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Water-cum-Sanitation Projects in Koderma: Learning through Exposure Visits

DOLAGOBINDA PANDA AND NAVEEN KUMAR PANDEY

Cutting across caste barriers, the sanitation and drinking water project brings together entire villages and helps the villagers realize their strength and potential when they work as one towards a common goal.

Pradan has been working in Koderma district of Jharkhand since 1992–93, promoting Self Help Groups (SHGs) in three blocks, covering 83 villages. The SHGs comprise members from the poor and marginalized sections of society. By February 2009 there were 400 SHGs in the area, with no less than 6,000 women members. The SHGs in the area have been further organized into a federating body, namely, the Damodar Mahila Mandal Sangh. After close to two decades, today the women leaders of the SHGs have become very confident about interacting with the outside world.

The SHGs, along with their federating bodies, are important vehicles of socio-economic change. The SHGs are engaged in regular savings and credit mobilization. The credit is usually utilized for investments in a variety of activities such as agriculture, animal husbandry, petty business, repayment of other debt, meeting day-to-day expenses such as ration, school fees, health and house repair. Loans are also taken for meeting working capital requirements in Pradan promoted activities such as poultry rearing and tasar reeling.

Of late, in addition to SHGs, a new approach has been adopted for promoting Gram Vikas Samitis (GVSs) with the mandate of spearheading the overall development of villages. A GVS is a 20 member body, comprising 10 male members and 10 female members selected by the gram sabha. The main task of a GVS is to implement, monitor and manage all development and welfare programmes promoted in the village. Pradan has implemented land and water-based interventions such as water conservation, land levelling, plantation, micro lift irrigation in five villages under the supervision of the GVSs. A demonstration plot for agriculture was also established as part of the efforts. In 2009, Dharaidih and Belkhara villages were chosen for implementing the drinking water supply project, to be funded by the Damodar Valley Corporation (DVC), a public sector undertaking, as part of their CSR initiatives. The project aimed at supplying potable water would be supplied to all the households through a network of pipes. The

availability of clean water would make it possible to construct toilet-cum-bathroom facilities in each household. It would also reduce the drudgery of women who have to otherwise fetch water from far away locations.

The SHGs, along with their federating body, are important vehicles of socio-economic change. They are engaged in regular savings and credit mobilization.

Before implementing the drinking water projects in Dharaidih and Belkhara, Pradan thought it worthwhile to take the local GVS members to a location where similar projects have already been implemented through community based institutions. The objective of the exposure visit was to enable the villagers of Dharaidih and Belkhara to visualize the sanitation-cum-drinking water project better, and get acquainted with the planning, implementation, monitoring and day-to-day management processes of the scheme. Moreover, as we had envisaged, the operating costs were to be borne by the villagers; therefore, Pradan thought it worthwhile to take the villagers to a project where the community totally owns the project and pays regularly towards its maintenance.

VISITING GRAM VIKAS

Gram Vikas in Orissa is one such organization that has been working since 1979 to bring about sustainable improvement in the quality of life of the poor and marginalized rural communities, mainly in Orissa. The core group of Gram Vikas had come to Orissa as student volunteers of the Young Students' Movement for Development (YSMD) to work for the victims of a devastating cyclone in 1971. Registered as a society on 22 January 1979, Gram Vikas today serves more than 2,52,000 people in 704 habitations of 21 districts of Orissa, in eastern India. Through the intervention by Gram Vikas, around 35,000 toilets and bathrooms, and provision for piped drinking water have been constructed in 522 habitations in 11 blocks and 22 districts across two states in India.

When the prospect of visiting Gram Vikas was discussed in the gram sabhas of both the villages, the participants expressed great enthusiasm. Seven persons from Dharaidih and four from Belkhara were selected by gram sabha for the visit. The participants were active members of the GVSs in their respective villages. They were primarily farmers, who would volunteer for developmental activities in the village. Two of us from the Pradan team accompanied the participants for the five-day exposure visit to the Gram Vikas office in Mahuda, Ganjam district, Orissa.

On the first day, we set out from the Gram Vikas campus in Mahuda to visit the sanitation and drinking water projects of nearby villages such as Bettapalli, Sindurpur and Tamna. Two Gram Vikas officials, Gobardhan Pradhan and Sambit Dora, were our guides. Our group got to see, for the first time, a gravity flow-based water supply system that supported a toilet-cum-bathroom in each and every household. Water was being collected upstream on the hills and piped into water tanks situated at the foothills, where there were settlements. There was no operating cost involved and gravity was used to bring the water down to the villages. The tanks were covered with cement slabs. The tanks were constructed on an elevated platform about 20 ft above the ground so that gravity would again come into play when water is supplied to households. The tank size varied, according to the spread and the

population of each of the villages. The system was designed to provide 100 litres of water per family per day.

