared to Rs 238 per acre in the traditional method. The cost of grain separation in Gaya was Rs 764, more than twice the cost involved in the traditional cropping system. The cost of winnowing in the traditional system of crop cultivation was Rs 218, much lower than the cost of winnowing in SRI. And the cost of packaging in SRI is almost double the traditional system of rice cultivation.

SRI increases both grain production as well as production of dry matter. The increased volumes also require increased handling costs.

FACTORS AFFECTING THE ADOPTION OF SRI

The adoption of SRI at the farm level is determined by various factors such as an increase in the production, savings on inputs, reduction in chemical fertilizers and the use of vermi compost—all of which are an intrinsic part of SRI. The survey reveals that a large number of farmers expressed a keen interest in adopting SRI and went ahead and did so. Most of them are continuing with the new technique. What are the causal factors leading to the adoption of SRI among farmers? In Gaya, 28.09 per cent of the farmers thought that higher production was a major reason for adopting SRI, which is also important for food security at the household level. Another reason stated by 13.11 per cent of the farmers was the lesser labour input involved in this agro-ecological innovation (Table 9).

Table 9: Analysis of Opinion Survey and Farmer Interest Group Discussion

Farmers' Responses to the Reasons for Adopting SRI (%)		
Reasons	**Gaya (%)**	**Keonjhar (%)**
High production	28.09	28.80
Less labour	13.11	9.60
Less input cost	10.11	21.60
Less seed	26.14	12.00
Less fertilizer/compost	0.75	11.60
Less water	11.24	3.20
More tillers	5.24	2.40
More profit	2.62	
More land productivity	1.12	
Other		6.00

Around 10 per cent of the farmers said that the reduction of input costs was the reason for adopting SRI. Less requirement of seeds was also an important reason (26 per cent of the farmers), prompting the farmers to continue practising this method. In Gaya, 11.24 per cent of the farmers said that consumption of less water and 5.24 per cent of the farmers said that more tillers are the reasons for their adopting SRI (Table 9).

Similarly, in Keonjhar, the higher production is a dominant reason for adopting the SRI method, as expressed by 28.80 per cent of the farmers, whereas 9.60 per cent of the farmers said that the reason for adopting it was the reduced labour input whereas 21.60 per cent cited reduction in the overall input costs in comparison with the conventional method. Similarly, 11.60 per cent of the farmers said that this method of agriculture requires less fertilizer and compost as compared to the conventional method. Some farmers also responded that this method of agriculture leads to more effective tillers and thereby less chaffy grains (Table 9).

DIS-ADOPTION

One of the objectives of the study is to understand the dis-adoption of SRI (if any), at the farm level and the reasons associated it. The survey traces a small stint of dis-adoption for extraneous reasons, out of the control of the farmers. Around 12 per cent of the farmers in Gaya reported discontinuation of SRI. This happened because they were compelled to discontinue SRI due to a severe drought in the region for two consecutive years in 2008–09 and 2009–10. The study did not find any farmer in Gaya who dis-adopted SRI due to factors other than drought severity (Table 10).

The survey traces a small stint of dis-adoption for extraneous reasons, out of the control of the farmers.

Similarly, in Keonjhar, 11 farmers said that they had dis-adopted SRI in the region. Seven of these farmers discontinued SRI because of continuous scarcity of water. Two farmers were unable to continue with SRI due to sudden sickness and family problems. A few faced a combined problem of water and labour and, thus, dis-adopted SRI (Table11). Thirteen of the sample farmers reported several constraints for not adopting all the SRI components. The lack of skilled labour and handholding training were major constraints for more than 50 per cent of such farmers. Although the farmers understood the value of regular weeding and the use of cono-weeders, they were unable to do as prescribed due to the lack of availability of the implement. Some of the farmers faced difficulties doing a third cono-weeding after 50 days. The crop was fully established by then and because of the canopy development, the space between rows was reduced.

Table 10: Reasons for Dis-adoption of SRI amongst Farmers

Gaya	
Reasons	**Number of Respondents**
Water problem	13
Total	13
Keonjhar	
Reasons	**Number of Respondents**
Water problem	7
Sickness	2
Labour problem	1
Water problem and labour problem	1
Total	11

POLICY IMPERATIVES

SRI has shown enormous promise in the areas where it has been introduced. SRI practices are now available on a national scale to promote and accelerate community led agricultural growth while managing soil and water resources for securing sustainability. The aspect of food security is closely connected to enhancing the future capacity of rice production. SRI modifies how farmers manage the plants and exploit the genetic potentiality, but not the plants themselves. Most importantly, it mitigates the drawbacks associated with mono-cultures, agro-chemicals and climate change. This makes it a win-win proposition for rural households, the nation and the planet. Unfortunately, despite a well-published need for a participatory approach, to increase the agricultural production strategy, farmer-led innovations fail to attract the interest of the scientific establishment. Several questions are raised from time to time about the genetic possibility, the carrying capacity of soil, nutrient mining, input savings (seed, water and chemicals), along with the socio-economic issues. These are often unfounded. In science, innovations always attract doubts. Accumulated evidences respond to some of these questions, be it in the scientific or the socio-economic spheres. This study attempts to explore some on-farm evidence on the dis-adoption hypothesis and has conducted village-level, structured farm surveys.

SRI has shown enormous promise in the areas where it has been introduced. It is perhaps one of the best options that has been developed for a farmer—an innovation for the 21st century.

The study could not trace any significant voluntary dis-adoption of SRI. The sample farmers have adopted SRI and have been practising the technology of cultivation for the past four to five years in various villages. Less than 12 per cent of the farmers failed to continue with SRI practices due to several reasons including extraneous ones such as severe perpetuated drought, sudden illness in the family and the combined problems of water and labour. The pertinent question is—what should be the policy perspectives to enhance the adoption of the technique on a wider scale and address the problems of food security and conjunctive use of scarce resources land, water and root system?

- The benefits of SRI are well documented in various advocacy media but require more efforts in policy communication.
- The provision of farm implements such as low cost cono-weeders, and markers need to be addressed.
- SRI, being more knowledge intensive, requires capacity building and longer term hand-holding of farmers.
- SRI requires the engagement of various actors in a convergence model. An innovative institutional mechanism is needed by bringing various streams, such as government line departments, service providers including infrastructure (irrigation, markets financial institutions, national agricultural research system, CSOs, extension system and farmers' organizations on to a common platform at the state level.

CONCLUSION

This is a longitudinal study initiated under the aegis of NCS, hosted by PRADAN, across the rain-fed areas in India. The objective is to understand the dis-adoption of SRI among farmers. On the basis of the data collected in the first phase in this year, it was

found that farmers are fully convinced of the merits of SRI in addressing the issues of household food security. The farmers cited a number of reasons for the adoption of this method of agriculture. Higher production in comparison with the traditional method of paddy cultivation is one of the major reasons why farmers are continuing with SRI. This is clearly visible in the food availability pattern of small and medium farmers. Savings in input costs is another important reason for farmers to continue with SRI. The dis-adoption of SRI, is caused by factors such as low rainfall, falling sick during a crucial stage of crop planning or persistent drought conditions. More empirical evidence is necessary to gain insight into the dis-adoption process in wider areas. Therefore, the study should be extended to more agro-climatic regions and capture variation. This longitudinal study plans to collect the necessary information in a larger sample, covering more than 1,500 farmers in the next two years, across India. On the basis of the experiences gathered in the survey of two districts of Bihar and Odisha, the survey tools, including a structured questionnaire have been refined. The repeat survey will also be instrumental in validating the results over the years and regions. A clearer picture of the adoption and the dis-adoption of SRI across India will emerge, hopefully after no more rounds.

Promotion of SRI-Millet with Small and Marginal Farmers in Chhattisgarh: A Practitioner's Manual

KUNTAL MUKHERJEE

Increasing the production of millet by using the SRI-millet method may prove to be one of the significant ways to address the poverty and food insufficiency problem in several tribal areas of Chhattisgarh

Chhattisgarh, once a part of Madhya Pradesh, became a separate state of India in 2001 so that it received a greater stimulus for development. Poor tribal communities make up 60 per cent of the rural population in the state. The major sources of livelihood of the people in the area are agriculture, forestry (timber and non-timber products), and livestock. The average landholding per family is very small—only 1–2 hectares (ha), almost all rain-fed, with no irrigation. Households usually have five or six members. Most of the cultivated land is mono-cropped with paddy, with a current average productivity of 2.2 MT/ha. Finger millet is the second major food grain crop in large parts of this state. However, because of the low average productivity of millet, (one tonne/ha), the area under millet cultivation has been decreasing gradually.

Tribal households, especially those that are referred to as the Primitive Tribal Groups (PTGs—Pahari Korbas), continue to cultivate millet as a main crop—they consume millet as a food grain as well as a liquid mixture, locally called *pej*. Considered 'minor' by most agriculturalists, millet has some important uses in the life cycle of PTGs. They use this grain as an essential part of a woman's diet in the advanced stages of pregnancy, because of its high nutritional value. The *roti* (bread) made from millet is slow to digest and it is believed 'stays in the stomach for longer time,' helping nourish hungry people longer and better. Millet is also usually kept in reserve for the lean period when rice stocks start to diminish.

Under the FRA (Forest Rights Act), the tribes who live near forests were given ownership of the land, which unfortunately is of very poor quality. The cultivation of millet, therefore, is a preferred option for PTGs because this crop shows a greater resilience to rainfall variations. Moreover, the prices for millet have gone up four-fold in the last decade, making it a more paying crop. The rise is apparently driven by a demand for millet as an ingredient in poultry feed, for use in the beverage industry and as a nutritious component in the diet for city-dwellers, who are suffering from lifestyle diseases such as diabetes and obesity.

In Chhattisgarh, 13 NGOs (PRADAN plus 12 partners) have formed a state consortium to promote the System of Rice Intensification (SRI). Till 2012, the consortium has covered nearly 11,000 families, mainly through SRI-paddy. Along with paddy, however, for the last three years the consortium has introduced the SRI method of cultivation for crops such as millet, wheat, mustard and vegetables. In the *rabi* season of 2011–12, the consortium received some significant results with SRI-millet, according to the categories of yield.

Productivity (MT/ha)	No. of farmers	Percentage
4–6 MT	13	18.3
2–4 MT	58	81.7
< 2 MT	00	0
Total	71	100

The average productivity of SRI-millet of these 71 farmers was 3.36MT/ha, more than three times the state's average yield. In the last several years, we have seen SRI-millet yields ranging from 2.5–3.5 MT/ha. Motivated by these results, the consortium plans to promote the SRI method for millet with about 500 families in the state during the ongoing *kharif* season. Along with this, the consortium has extended a hand to help partner NGOs and the farmers they work with in Orissa, to promote SRI-millet in Koraput and Raygada districts. Because of the positive experience, SFMI is inviting demonstrations by PRADAN teams in Koraput and Raygada in Orissa.

PACKAGE OF PRACTICES

The following practices, using the farmers' own locally available seeds, have been applied to achieve the results mentioned here.

1. Seed selection, priming and treatment

There is no preference for any variety of millet seed; however, it is always better to start with newer seeds, rather than use older ones. Some varieties that are used in the area are:

- Birsa Gourav/A404 for better yield (duration 110–115 days)
- VK 149, drought and disease-resistant (duration 95–100 days)

a. **Seeding rate:** 300–400 gm per acre, with a recommendation to prime the seeds. Soak the seeds in water; then mix 2.5 to 3 gm/kg of Carbendazim (Bavistin) with the seeds and leave the mixture for 24 hours.

b. **Seed treatment with *Bijamrita*,** a natural solution for effective protection against pests, diseases and fungi. Wrap 5 kg of cow dung in a large cloth and bind it with tape. Put it in 20 litres of water for up to 12 hours. Take one litre of water and add 50 gm of lime to it and let it stabilize overnight. The next morning, squeeze out all the liquid in cow dung into a bucket, compressing it at least thrice so as to collect a concentration of cow dung. Add a handful of soil to this liquid solution and stir it well. Then add five litres of cow urine or human urine to the solution and add the lime water, stirring all these, making what is called bijamrita. Spread this solution on to the seeds treating the seeds well by hand and drying them well, and they are ready for sowing. The micro-organisms and nutrients added this way will make the seedlings that emerge more vigorous.

2. Nursery preparation

a. **Nursery material:** Sow the treated seeds in a nursery with a mixture of sand, soil and compost (1:1:1).

b. **Area of nursery for cultivating one acre:** 40 sq m.

c. **Dimensions of the nursery bed:** 1 m, with an appropriate length. The bed should be 9–12 inches above the ground level.

d. **Timing for sowing the nursery:** First to third week of July.

e. **Sowing of seeds:** Put the seeds at a depth of half an inch and keep a spacing of about three to four inches between the seeds.

f. **Care for seeds:** Cover the seeds with vermicompost and then sprinkle *Jiwamrita* (organic manure) evenly over the nursery.

g. **Preparing Jiwamrita:** Put 10 litres of water in a barrel. Add 5 kg of cow dung and 5 litres of cow urine to the water. Then add: 250 gm of jaggery (raw unrefined sugar), 250 gm of pulses flour and a handful of soil from the bund of the field or termite soil and stir the solution well. Let it ferment for 48 hours in the shade, after which it is ready for use. To use, add one litre of solution to 20 litres of water. For one acre of land, use 200 litres of solution.