Each and every household had a toilet-cum-bathroom, made by using locally available stones, bricks, sand and mud. Cement, paint, door fittings and other fixtures were purchased from the market. Two soak pits for every toilet were constructed so that when one soak pit got full, the faecal matter would be diverted to the other pit. It normally takes 2–3 years for the faecal matter to get converted to soil, which could then be removed and used as farmyard manure. We could not imagine that such facilities could be provided in remote tribal villages.

The objective of the exposure visit was to enable the villagers of Dharaidih and Belkhara to visualize the sanitation-cum-drinking water project better, and get acquainted with the planning, implementation, monitoring and day-to-day management processes of the scheme.

A DIGNIFIED LIFE

In the afternoon, we were shown a very inspirational film, *Dignified Life*, based on the experience of Gram Vikas in Samantarapur. The Gram Vikas staff had to hold more than 100 meetings at the village of Samantarapur to convince the villagers of the benefits of community-based sanitation and safe drinking water supply. The process adopted was explained in the movie. Gram Vikas facilitated the training and capacity building of the local youth, mobilizing resources and encouraging community participation. Many young men were trained as masons, plumbers and fitters. Both men and women actively participated in the implementation of the project, helping in activities such as trenching, digging, pipe laying and tank construction. Similarly, the village committee was oriented about the role it would play in the maintenance of the project.

The movie conveyed the thoughts, reflections and feelings of the villagers of Samantarapur. It captured the day-to-day lives of the villagers before and after the implementation of the project.

We learned that open defecation has completely stopped in Samantarapur. Men and women bathe in the bathrooms only. Safe drinking water has reduced the occurrence of water-borne diseases. Women have been greatly benefited by the conveniences brought to them by the project. So much so, parents now want their daughters to be married into villages where similar facilities are available! More than anything, the movie highlighted how the project had elevated the morale and confidence of the villagers.

The screening was followed by a discussion session, in which our group voiced their responses to the movie. The members of our group asked the Gram Vikas members how they had mobilized the villagers and convinced them of the benefits of the project. They also asked about the grants mobilized, the sources of funding, the processes involved and the role of the village-level committee in other developmental activities in the village. Ensuring total sanitation and safe drinking water through community-based systems had really helped the villagers of Samantarapur to lead lives of dignity.

VISITING SAMIAPALLI AND BAHALPUR

The next day, we started for Samiapalli and Bahalpur—two villages in Ganjam block. In Samiapalli, we saw a functional water supply system, and individual bathrooms-cum-toilets in every household. Our group then sat with

the villagers, eager to know more about community organization, structure and functions of the gram sabha, and its Executive Committee. Gram Vikas has constituted village-level gram sabhas, in which every household is a member. The gram sabha assembles once a month. It selects an Executive Committee, usually of 10–20 men and women, depending on the population of the village.

Because access to sanitation and safe drinking water was important to each and every villager, all of them consented to sit alongside one another, despite the caste restrictions, for the meeting.

In Samiapalli, the Executive Committee comprises eight men and three women. The Executive Committee has three office bearers—President, Secretary and Treasurer. The three office bearers are signatories to the Committee's bank account. The Committee appoints one supervisor for the operation of motor and maintenance supply lines–in other words, the basic infrastructure of the project. In Samiapalli, the supervisor is paid Rs 1,500 for his services.

The Executive Committee looks after the day-to-day management of the sanitation and drinking water works, in addition to the other village-level developmental works such as the management of the village library, common plantation, NREGA activities, etc. It gives details of the work done and the financial transactions in the monthly village-level gram sabha meetings. Details of the new initiatives to be taken, if any, and any issue raised or problem faced during implementation of the on-going projects are also taken up and discussed. Any household that absents itself from a meeting, without adequate reason, will incur a fine of Rs 21. Major decisions such as fixing monthly water charges are taken at the meeting. There is mutual trust between the committee and the villagers.

The village library in Samiapalli was set up with the support of the Rajiv Gandhi Foundation. Schoolchildren and other villagers read in the library in the afternoon and in evening. The villagers have contributed substantially for each of the projects they have implemented in their village. The amount for the supervisor's salary, electricity bill and other maintenance costs are being contributed by the villagers. This amounts to Rs 30 per month per household.

In Samiapalli, the people are poor but their organization is so strong that they have overcome all the obstacles they have faced in developing their village as a model village. They have developed a strong sense of fellowship amongst themselves. They took a bank loan of Rs 50,000 bymortgaging their only piece of land to arrange the corpus money of Rs 1,000 for each household. There were 50 households in the village.

Later, our group visited a multi-caste village, Bahalpur, which has 123 households. There are several castes in the village—Brahmin, Sundhi (OBC), Sahu (OBC), Dandashi (SC), Macchuar (SC) and Nai (OBC). There is very little social interaction between the higher castes and the scheduled castes.