3. Field preparation

a. Plough the field three times: Two of these should be done within an interval of 8–10 days, during the nursery preparation.

b. Sprinkle *Jiwamrita* over the field, to moisten the soil and preserve the organic matter.

c. After ploughing, level the field with a wooden leveller.

d. For transplanting, mark lines on the field in a square grid pattern, 10 inches apart, one direction being perpendicular to the gradient; wooden markers can be used for lines.

e. In transplantation, the plants should be spaced at a distance of 10 x 10 inches.

f. Furrows and ridges can be made on the field's surface with a cycle wheel or hoe.

4. Transplanting using the SRI method

a. Spray the nursery with a fungicide Mancozeb 75 per cent W.P. @ 2 gm per litre, four to five days before removing the plants.

b. Transplant the seedlings from the nursery into the main field when 15–25 days old.

c. Before transplanting, irrigate the nursery approximately two hours in advance, to moisten and loosen the soil. This makes the removing of plants easier, in case the soil is dry at that time.

d. Carefully uproot the seedlings, keeping the soil around the roots intact; if possible, lift out with a trowel or spade because that gives support to the soil and keeps it attached to the roots.

e. Transfer the uprooted seedlings to the main plot within 30 minutes before the roots and soil dry out. The spacing should be 10 x 10 inches. Use a rope to measure.

f. Transplant the seedlings at a shallow depth in the pits; do not press or injure the roots when placing the seedlings at the intersection of the planting lines.

5. Weeding and trolling

a. Remove any weeds by hoeing with a cycle hoe or with a hand weeder between the rows. This removes unwanted weeds and also aerates the soil, helping the plants to grow faster. This should be done three times at intervals of 10–15 days.

b. Sprinkle *Jiwamrita* after weeding; mix 1

litre of *Jiwamrita* with 10 litres of water, instead of using the plain solution.

c. After weeding, move a straight round pole or bamboo over the plants, bending them over gently. This gentle 'trolling', by bending the plants over at the base will stimulate the growth of more tillers from the plant.

6. Manure and fertilizers

a. Cow dung manure or compost: Two tonnes per acre applied 15–20 days before the July transplanting.

b. Chemical fertilizer: N : P : K (24 : 20 : 12) Quantity per acre: urea 36 kg, DAP 43 kg, MOP 20 kg

- Before preparing the furrow and ridge: apply 12 kg of urea, 21.5 kg of DAP and 10 kg of MOP
- 15–20 days after the transplantation, during the first weeding: apply 12 kg of urea and 21.5 kg of DAP
- 35–40 days after the transplantation during the third (last) weeding: apply 12 kg of urea and 10 kg of MOP

c. Micronutrients: Magnesium (20 kg per acre) and calcium (6 kg per acre) or dolomite limestone (40 kg per acre). Apply these micronutrients 20—25 days before the transplantation in the field, or 25—30 days after the transplantation by sprinkling.

7. Pest and disease management using chemical methods

a. Blast

a. Seed treatment: Mix 2.5 gm per kg of carbendazim (Bavistin) for at least 30 minutes.

b. Seedling blight

a. Spray mancozeb 75 per cent W.P. @ 2 gm per litre, in the nursery, 15 days before sowing or 15 days after transplantation.

c. Downy mildew

a. Spray the crop with mancozeb 75 per cent W.P. @ 2 gm per litre of water at the onset of the disease or when the symptoms are seen in 5–10 per cent of the plants.

d. Stem borer

a. Use Regent—either granules or liquid in the amount of 7 kg per acre. 1 ml of the chemical should be mixed with 2 litres of water.

8. Non-chemical pest and disease management

a. Neem solution (for sucking pests and mealy bug):

Add 100 litres of water to a large container along with 5 litres of cow urine. Add 5 kg of cow dung to this. Crush 5 kg of neem leaves, making a pulp. Stir the solution and let it stabilize for 24 hours. Stir this solution twice a day with a stick. Filter the liquid through a cloth and spray the filtered liquid (100 ml added to 5 litres of water) for controlling the above pests.

b. Multi-purpose solution (for sucking pests, pod borers, fruit borers, etc.):

In a pot, put 10 litres of cow urine. Crush 3 kg of neem leaves, make a pulp and add into the pot. Then add the following tree or plant leaves, ground into a pulp: 2 kg of custard apple leaves, 2 kg of papaya leaves, 2 kg of pomegranate leaves, 2 kg of guava leaves, 2 kg of Lantana camara leaves, and 2 kg of Datura stramonium leaves (use Lantana camara and Datura leaves if available). Boil the mixture until it is one-fifth of the original amount. Cool and leave for 24 hours. Filter the liquid through a clean cloth. Spray the filtered liquid (100 ml in 5 litres of water) for controlling the above pests.

Fiery Solution (for leaf roller, stem borer, fruit borer, and pod borer):

- Put 10 litres of cow urine in a pot and add 1 kg of tobacco by crushing it in the urine. Add 500 gm of green chilies and garlic separately. Further, add 5 kg of neem leaf (azadirachta indica) to the mixture.
- Boil the mixture until it is one-fifth of the original amount. Cool and leave for 24 hours. Filter the liquid through a clean cloth. Spray the filtered liquid (100 ml added to 5 litres of water) for controlling the above pests.

c. Ingredients for pot solution (for controlling borer pests, fungi and flies):

Table 2: Proportions of Natural Fertilizers

No	Items	Amount
1.	Cow dung (desi cow)	1 kg
2.	Cow urine	2 litres
3.	Neem (Azadiracta indica)	1 kg
4.	Akanda (Calotropis zygantia)	1 kg
5.	Karanja (Pongamea pinnata)	1 kg
6.	Jaggery/ molasses	50 gm
7.	Plus a handful of termite soil	-

e. Process of preparation: Mix all the ingredients in an earthen pot, tie the lid with a sack and keep in a dark place for seven days. Extract the liquid from the pot after seven days and dilute it with water. Use 15 ml of the preparation per litre of water for mature plants and 25 ml per litre of water for small plants. Add urine to the same solid materials every seven days for the next six months. This preparation is very effective against borers, flies and contact fungus.

9. Expected yields

a. SRI-millet can give yields of 3–4 tonnes per ha, whereas the yield with the traditional practices is only 0.75-1 tonne per ha.

b. Thus, by using the SRI principles with finger millet, the farmers can easily double their yield.

c. A greater increase is possible if the methods are used well.