Our group saw the successful demonstration of the sanitation and drinking water project. The supervisor of Gram Vikas, who was responsible for the area, told our group that the very first condition that was put to the villagers was that members from every household had to sit together in the gram sabha for the project to be initiated. Because access to sanitation and safe drinking water was important to each and every

villager, all of them consented to sit alongside one another, despite the caste restrictions, for the meeting.

After a series of meetings, the gram sabha agreed to contribute Rs 1,000 per family towards the corpus. The required fund was mobilized by Gram Vikas. The work was completed in less than a year in 2004, and clean water was made available through pipes to all the 123 households of the village without any discrimination. The village got recognized as a totally sanitized village by the government of Orissa.

The Committee here is very similar to the one in Samiapalli. Its account-keeping is transparent. An office bearer has to perform efficiently to the ultimate satisfaction of the villagers. Youth and middle-aged people with a lot of energy for community work are selected to leadership positions. In addition to this project, the Committee has played an important role in establishing a cashew plantation and a village library, and in undertaking works under NREGA as well.

The farmers also visited a bamboo plywood unit and the vertical brick kiln unit, in which innovative techniques are used to make bamboo plates and bricks. The plywood and bricks are used in the construction of the sanitation and drinking water projects. Next was the question-and-answer session. Queries were raised on the design of the water tank, the intake well, the submersible water pump, the process to avail of electrification, water treatment procedures and sources of funding for drinking water and sanitation work.

REFLECTIONS AT THE END OF THE EXPOSURE VISIT

Towards the end of the visit, our group sat and consolidated its learning. The villagers from Dharaidih and Belkhara were optimistic that similar work could be undertaken in their villages. They knew that a strong community organization was central to the activity. They drew up action plans to share their experiences with their villagers on return. They went over the chief points that they would like to highlight. They realized that the effort could help resolve caste differences in their own villages as well. The visitors made a promise to inform their fellow villagers of the dignified lives that the sanitation project, such as the one they had recently observed, could ensure.

AFFIRMATIVE ACTION AFTER EXPOSURE VISIT

On their return, the villagers organized meetings both in Dharaidih and Belkhara and shared their experiences. We facilitated these meetings. Both the villages were similar to Bahalpur in Ganjam, in terms of their caste composition. In the villages in Koderma, caste affiliation is much stronger. Instances in which people have worked as a collective to achieve some common goal are rare. There are more inter-caste conflicts. In Dharaidih, there are OBCs such as Sao, Yadav, Giri and Nai, and SCs such as Ravidas, Razak and Paswan. Muslims belonging to the Ansari caste fall under the OBC category. In Belkhara, the Yadavs belong to the OBC category and Bhuiyan belong to the SC category.

The political system broadens this caste barrier day by day. Sanitation and drinking water are common problems in these villages. Defecation next to and bathing in outside water sources as well as lifting drinking water from such resources are common. Drinking water sources get contaminated because of these practices and this causes many health-related problems. Water-borne diseases are rampant. Even though most of the villagers

realize that this should not happen, some people argue that such a practice does not cause any serious problem. Most of them agree that if the government provides piped drinking water, it would be very beneficial.

Nonetheless, the villagers who had gone on the exposure visit shared their experiences and learning. They highlighted instances in which all the villagers had worked together to achieve some common goals such as starting a school for the first time in the village, and observing Ram Navami, among other activities. They said that to lead dignified lives, the villagers have to join hands. Sanitation and safe drinking water are as important as education, electricity, livelihoods, etc. Toilet-cum-bathrooms are very essential, particularly for women. Without these facilities, they face a lot of difficulties. Moreover, a woman has to spend a lot of time and energy to draw water from the dug well for the whole family. A woman can't take a bath freely outside near the well. There was a series of meeting around all such common issues. Most of the people agreed to contribute to the project.

They highlighted instances in which all the villagers had worked together to achieve some common goals such as starting a school for the first time in the village, and observing Ram Navami, among other activities.

Committed people from the GVSs took a leading role in mobilizing the other villagers. Finally, it was decided to start the sanitation and drinking water projects in both the villages. In Belkhara and Dharaidih, the SHGs are more than eight years old. SHG members took a leading role to mobilize villagers, particularly the women, to work together for drinking water. In Dharaidih, there are 125 households and, in Belkhara, there are 80 households; all are involved in the project.

With great enthusiasm, work started by the first week of March 2009. As of today the implementation of the drinking water component is just about complete. When completed Dharaidih and Belkhara will be the first villages in Koderma district to have community managed drinking water projects.

The first phase of the programme had funds for the drinking water supply component of the project. For Belkhara, the cost of the project was Rs 15,04,800—of which Rs 14,84,800 was given by DVC as a grant and Rs 20,000 was raised by contributions. For Dharaidih, the project was pitched at Rs 16,12,600—of which Rs. 15,84,800 was provided by DVC and Rs 20,000 raised through individual contributions.