Table 3: Cost Estimates for the Cultivation of Millet

			Traditional Method		SRI Method	
Components	Unit	Price Per Unit (Rs)	No. of Units	Cost (Rs)	No. of Units	Cost (Rs)
Seed (if purchased)	Kilogram	30	5	150	0.5	15
Priming of seeds and seed treatment						

			Traditional Method		SRI Method	
Components	**Unit**	**Price Per Unit (Rs)**	**No. of Units**	**Cost (Rs)**	**No. of Units**	**Cost (Rs)**
Material (jaggery, cow urine, warm water, vermicompost)	Lump sum	30	0	0	1	30
Labour	PH	16.5	0	0	1	16.5
Nursery preparation	PD	132	0	0	0.5	66
SEED AND NURSERY PREPARATION				**150**		**127.5**
Ploughing for field preparation (rent for plough and buffalo)	Rent per unit	400	2	800	2	800
Labour	PD	132	2	264	2	264
Marking and transplantation	PD	132	1.5	198	3	396
FIELD PREPARATION				**1,262**		**1,460**
DAP	Kilogram	15	43	645	43	645
MOP	Kilogram	10	20	200	20	200
Urea	Kilogram	10	36	360	36	360
FYM	Kilogram	3	1000	3000	2000	6000
Jiwamrita	Kilogram	5	0	0	10	50
NUTRIENT INPUTS				**4,205**		**7,255**
Irrigation applications (in *rabi*)	Number	200	2	400	4	800
Labour	PD	132	3	396	6	792
IRRIGATION COSTS				**796**		**1,592**
Weeding and trolling	PD	132	15	1,980	8	1,056
WEED CONTROL				**1,980**		**1,056**
Plant protection						
Chemical and pesticides	Lump sum	200	1	200	1	200
Labour	PD	132	1	132	1	132
Rent of sprayer	Lump sum	100	1	100	1	100

			Traditional Method		SRI Method	
Components	**Unit**	**Price Per Unit (Rs)**	**No. of Units**	**Cost (Rs)**	**No. of Units**	**Cost (Rs)**
CROP PROTECTION COSTS				**432**		**432**
Harvesting	PD	132	13.5	1,782	6	792
Threshing and packaging	PD	132	13.5	1,782	20	2,640
HARVESTING COSTS				**3,564**		**3,432**
TOTAL COSTS				**12,389**		**15,355**
Management costs (10% of total cost)	Lump sum			1,239		1,535
Grand total cost				13,628		16,890
Production revenue						
Yield	Kilogram	20	400	8,000	1,250	25,000
Profit	INR			–5,628		8,110
Production cost per kg of grain				34.07		13.51

Table 4: Differences between SRI and conventional methods for finger millet cultivation

Description	Traditional Method	SRI Method
Seed rate	5 kg	500 gm
Priming of seeds and seed treatment	Not done	With jaggery, cow urine, warm water and vermi-compost
Seed bed	Flat bed no specification	40 sq m for one acre, raised bed
Planting method in nursery	Broadcasting/Transplant	Square transplanting 20–25 DAS
Plant spacing	Irregular	10 x 10" between plants and rows
Weeding and trolling	Not done	On 15th, 25th and 40th days after planting and trolling in first and second time
Irrigation (in *rabi*)	2 times	4 times
Branches per plant	1 to 3	8 to 10
Finger per tiller	3–4	7–8
Stems	Thin	Thick

Description	Traditional Method	SRI Method
Roots	Fairly shallow	Deeper, below one foot in the ground
Yield per acre	0.4 tonne	1–1.5 tonnes
Yield per hectare	1.0 tonne	2.5–3/75 tonnes

CONCLUSION

With the experiment of SFMI, the food security issue of a very vulnerable community that has a very small quantity of paddy or vegetable land has been met. The Pahari Korbas are a millet-eating people. The intensification technique in finger millet, therefore, directly addresses their food sufficiency. In most of the cases, has been used for millet cultivation. So the poor people with the most low quality land, who are at the bottom of the pyramid, can easily be helped by the intensification technique of millet cultivation.

Enhancing the Quality of NGO Funding

PRABHU GHATE

The author argues for a better quality funding to NGOs which keep in mind the growth and development needs of the NGO, and just concern itself with project implementation. He establishes why its important to support the institutional development costs, that are hidden such as building a condusive culture and climate in the organisation, funding and retaining high quality human resources and setting internal systems for governance and management.

Reaching out to the poor requires the right orientation, flexibility and considerable creativity, which the state on its own usually lacks because of its 'delivery-and-disbursement' way of working, dysfunctional procedures and low motivation of its personnel.

Partnering with 'good' NGOs is one way of improving implementation; other approaches include decentralization, enhancing transparency and raising the motivation, morale and capacity of the development staff through grass-roots governance reforms. The latter approaches are, in a sense, essential long-term projects. India is fortunate to have a number of good NGOs working at the grass-roots level. Many government programmes do indeed partner with NGOs, but tend to treat these organizations merely as low-cost channels for aid delivery. This attitude attracts a high proportion of opportunistic NGOs, which are in the field primarily for the money. The cynicism this has engendered is unfortunate because it overlooks the fact that there are many good NGOs and partnering with these could make a huge difference.

The quality of financial support that NGOs receive is important. Most donors, whether government or private, tend to subscribe to the "dangerous myth…that sustainable development is quick, cheap and easy" (Alan Fowler, 2005, 'Striking a Balance: A Guide to Enhancing the Effectiveness of Non-governmental Organizations in International Development', Earthscan, South Asian Edition, London). Funding is largely restricted to programme expenditure, ignoring the crucial role of organizational overheads and process costs. This discussion note summarizes the experience of a well-known NGO, PRADAN, which specializes in creating livelihoods. It looks at how PRADAN was able to innovate and record significant achievements across a number of sectors because two of its early donors (one of which—Inter Church Organization for Development Cooperation, ICCO—became a long-standing partner) were willing to finance the costs of overheads and institutional development.

Institutional overhead are particularly high in PRADAN because it sets itself the goal of attracting caring and well-educated young people to the development sector by paying them competitive salaries and spending considerable amounts on their recruitment and training.

Institutional overheads are particularly high in PRADAN because it sets itself the goal of attracting caring and well-educated young people to the development sector by paying them competitive salaries and spending considerable amounts on their recruitment and training.

PRADAN is aware that its human resources are its greatest asset. Indeed, the comparative advantage of the voluntary sector lies in its people. Unless this is recognized through an appropriate pattern of funding, many NGOs will continue to be used as low-cost sub-contractors, with results not very different from those obtainable by the government on its own.

The other lesson of the PRADAN-ICCO partnership is that ICCO showed enough flexibility and patience to give PRADAN the time and operational space to produce results, as will be illustrated through one of its activities—producing tasar.

Whereas the donors in this case were private, both the lessons mentioned here are equally applicable to government funding. An additional difficulty with availing government funding for NGOs such as PRADAN, which get the bulk of their funding under anti-poverty programmes, is that the organization tends to be available in different programme, not just across different programmes, but across locations. Thus, a large NGO such as PRADAN, which operates across several states, mostly in the poorest tribal areas, has to devote considerable time and energy to accessing funds from different 'windows'. When the funds get delayed in any of them because they have to trickle down to many levels in each budgetary cycle or because a programme is withdrawn before a successor programme can replace it (as happened for instance when the IRDP was replaced by the SGSY, which was then replaced by the NRLM) or for any other reason, implementation suffers while costs and uncertainty increase. For large NGOs implementing a variety of programmes in different locations, there is need for a single window, which will allow them to re-allocate funds across different programmes and locations, adapt programmes to local conditions and create new programmes while reducing the costs of running around and dealing with the uncertainty.