The work progress in the drinking water scheme has been highly satisfactory. But it will be a while longer before the sanitation work is completed. Fresh proposals have been submitted for the sanitation work. The villagers and Pradan are hopeful that their dream will come true just like in Samiapalli and Bahalpur.

Organic Farming in Balaghat

ARJUN PANDIT JADHAV

Drawing inspiration from farmers, who have been successful in using organic farming methods to improve yields significantly, the small farmers of Balaghat are steadily replacing the use of chemicals for paddy and vegetable cultivation with Jeevamrita and other organic products, thereby ensuring greater productivity and enriching soil fertility.

INTRODUCTION

There are many definitions for organic farming, but the one provided by US Department of Agriculture (USDA) is considered the most appropriate. Organic farming is defined as "a system that is designed and maintained to produce agricultural products by the use of methods and substances that maintain the integrity of organic agricultural products until they reach the consumer". This method of farming is an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain and enhance ecological harmony. Even the National Bank for Agriculture and Rural Development (NABARD) relies on this understanding.

This year, the Balaghat team was trained in different organic farming practices, and understood the ways by which it is more advantageous than chemical-based agriculture. Some of the practices were tested on crops such as paddy and on some vegetables such as brinjal, tomato, onion, chilli and garlic.

Owing to my interest in organic farming, I visited Subash Sharma's farm in Wardha (Maharashtra) last year, along with another three colleagues from Pradan. Mr. Sharma shared his rich experience about chemical and organic practices. He has been practising organic farming for a decade and does not use any chemicals or hybrid seeds. Sharma has 25 acres of irrigated land, on all of which he practises organic farming. He used to rely on chemicals before he switched to organic methods. He was primarily attracted by the fact that organic practices are cheaper than chemical-based farming.

In the initial stages, he used both organic and inorganic practices. Gradually, he began applying animal manure to his crops. Minimizing the use of chemical fertilizers, he planted *genda* plants (marigold) around the vegetables. Marigold is a natural pest control plant, known to repel whiteflies, kill bad nematodes and drive away bugs. On the other hand, however, it attracts mites and aphids, especially during their

egg-laying season. Sharma began to re-plough crop stubs and weeds into the soil, making for a form of green manure. He planted guava and other fruits around his farmland, to attract such birds that would feed on insects that commonly destroy crops. He advocates the importance of multi-cropping, in order to reduce risks, and the rotation of crops, to ensure that a fair balance of soil nutrients is retained.

Today, Mr. Sharma's produce commands a relatively higher price in the local markets, on account of their organic quality. He has become a brand in himself. He has won many awards. He summarizes the main benefits of organic farming thus:

1. It provides content for microorganisms to thrive in the soil. This is essential to enhance soil fertility.
2. Organic inputs provide greater nutrition for crops; as a result the inputs enhance crops and productivity.
3. Most of the organic inputs are easily available at the village level at rates far lesser than that of chemical inputs. This makes the given set of practices practical and feasible.
4. Organic practices restore soil fertility in such a way that its positive effects are long sustaining; so much so, organic practices can be discontinued after a certain minimum period of application.

In this article, we look more specifically at one of Sharma's primary prescriptions: Jeevamrita. This prize-winning formula is known to double yields.

JEEVAMRITA

Jeevamrita is simple to prepare and effective in practice. It requires a cement water tank or barrel with a capacity of 300 litres approximately. First, 200 litres of water is poured into the tank. To this, 80 kg of locally available cow dung and 4 litres of cow urine are added and stirred, to make a uniform solution. A kilogram of jaggery (*gur*) is added next, and the solution is stirred till the *gur* dissolves completely. The solution is left to ferment for 12 days and has to be stirred once every day. At the end of 12 days, the Jeevamrita is ready for application. Irrespective of the crop, 285 kg of Jeevamrita are sufficient for one single application on one acre of land.

The land must be prepared and should preferably be wet before the Jeevamrita is sprayed over it. Jeevamrita should be sprayed at all four stages of the crop cycle—nursery preparation, transplantation, growth and before fruiting. During the growth stage, Jeevamrita must be applied twice.

ADOPTION OF JEEVAMRITA BY FARMERS OF BALAGHAT

In Balaghat district, Pradan is working with small landholding families, who cultivate paddy and vegetables. The vegetables are mostly for self consumption. Given this context, Pradan aims at increasing yields and improving soil fertility while decreasing dependence on fertilizers and pesticides. In the past, farmers of this area have relied heavily on chemicals for paddy cultivation.

TABLE 1: INGREDIENTS FOR MAKING JEEVAMRITA

No.	Components	Purpose	Quantity
1.	Water	Base	200 lit.
2.	Cow dung	Micronutrients	80 kg
3.	Urine	Pesticide value	4 lit.
4.	Jaggery	Fermenting agent	1 kg
	Total Jeevamrita		**285 lit.**

Pradan aims at increasing yields and improving soil fertility while decreasing dependence on fertilizers and pesticides.

Both termicides and pesticides are used in abundance. Local farmers are used to applying farm manure as part of the field preparation. Usually, they would apply about 15 to 16 quintals per acre. During transplantation, an average of 30 kg of DAP are used. And during the growth stage, an additional 30 kg of urea are heaped on the crops.

Fortunately, vegetables have been spared the use of chemical fertilizers. Even traditionally, farmers have relied on organic practices for vegetable cultivation. As part of the local organic practices, they rely solely on the local seed varieties. The farmers would apply organic potash to the vegetables to free them from sucking pests. Vegetable growing is undertaken in the homesteads (*badis*), on no more than 5 to 10 cents of land. In addition to chillis and brinjals, they sometimes grow green fodder in their homesteads.

But all is not fine in the organic methods adopted by the local farmers. The use of *kaccha* manure (slush) has increased the problem of termites. Even though farmers have about four or five animals each and a steady supply of dung through the year, they leave it to rot for about a year before applying it to their vegetables. In the interim, not only do the rains wash away the primary nutrients but the dung also gets infested with termites. When this dung is used on the land where vegetables are grown, the termites get transferred to the plants. The introduction of Jeevamrita has saved the vegetable crops from many such maladies. A reasonable application of about 200 ml of Jeevamrita to each of the plants at different stages has improved the vegetable produce considerably.

SUNIYA BAI

Suniya Bai lives in Khursoda village of Balaghat block. She undertook SRI paddy and used Jeevamrita combined with chemical fertilizers for her crop for the first time last year on an acre of land. As part of the land preparation, she used 25 kg of DAP. This is comparatively lesser than the standard usage of 30 to 35 kg per acre in the area. As a substitute for the remaining amount of DAP, she applied 285 litres of Jeevamrita to her fields. She continued with the use of Jeevamrita during the transplantation stage, the growth stage and prior to harvest. The use of urea during transplantation and growing was reduced to 15 kg. On seeing the wonderful results, Suniya Bai decided to forego the last application of urea and relied solely on Jeevamrita.

Suniya Bai shares that prior to using Jeevamrita, she got only 8 quintals paddy from her land. The yields with Jeevamrita were a startling 22 quintals of paddy per acre. She has reduced the use of fertilizers and DAP

TABLE 2: SUNIYA BAI'S USE OF JEEVAMRITA

	Input	
Stage	**Chemical**	**Jeevamrita**
Land preparation	20 kg DAP	285 lit.
Transplantation	15 kg Urea	285 lit.
Growing stage	15 kg Urea	285 lit.
Pre-harvest	…	285 lit.

from 50 kg to 30 kg. Her family used to migrate for work in the past; but with the greater food security, nobody from the family migrated this year (2010).

There is a stark difference in the yields obtained by relying on chemical inputs and those obtained by using organic practices alongside SRI.

SITALA BAI

Sitala Bai lives in Katoli village of Balaghat block. She used Jeevamrita on 10 cents of *badi* land. She planted 200 saplings of chilli and 400 of brinjal in June in her homestead. As is the norm in Balaghat, she did not apply chemical fertilizers. She applied about 200 ml of Jeevamrita to each plant. Initially, the growth was very slow; however, at the branching stage, the plants grew much faster and bigger. Each plant yielded about 1.5 kg of brinjal—half a kilogram more than that obtained under conventional methods. Similarly, each plant of chilli has yielded 1 kg—almost twice the yield under conventional methods.

Last year, prior to the use of Jeevamrita, she sowed maize and mustard. The yield was around one quintal and half a quintal, respectively. She sold this for a paltry amount of Rs 600. Her earnings, so far, for this year (2010), are about Rs 7,000 from the same area!

In the absence of barrels and cement tanks, Sitala Bai has very innovatively used earthen pots (*matkas*) to prepare small amounts of Jeevamrita. Seeing this, ten other farmers in the neighbourhood have adopted the practice.

OUTREACH

The visit to Sharma's farm convinced the farmers about reducing the consumption of chemical inputs by at least 30%. Now, with the positive results, the farmers promise to reduce the usage of chemical inputs by at least 15% every year. Because vegetables were already being organically grown, Pradan is adopting a two-pronged strategy, that is, to improvize the existing set of organic practices where vegetables are concerned and to ensure that the use of chemicals for cultivating paddy is gradually reduced with each season. From a preliminary assessment, the following results have come to light as regards paddy yields:

TABLE 3: YIELDS UNDER DIFFERENT TYPES OF PRACTICE

No.	Type of Practice	Average Yield (Quintal/Acre)
1	SRI along with Jeevamrita and chemicals	20
2	SRI exclusively with chemicals	16
3	Conventional farming with chemicals	8

WAY FORWARD

Clearly, the results are best when SRI is combined with Jeevamrita. The present results are encouraging, and farmers are willing to use more of Jeevamrita in place of chemicals. Farmers have also become eager to apply Jeevamrita on the vegetables in their homesteads.