Such a window can be opened by an autonomous body, set up and funded jointly by the government and non-government donors, including Indian and foreign philanthropies. It will be professionally led and managed and staffed and governed, with a strong representation of civil society, unlike similar institutions in the past such as CAPART, which became rapidly bureaucratized.

PRADAN

PRADAN was incorporated as a charitable society in 1983 to draw professionals to work in grass-roots development. It was founded in the belief that capable and caring people are more crucial than material resources in rural development. It has grown and currently works with about 268,600 families through 33 field-based teams spread over 42 districts in seven states. The focus of its work is on promoting and strengthening livelihoods. The work involves organizing the people, enhancing their capabilities and linking them to banks, markets and other economic

services. PRADAN works in the spirit of enabling people to build upon their skills, resources and entitlements rather than delivering services and solutions to them. In doing so, PRADAN invests significant organizational energy in recruiting and training a steady supply of motivated, young university graduates and giving them hands-on training through a year-long apprenticeship programme.

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As PRADAN sharpened its focus on micro-enterprises, both land and non-land based, it realized that enabling and empowering the poor was crucial to transferring control to the people's own institutions such as federations of SHGs, water user associations, cooperatives and producer companies as soon as they had developed the self-confidence to handle it. PRADAN also believes that solutions designed to bypass or ignore institutions such as the government and markets cannot be sustainable in the long run. It, therefore, collaborates with these institutions, working with development-minded officials at all levels while relying on the government's anti-poverty programmes and bank financing for a major part of its funding.

Finally, it has evolved from a project and then thematic mode of organization to a highly decentralized and modular operating structure, comprising Development Support Teams (DSTs) of five to ten professionals that work in small geographic areas. These teams are supported by two sets of persons: Community Service Providers (CSPs), who are recruited, paid for and are accountable to community institutions and Community Resource Persons (CRPs), who are hired and paid for by PRADAN for initial community mobilization in new areas. The teams follow an 'area saturation approach', that is, they try to reach a substantial share of poor people within their outreach area, rather than limiting themselves to covering families that can only take up specific sectoral activities. Project activities begin with the formation of SHGs, which not only meet the basic need for credit but also offer women a unique platform for participation. A geographical approach allows maximum flexibility to grass-roots workers to develop location specific solutions while ensuring that organizational vision, policies and strategies are integrated centrally.

In the initial years, PRADAN worked through other NGOs by placing professionals to work with them. After three years, it started taking up its own pilot projects in eastern and central India. Ford Foundation was a major source of initial funding through start-up 'core support' and it made subsequent contributions to a corpus fund set up in 1988, to meet the costs of the HRD programme, new innovative projects and a small core team. The requirement of Ford Foundation was that its own contributions be matched by other donors. By 1997, the fund had grown to Rs 2.8 crores, with Ford Foundation accounting for about half of the total contributions. Valuable though this was, proceeds from the fund were limited to the three purposes mentioned above because they were nowhere near enough to meet PRADAN's rapidly burgeoning operational or institutional overhead expenditures. A corpus fund large enough to make an organization independent of further funding is, of course, every NGO's dream, but few are lucky to see it fulfilled.

ICCO

Fortunately, at about the time the corpus fund was set up, PRADAN met a very unusual Dutch donor, ICCO, which agreed to support a small pilot project in Godda, Jharkhand, to promote sericulture based on tasar silk, a variety of wild silk reared by tribal people in the forests of eastern and central India. This was the beginning of a long collaboration that still continues. The tasar-based livelihoods initiative has evolved into a large and comprehensive programme that has pioneered significant structural and technological changes in the sector. It has brought on board multiple stakeholders, including central and state governments, the Central Silk Board (CSB), financial institutions, research organizations, market players, a host of national and international designers and other NGOs. The poor people PRADAN works with in this sub-sector together command a significant share of the tasar market and PRADAN is regarded as the key resource institution in the sub-sector. The project now directly reaches out to over 15,000 poor families engaged in various stages of silk production.

The Tasar Project supported by ICCO has brought on board multiple stakeholders, including central and state governments, the Central Silk Board (CSB), financial institutions, research organizations, market players, a host of national and international designers and other NGOs.

Collaboration between ICCO and PRADAN soon extended to other livelihood sectors, including poultry. Meanwhile, PRADAN was invited to extend its minor irrigation activities, which had started in Purulia district in West Bengal, to other locations in the eastern India plateau. These initiatives, along with wasteland and watershed development, agro-forestry and the formation of SHGs (of which PRADAN was one of the early pioneers), were implemented by the DSTs. The salaries of the DSTs and other overhead costs were supported by the ICCO through a grant in 1993, with programme funds coming primarily from the government and other donors. In 1994, ICCO made a small contribution to PRADAN's corpus fund. In 1996, it obtained co-financing from the EU for a three-year, community managed irrigated agriculture project.

The collaboration eventually culminated in 2000, with the formation of an institutional partnership under which ICCO provided general support to PRADAN as an organization, not tied to any specific programme or project. This enabled PRADAN to pay, not only for its DSTs in the field but also for central overheads that most other donors were unwilling to support. Organization-wide funding gave PRADAN a great deal of flexibility to innovate, experiment and stay focused on institutional development, especially because it coincided with PRADAN's own decentralization to geographical units or teams. It greatly reduced the uncertainty. PRADAN has since then received several institutional grants from ICCO in a continuum.

Besides financial support, ICCO provided non-financial support for PRADAN's micro-enterprises by paying for visits by designers and technicians, especially in tasar sericulture, and by sponsoring participation in trade fairs, in India and abroad. ICCO has also engaged with PRADAN in networking, in participating in exchanges with various Dutch institutions as well as in ICCO's deliberations to develop its own strategies.

In some years, ICCO grants constituted as much as half of PRADAN's budget. In the more than 20 years since the collaboration began, PRADAN has grown manifold. Grants from ICCO now constitute a small share of

PRADAN's budget. PRADAN has leveraged large-scale funds from other sources, most of them domestic, including the government, to multiply the impact of ICCO's grants. The texture and importance of the funding, however, has not diminished. The relationship has transcended the donor-grantee-project period boundaries to become an ongoing partnership, with emphasis currently on connecting people in both countries, including experts from the Dutch private sector, to share experiences and learn from each other.

PATIENT FUNDING AND THE PROCESS APPROACH: THE CASE OF TASAR

Two features of ICCO's support to PRADAN are particularly noteworthy. The first is the flexibility and patience it showed throughout—characteristics that stemmed directly from its values and humility as a donor organization. As the ICCO document 'Code of Conduct and Principles of Good Governance, 2004' says, "We (ICCO and its partners) will probably never be able to fully understand and analyse the complex problems we are dealing with. There are no blueprints for such situations… This means that risk-taking and the ability to admit defeat are going to be essential if ICCO and its partners are going to be able to use these experiences in a broader context, that is, as a learning process. It implies that ICCO will need to be flexible, in terms of the operational space it gives to its partners whilst the partners will need to be transparent in relation to ICCO when it comes to their successes and failures."

The document helps explain many of the features of the relationship with PRADAN, as it developed. Thus, "ICCO does not, as a rule, look for short-term, project-oriented partnerships, but rather long-term co-operation in which an agreed strategy underpins the common goal…" Further, ICCO "understands that Southern partners are autonomous organizations within their own societies and does not see them as channels for aid-delivery or project sub-contractors." Adopting a 'partner-friendly approach' entails ICCO "being open about its intentions; open about its motives to support or not to support; open about when donor support from ICCO is going to come to an end; being attentive and taking the concerns of partners into account; living up to its promises; keeping administrative and financial procedures within reasonable time constraints; developing flexible funding modalities that are appropriate for the partner and the context rather than vice-versa."

The evolution of the tasar project provides a classic example of the process approach, or, in other words, trial and error—learning as much from what does not work as what does—a process which ICCO supported patiently for 12 years although neither side had anticipated the need for a series of three-year grants after the initial pilot project. By the end of the decade of the 1990s, PRADAN succeeded in reviving a traditional activity that would probably have disappeared but for PRADAN's decentralization, adaptation and downsizing (or what it likes to call 'demystification') of sericulture technology that had been developed over the years by the CSB and others, to cater to the more 'domesticated' mulberry silk worm (which, unlike the wild silk worm, can feed indoors, where conditions can more easily be controlled), and the much better-organized and much larger mulberry silk sector.

The process essentially involved demolishing, at each stage, the currently binding constraints on further growth and progress, only to be confronted with another constraint, which had meanwhile become binding. Broadly speaking, from 1988 to about 1995, the focus was on developing Arjuna plantations on wastelands, privately owned by Santhal tribals, making a

beginning in producing high-quality, disease-free, silkworm eggs locally and demonstrating good rearing practices.

The plantations were made more attractive to rearers by introducing inter-cropping of leguminous crops for the first few years and trying out different arrangements for dealing with the problem of grazing cattle. The optimal spacing of plants remained a constant subject of experimentation. On the rearing side, by far the most important innovation was the introduction of small, local 'grainages' to multiply silkworm eggs, instead of relying wholly each year on the CSB to supply improved, disease-free eggs from its centralized grainages. Local rearers were trained sufficiently to become specialized grainage entrepreneurs. They were assisted (for a fee) by village youth, who were trained to become 'barefoot microscopists', that is, to use microscopes to detect diseased eggs.

There were dozens of innovations made as the project progressed, many of which became outdated and were in turn superseded by others (and no doubt, the process will continue). The trivoltine variety (or 'race') of the tasar silkworm was found to be too risky because the third and the main, commercial crop was, during some years, affected by an unusually cold winter. Thus, a bivoltine race is now being used. SHGs were set up in the rearing villages, as in all other PRADAN project areas, to cater to at least a part of the credit needs of the rearers, who at the time were heavily dependent on moneylenders. Moneylenders, who doubled as cocoon traders, would lend against advance purchases of the cocoon crop for a discount, well below the market price, appropriating a disproportionate share of the value added. *Haats*, or village markets, were also organized, to bring cocoon sellers directly in touch with the processors, in an attempt to eliminate middlemen. Other experiments to handle marketing were the introduction of village-level Tasar Vikas Samities (TVSs) and the setting up of a cocoon bank in Bhagalpur. Later, a collective procurement and marketing organization, owned by the producers themselves, called MASUTA, was set up, which now buys 40 per cent of the crop, greatly improving the terms that informal lenders and traders offer to buy the remainder. MASUTA, registered as a producer company, gradually built up a structure and systems to procure cocoons at harvest time, desiccate or 'stifle', them in special dryers, store them in its godowns, sell them over the year to spinners and reelers, buy back the resultant yarn, and sell the yarn to the weavers. It introduced quality based pricing and grading for cocoons and yarn, making possible higher quality; by aggregating the yarn, timely supply in adequate quantity was assured to weaving centres. As a result, yarn became a 'commodity' with its own market and now more than 85 per cent of the yarn MASUTA purchases from the producers is sold directly as yarn. The prices at which cocoons and yarn are bought and sold are naturally of vital interest and, like in the poultry sector, a great deal of effort is going into training members in representative governance and changing their outlook from that of erstwhile 'beneficiaries' to that of owner-producers. MASUTA has to procure, store and then release to its members, generally one month's supplies at a time, or about 75 million cocoons a year. It obtains financing from the banks.

By the mid-90s, when sufficient cocoons began to be produced to support a much larger processing sector, new plantations were suspended for a few years and the effort shifted to the post-cocoon stage, which led to pre-occupations with the technology and the production arrangements for spinning and reeling. Reeling began to emerge as a particular bottleneck, especially because

reeled yarn is in greater demand and has more value than spun yarn. This constraint led to a sustained effort, supported by ICCO, to develop a reeling machine. It located a graduate student, Annemarie Mink, through the Technical University in Delft, who over several visits developed a commercial prototype. PRADAN continued to customize and improve on it and fit it with solar power and patent is as the Anna Reeling Machine. There are now 200 machines in operation, the productivity of which it at least twice as much as that of the old machine.

ICCO also played an important non-financial role in marketing, for both exports and the domestic fashion and ethnic crafts market, which was always going to be more important in the long run than exports.

As yarn production began to grow, it became imperative to find a more remunerative market for the yarn. Tasar yarn, at the time, had no market of its own but was an adjunct activity of weaving. It was produced according to requirement, in their free time, by the wives of the weavers, who produced fabric for the traditional market. This product was not able to bear the cost of the yarn produced by PRADAN's spinners and reelers, who were earning useful cash income instead of producing it free for weaver husbands. The next challenge, therefore, was to add value to the fabric by the introduction of design and colour elements and mixing tasar yarn with other silk fibres, both to make it more 'weavable' and more suited to new products for both domestic and foreign markets. These efforts are the subject of a long story of how a lot of experimentation was made possible by ICCO funding and how product development in the material resulted in successful marketing. ICCO also played an important non-financial role in marketing, for both exports and the domestic fashion and ethnic crafts market, which was always going to be more important in the long run than exports. Demand is not likely to emerge as a constraint any time soon because India still imports the bulk of the tasar yarn it consumes, mostly from China and Korea, which produce temperate as opposed to tropical tasar. (This is used mostly for the warp whereas Indian tropical tasar is used for the weft. India is estimated to consume about 1,200–1,500 tonnes of tasar yarn a year, of which only 150–300 tonnes is produced in India. MASUTA is by far the largest single producer, with a turnover of about Rs 10 crores.)