From last year's experience, it is seen that farmers are more interested in undertaking

vegetable cultivation than paddy because of its practical ease. For vegetable cultivation, Jeevamrita only needs to be prepared in small quantities. The farmers, therefore, do not have to invest in big barrels or cement tanks. Many farmers simply use earthen pots to prepare the solution. Its application too is far easier on vegetables because the farmers are not required to carry the solution over long distances from their homes (where it is often prepared) to their fields, as is required for paddy. The resulting yields of vegetables are 20 to 30% more than those obtained from conventional methods.

In a meeting with the farmers, who have experimented with the above practice, it became clear that Jeevamrita works well with those who own lands less than 1 acre. Those with more than 2 acres found it difficult to arrange for ingredients such as urine. They also expressed a need for cement tanks to undertake the mixing. In comparison, the vegetable growers found it much easier, for reasons mentioned earlier.

The Pradan team is now planning to introduce other organic pesticides such as Agniastra, Brahmastra and Neemastra as well as vermi-compost in collaboration with the government, particularly the Agriculture Technology Management Agency (ATMA). The raw material for each of the above preparations is locally available. A combination of organic fertilizers and organic pesticides is sure to endure greater yields. In addition, *genda* flowers, tree bund planting and re-ploughing weeds will also be encouraged.

Pradan is now planning to establish a demonstration plot that will showcase organic practices. This will result in removing farmers' doubts and confusion about Jeevamrita and the applicability and effect of organic methods. Care will also be taken to revive some traditional varieties such as *tuar* and *sami*, by promoting these on the demonstration plot. Pradan plans to reach out to 500 farmers for vegetable cultivation and 200 SRI farmers to promote Jeevamrita and related organic practices in the next two years.

Towards Livelihoods Sensitivity

HEMENDRA KUMAR PRATIHARI

True empowerment is not something that can be foisted from outside, nor is it charity that is to be bestowed on the poor; true empowerment comes when knowledge and practices that have been assimilated by communities over centuries are encouraged, supported and given the opportunity and space to blossom. The sooner a development professional understands this, the more meaningful will be his/her contribution.

INTRODUCTION

I joined as a Development Apprentice in 2003 in Khunti, Jharkhand. Being a post-graduate in agriculture, I was interested in working for and contributing something innovative to the field of agriculture. I had little knowledge about NGOs but after I joined Pradan I was delighted to see the dedication of my colleagues—their love towards working with poor, their endless energy level and the respect they received from the community. The values and work ethics attracted me and, within no time, this unconventional sector became the most conventional thing in my life. However, I began my journey as someone who wanted to educate the rural masses rather than someone who would sensitively build on their understanding of livelihoods.

My goals, way back in 2003, were very different from what they are now. The team operated in five blocks then—Khunti, Namkom, Torpa, Karra and Murhu—of Khunti sub-division of Ranchi district. At present, Khunti itself is a district. There were 586 villages in these blocks with 49,185 households (Census 2001). We covered only 87 villages (12%) and 4,810 households (9.7%) then. Most of these villages and households were in Khunti and Torpa blocks; we were gradually expanding our area of operations to the other blocks. Of the 4,810 families the team worked with, 3,449 (88.16%) were STs, belonging mainly to the Munda tribe. The occupations of these communities were agriculture, forest produce, livestock, labour and migration.

In 2003, the team felt a need to introduce a package in the community, which, on the one hand, would provide better returns from the uplands and, on the other, would be resilient enough to withstand the erratic rainfall of the region. Further, the crop needed to be such that the production technology could be transferred to a large number of poor families and the produce could be marketed on a large scale.

EMPHASIS ON MAIZE

After some research, the team decided that maize production on a large scale was one of the options that would fulfill the above requirements. Emphasis was given to four areas, in order to stabilize the production and marketing system. These were:

1. Availability of working capital
2. Quality inputs available at the doorsteps of the farmers
3. On-field support to each family
4. Marketing support for families requiring the same

I was involved in implementing this programme in a somewhat top-down manner; we reached out to 743 families in 32 hamlets, with a total coverage of 550 acres. The project was a collaboration between the Government of Jharkhand and PRADAN, with credit support from ICICI Bank and buy-back arrangements with Monsanto India limited, Godrej Agrovet Ltd. and Shree Lingaraj Feeds Ltd. As per the design, the farmers had to sell sun-dried maize, with moisture content no more or less than 10%, to Godrej Agrovet Ltd. and Shree Lingaraj Feeds Ltd.