Meanwhile, government recognition and funding (something PRADAN has been keen on in all their projects) finally came in 1999 through a special scheme supported by UNDP in seven states, with CSB as the executing agency and PRADAN as the implementing agency in Bihar and Jharkhand. In 2000, with government financial support beginning to flow, ICCO stopped direct financial support to the tasar sector (providing, instead, institutional financial support to PRADAN as a whole, as discussed here). Thus for over 12 years, ICCO supported the entire tasar value chain from plantation, rearing, spinning and reeling to design and marketing and from the small tribal farmers' fields in Jharkhand and other parts of eastern and central India to high-end shops in India's metros and the capitals of Europe.

The case of tasar illustrates the importance of patience and flexibility in a donor and that of perseverance and commitment on the part of the partner. This is similar to PRADAN's experiences in other activities such as land and water resource management, which evolved over years of field trials, or poultry. Like tasar, the poultry activity experienced many false starts and considerable experimentation before it was in a position to scale up and replicate itself in other locations. Today, PRADAN

sponsored co-operative poultry federations, based entirely on small household units, are the single largest producers in MP and Jharkhand. PRADAN's poultry activity also follows the 'sub-sector' approach, in which the project initiator has to address the whole set of missing services and inputs crucial to the success of an activity because neither the market nor the government provides them. Further, like in tasar, it does so by following the well-known model of basing actual production on the individual producer while centralizing all the technology-, capital- and management-intensive parts of the value chain in a collective enterprise owned jointly by the producers themselves, such as a cooperative or producer company.

ICCO was quick to recognize that overheads consist not just of organizational overheads associated with supervisory and higher levels of management engaged in overall direction and administration but, as importantly, of direct, programme-related, or 'process' costs incurred in the field.

THE IMPORTANCE OF FUNDING OVERHEADS

The other feature of ICCO funding was that it was quick to recognize that overheads consist not just of organizational overheads (head office expenses, audit, organization wide communications, monitoring and evaluation, training etc.) associated with supervisory and higher levels of management engaged in overall direction and administration but, as importantly, of direct, programme-related, or 'process' costs incurred in the field. These include participatory systems and processes in the organization, recruting, training and retraining high quality human resources, setting up and strengthening of people's institutions, information collection and reporting, interceding with local officials and banks, and so on. Indeed ICCO's grant for DSTs in 1993 comprised entirely of expenditure on salaries, transportation, stipends and communications. In contrast, only a small part of the programme-related, operational costs are covered by many other donors and in government-funded programmes, and organizational overheads usually not at all. To take a recent example, MGNREGA allowed only 4 per cent of the total costs on administration, a share increased after three years to only 6 per cent. This is insufficient to pay an adequate number of technical design and supervisory staff required to ensure that works are properly designed and constructed, and remain productive. The programme sponsored by NABARD to finance SHGs through the banks provides for inadequate funding of NGOs for the tasks of training and handholding till the SHGs are cohesive enough to function on their own.

Overhead cost financing enables partners to leverage programme funds in a multiple of the contributions they receive. For partners like PRADAN, which attract a large amount of government funds, the multiple tends to be particularly high because government funds under programmes such as MGNREGA and NRCM are available in large amounts. Funds mobilized under this and many other programmes do not pass through PRADAN's budget but go directly to the community. PRADAN's CSPs (community service providers) fill a vital gap in MGNREGA by providing technical inputs such as designing works. An early example of such an intervention is how PRADAN persuaded the Elora village *panchayat* in Bankura district to adopt a plan to dig 100 small ponds for Rs 10,000 each, which would benefit I00 farmers, instead of large ponds costing Rs 10 lakhs each that would benefit only a few farmers. Also, by digging ponds in a contiguous area, the water table rose, enabling a second crop. PRADAN recently

received the Prime Minister's National Excellence Award for its support to MGNREGA in Kandhamal district, Orissa. The multiple is high despite the fact that PRADAN's overheads are high in absolute terms because of the much higher proportion of professionals on its staff, to whom, as we have seen, the payment of a competitive salary is seen not as a necessity but as desirable and essential.

A corpus fund, large enough to finance an NGO by itself, solely through its investment proceeds, is of course the ultimate in flexible funding, fulfilling or making redundant most aspects of aid quality such as flexibility, continuity, necessary duration, minimal administrative burden, respect for the autonomy of the recipient and timeliness.

INSTITUTIONAL FUNDING AS A SOLUTION

Partly to address the need for overhead financing as well as for flexibility in being able to shift funds between activities, the bulk of ICCO funding for selected partners, including PRADAN, which it thought were mature and competent enough, and with which it shared enough trust and understanding, took the form of institutional support, or 'organization funding' after 2000. In that year, it informed some of its partners that instead of funding individual projects or sector-wide programmes based on detailed proposals, ICCO would, thenceforth, look at the impact and utility of its assistance to the partner as a whole, and fund a certain share of the partner's total expenditure, including overheads. Although this share would vary depending on the exigencies of the funds available to ICCO, there would be the assurance of a considerable degree of continuity, enabling the partner to plan ahead. Progress reports were to be submitted annually, and at the end of the three- or four-year funding period, the partner would prepare an assessment report, which would report on the attainment of the envisaged objectives of the organization as a whole, rather than comprise an aggregation of reports of its individual projects and programmes.

A corpus fund, large enough to finance an NGO by itself, solely through its investment proceeds, is of course the ultimate in flexible funding, fulfilling or making redundant most aspects of aid quality such as flexibility, continuity, necessary duration, minimal administrative burden, respect for the autonomy of the recipient and timeliness. Such a fund would necessarily finance overheads too. ICCO's policies did not allow it to contribute to corpus funds, although as an exception, it did make one small contribution to PRADAN's corpus, as mentioned earlier. However, institutional support can be seen as second-best or half-way house between financing an NGO entirely through the proceeds of a corpus fund, and project or sector-wide 'programme' grants. It is relatively difficult for one or more donors to take a leap of faith and make a once-and-for-all contribution to a corpus fund that would be large enough to fund the setting up a corpus large enough to finance the entire annual expenditure of the donee on its own, through the fund's investment earnings. Thus the size of PRADAN's corpus fund is currently about Rs 9 crores, with the largest donor being the Sir Dorabji Tata Trust. This is less than a third of PRADAN's annual expenditure.) It would be much easier, however, for the same donors to make much smaller institutional grants for limited periods of, 4 to 5 years, after which they could take a view on the next grant, depending on progress.

Indeed, the modality of institutional support could be used by an autonomous agency using public funds, such as that proposed above. An institutional grant of sufficient size and tenure

would take care of most of the requirements of quality funding for NGOs of quality.

This article is an abridged version of a study 'ICCO–Pradan Collaboration: Evolution & Impact' in 2012.

Women, work and a winning combination

SARADA MURALEEDHARAN

Kerala's Kudumbashree network and the rural employment guarantee scheme have converged to provide a unique model of empowerment

An incredible story of empowerment has been unfolding in the wake of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) programme in the state of Kerala. This is the story of how a socially engineered convergence of the scheme with *panchayati raj* institutions and the State sponsored community network of poor women is transforming the lives and capabilities of the poor across the state.

Kerala is unique in the country for the extent of women's participation in the MGNREGS. The proportion of women person days is 93 per cent, which is the highest rate of participation of women in the programme in the country. The highest difference in the average casual wage labour rate for men and women is also to be found in Kerala (Rs 107.3). This difference along with a low female work participation rate of 15.3, speaks volumes about both the socio-economic status and the marginalization of the woman labourer in the workforce.

Kudumbashree is a vast community network of women sponsored by the state government and located within local self governments of the state. It has over two lakh neighbourhood groups of women, federated into ward, level Area Development Societies (ADS) and *panchayat*/municipal level Community Development Societies (CDS). Unlike federated structures of self-help groups (SHG) in the other states, in Kerala, the CDS was embedded in the gram panchayat and expected to work in unison with it, in furthering the agenda for development and empowerment. An executive decision was taken by the state government to have all "mates" for the programme from among the ADS of Kudumbashree. Over one lakh women mates were trained, who then proceeded to identify work opportunities, mobilize groups for work, prepare estimates in consultation with the overseer or engineer, supervise work and provide amenities at the worksite, prepare and submit muster rolls, and handle emergencies at work.

A good proportion of the women who sought work under MGNREGS in Kerala were not agricultural or casual labourers but housewives who were not in the labour market to begin with. What prompted these women to come out and undertake work that they did not know, which involved a level of physical exertion that they were unfamiliar with and which ran the risk of disapprobation from their families? A commonly heard refrain was that this was work "for the government," which gave it an aura of respectability that private manual work did not carry. Second was the power of the collective that is, the involvement of the network in nearly every activity of MGNREGS, from awareness on its rights dimensions to the conduct of social audit, and the presence of a mate who was identified with as one of us'.

Profiling done in one gram panchayat, Aryanad, showed that all the male workers were either senior citizens, who had been pushed out of the job market on account of age, or were physically or mentally disabled persons, who were unable to enter the regular job market. An interesting dynamic of intergenerational skill transfer and social security was to be found at the worksite. The workers confided that many of the senior members of the group were unable to complete the eight hours of arduous manual work, and their shortfall was being compensated by the more able-bodied persons in the group. But the elders had knowledge and skills that were lacking in the younger generation, and were able to guide its members about techniques and traditions. Numerous cases have been documented where earnings were donated to help a fellow worker tide over a health emergency or domestic crisis.

Much of the work taken up under MGNREGS had to do with land and water conservation and watershed management. The works brought the women recognition and visibility. The women learnt how to dig foundations, set up bio-fences, de-weed rivers and lakes, and do gully plugging and bunding for soil conservation. They learnt how to build bunds and trenches, work with geo-textiles, dig/ construct drinking water wells and rainwater harvesting structures; they also learnt the basics of garden and plantation work. The mates were especially proud of their ability to size projects up, gauge the number of person days required and prepare estimates for the work. All these were new skills, and soon they found themselves being sought after by landowners to work on their properties and being offered wages to the tune of Rs.250 to Rs.350 for private work. This interest in the skilled woman labourer has led to the creation of another instrument—the women's labour collective. Across the state in various panchayats, the workers of MGNREGS have been coming together to form labour groups that take on agricultural work and work on homesteads and plantations. The inexperienced housewife has been transmuting into skilled labour of high value in the market.

WOMEN AND AGRICULTURE

One of the most outstanding contributions of MGNREGS is the role the programme has played in bringing women into agriculture in the state. The Kudumbashree mission had just begun to aggressively promote collective farming by women when the MGNREGS programme took off in the state. Panchayats had to take the lead in identifying fallow land and convince landowners to allow women groups to take up cultivation on their lands. The sheer effort of convergence made this intervention get off the block very slowly, until one panchayat in Kozhikode, Perambra, took it upon itself to clear a clogged public canal running through the heart of a lifeless padasekharam that had not seen cultivation in over 25 years, and organized Kudumbashree

workers to undertake land development of the adjoining fields that were later leased out to the women for paddy cultivation. In one stroke, fallow land—146 acres—in the panchayat was brought under paddy cultivation. All the cultivators were first-timers—all women. Today the state boasts of collective farming groups in nearly all the panchayats. With control over the means of production and support from the krishi bhavan and the panchayat, for these women, the transition from MGNREGS labourer to farmer cultivator has been a natural evolution.

An impact that has implications for SHG federations under the National Rural Livelihoods Mission (NRLM) everywhere, has been the consequences of the structural integration of the community organization with the MGNREGS programme. Providing the ADS with a seminal role in the implementation of MGNREGS has led to a strengthening of the intermediate tier of the three-tier federation, which has, in turn, increased the reach and access of poor women to the community leadership. By locating the mate within the ADS, the MGNREGS programme immediately infused energy into the system, and the community leadership quotient went up overnight from a few thousands to a few lakhs. Repeated drumming of the programme's rights perspective has sensitized the CDS leadership to questions of citizenship and women's agency. It has empowered them to negotiate local power spaces. The new peoples' and technical skills have served the women well in their quest for political significance, as their showing in the recent *panchayat* polls indicate.

This is not to say that challenges do not exist. Questions raised over the nature of assets generated, and over the underutilization of labour, continue to be valid. Incidents of wrongdoing by the mate have been noticed, and many a time mates have had to be replaced. Inclusion of the most marginalized sections in many places remains unresolved. Very often, an inquiry into causes of corruption points to extraneous influences forcing the hand of the mate and the worker. There have been quite a few cases in which the CDS itself took suo moto cognisance of malpractice on the part of the mate and forced her to repay money that had been wrongfully obtained.

Where would Kudumbashree be without MGNREGS? It is difficult to say that the present social visibility and self confidence of the network owe a great deal to the programme is irrefutable. There are lessons to be learnt about the opportunities for *panchayati raj* institutions to bring strategic convergences into the programme, and the opportunities for community organizations to strive for organizational empowerment through participation in governance—lessons that could have far-reaching implications for improving the quality of life of the poor, transforming agriculture and the labour market, and ushering in a new dialogue of women's empowerment that quickens the movement of women from second class citizens to full citizenship.

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In the State of Kerala. This is the story of how a socially engineered convergence of the scheme with panchayati raj institutions and the State sponsored community network of poor women is transforming the lives and capabilities of the poor across the State.

PRADAN

Pradan is a voluntary organization registered in Delhi under the Societies Registration Act. Pradan works through small teams of professionals in selected villages across eight states. The focus of Pradan's work is to promote and strengthen livelihoods for the rural poor. It involves organizing the poor, enhancing their capabilities, introducing ways to improve their income and linking them to banks, markets and other economic services. The professionals work directly with the poor, using their knowledge and skills to help remove poverty. NewsReach, Pradan's monthly journal is a forum for sharing the thoughts and experiences of these professionals working in remote and far-flung areas in the field. NewsReach helps them to reach out and connect with each other, the development fraternity and the outside world.

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