We organized concept-sharing meetings at the hamlet level with families of SHG members in 32 hamlets, where we reached out to about 1,100 families. Interested families deposited Rs 100 as registration amount, towards the payment of services. Eighteen youth were selected from the villages as Service Providers (SPs)—with one SP for every 30–50 participants. These SPs were then trained by us in various activities to be taken up under the programme. Land measurement camps were organized for the plots of all participants at the hamlet level. Thereafter, the plots were finalized, and participant-wise, plot-wise data recorded. Inputs were procured and placed in 16 stock centres across the project area. Inputs were issued to families on the basis of plot-wise print-outs made available to the SPs and stock centres. Credit and loans for the activity were mobilized from ICICI Bank.

Besides these processes, some technical nitty-gritties had to be complied with. The layout of the field and the sowing in rows had to be ensured. Inter-culture operations, weeding and fertilizer application had to be undertaken at regular intervals.

Farmers were trained to shell maize with manual shellers. Farmers then packed the shelled maize in gunny bags. It was thrilling to know that farmers would get good returns for their hard work. That year, 743 farmers produced nearly 521 tonnes of shelled maize. The average yield came to 10 to 12 quintals per acre. The average net income was around Rs 2,100 per family.

Once the maize seed matures, the yield cannot be increased and the crop is ready for harvest. The maturity of a seed is identified by the presence of a black layer at the base of each kernel. The decision on how soon to harvest after this depends on several factors such as the weather, the available labour and the crop value. If the crop is left standing to dry fully in the field before harvest, the farmer risks severe yield reduction due to storms, shattering, birds and rodents, insects and mould. The safe and sensible decision is to harvest as soon as the seed is mature and the moisture content is below 20%. Then the seeds can be sun-dried till it becomes suited for shelling. By this time, the moisture content is down to 14–16%. Shelled grain can be further dried to 10% before being packed in bags.

During the harvesting, farmers were guided on how to identify the black layer at the base of each kernel. This was a new concept for farmers; therefore, the first year, they ended up with a yield varying between 11% and 25% of moisture. After lifting the first production of maize from one cluster, complaints came that the moisture content of the product was not as per the requirement. The difference in prices evoked a mixed response from the members of the community—some reacted positively and some negatively. The experience brought in a scientific thought process in the traditional mindsets of the farmers. They were eager to learn skills about proper harvesting and post harvest care. Some were disappointed because during that season, the green cob in the local market fetched Rs 7 to Rs 8 per kg. However, the farmers sold their products at the differential prices to Godrej Feed. The positive outcome of the experience was that the farmers became aware that:

- Quality production, not mere production, is important
- There is a need for output linkage
- Post-harvest care is essential

processes of marketing their produce. Because there were no concrete plans for post-harvest care the previous year, many farmers did not dry the maize to the optimum level, and ended up with fungus-affected produce. Initially, this did not seem to be a serious issue until the three different categories were introduced on the basis of the quality and the produce started to be rejected by the buyers. The farmers were not forewarned about the different categories with their differential prices and this created a lot of discomfort among the villagers. Again, because the SHGs did not repay their loan fully after the harvest, profits to each family also could not be distributed; this also discouraged the farmers. We had promoted maize cultivation in the forest areas as well, where wild boars and elephants damaged the crops; hence, the farmers were also not eager to invest in maize again. For a few others, the maize and arhar programme was not core to their needs. Maize was labour intensive and the time for land preparation overlapped with the paddy transplantation time.

TABLE 1: DIFFERENTIAL PRICE SYSTEM FOR MAIZE

Grade	Quality of Maize	Price (per kg)
A	Fresh yellow looking	Rs 4.50
B	Light yellow looking	Rs 4.00
C	Maize showing black colouration	Rs 3.80

A year later, however, there was very low response from the community, regarding the scientific cultivation of maize and arhar. Although farmers had earned profits the previous year, they were not ready to invest in maize again. They did not seem to have doubts about maize as a profitable crop; instead, they were unsure about the

TOWARDS LIVELIHOODS SENSITIVITY

These explorations helped me understand that a professional working in a community should not be biased in favour of or against any project. The community's needs should be core to the project. This experience helped me make the shift in my approach from a project perspective to a community context.

Exploring what the villagers were more interested in, I found that their core interest was to stabilize and improve the package of practices of the crops they traditionally cultivated. There were mainly crops such as paddy, black gram, green gram, wheat, mustard, chana, potato, onion, garlic and lac. They did not have maize in this list. The community also required vaccinations of their draft animals and milch cows, many of which had subsequently died because of a number of diseases. This support of vaccination for their livestock would help them also in agriculture. I then started working on their needs. We groomed the SPs on their technical know-how of the crops that the villagers wanted to cultivate. A few of the SPs were groomed to provide vaccination services. This shift in my approach made me very positive and it was a satisfactory experience. There was an increase in the average production—food grains doubled and vegetable produce increased three times as compared to traditional method of production.

Exploring what the villagers were more interested in, I found that their core interest was to stabilize and improve the package of practices of the crops they traditionally cultivated.

Earlier, my work seemed mechanical and less transformational. I was keen to know why the community is doing things mechanically; there was change in production but there was no change in human well-being. This allowed me to relate and reach out to far many more farmers.

I realized that rural farmers hold external factors and the environment responsible for all the good and bad that happens to them. For instance, if there is an increase in their production, they would attribute it to me or to the support imparted by the facilitating agency. Also, they held the rural professional mainly responsible for any of the failures. This realization prompted a shift in my attitude when working with the village community. I became more alert in my interactions with the community. My effort was to place them in the driver's seat. I thought to myself that the true purpose of facilitation is to invoke the knowledge that is dormant in the people. The knowledge that has already been assimilated by communities became the locus of my efforts. For instance, when I started training the villagers on the package of practices, I would encourage the participants to identify how the content of my training is related with their traditional practice. For instance, in nursery raising, we encourage farmers to use polythene sheds to protect saplings from direct sunlight and rain; however, traditionally the farmers have used leaves that are knitted to make a temporary shelter. Such linking brought about continuity in our efforts. It helped to systematically synchronize our technical offering with traditional knowledge. I started identifying their good practices and building on that in the training I offered.

In addition, I identified the advanced farmers within the local milieu—those who were a step ahead in terms of innovation or adoption of the new inputs. Usually, there are one or two farmers, who are ahead of the others, in each village/hamlet. Identifying and recognizing advanced farmers within their hamlets or villages, and inviting them for meetings and trainings allowed for a better integration of local practices with technical/scientific inputs. The recognition of local knowledge and practices in this way not only provided a base for our efforts but also boosted the confidence of the local

communities. My earlier approach—that of a 'dispenser of knowledge', in which the community was nothing more than a passive recipient of my technical/scientific and managerial knowhow—was not constructive.

My earlier approach—that of a 'dispenser of knowledge', in which the community was nothing more than a passive recipient of my technical/scientific and managerial knowhow—was not constructive.

Promoting livelihoods alone will not empower the poor. One needs to understand their context from their point of view before implementing any activity; otherwise our intervention will only become an unnecessary interference. Livelihoods sensitivity is the need of the hour. Even at the institutional level, one must begin by understanding the family structure that prevails in an area. The family is the most basic unit, in which people work with one another and coordinate activities. Without understanding the advantages and the constraints that the prevailing family structure offers, it is not possible to build robust people's institutions. One needs to understand the community context and map out why there is a need for intervention. How relevant is the intervention? Do people own the intervention or is it merely being thrust upon them? Do people feel significant at the end of every endeavour? Needless to say, it is the enhanced self image of the poor that denotes how accurately the intervention has been matched with the aspirations of the people.

People's Participation in Government Programmes

SAHANA MISHRA

Government projects for the welfare of the poor do not reach the targeted beneficiaries because of a failure of the system, and the lack of transparency and integrity in the authorities. The poor are, yet again, the victims of these flawed schemes.

This article is a recollection of certain experiences I had in Keonjhar district of Orissa. I discovered that where the government is supposed to reach out to its people, the people are themselves making painful sacrifices to keep the government's programmes alive. These sacrifices are not community contribution, *shramadan* or payment for services. The burden borne by the people is such that it almost sums up to a subsidy extended by the people to the government.

The Government of Orissa initiated a project called Mission Shakti in March 2001. The project was launched by none other than the honourable Chief Minister of Orissa, Sri. Naveen Patnaik. It is based on the belief that women's micro and small-scale enterprises can provide an opportunity to accelerate general levels of economic activity and at the same time promote a more equitable distribution of development benefits. Mission shakti is now one of the most prioritized projects being run in the state. Through this project, the government is providing support to women SHGs in order to transform them into self-sustaining institutions. All such efforts are being consolidated at the block and district levels, and federations/clusters are formed for the same purpose. The Mission aspires to achieve the same through the following measures:

- Strengthening the socio-economic base of SHGs through creation of assets and benefits, both social and economic
- Increasing awareness for cooperation and aiming for a larger attitudinal change through appropriate sensitization
- Setting up appropriate monitoring systems for measuring progress

MAA BHAGABATI MAHILA SAMITI

Maa Bhagabati Mahila Samiti is an interesting example from this point of view. This is an SHG in Turumunga village of Keonjhar district. It is a 20-member group. The group has been more successful than the others in the area, having a comparatively larger corpus and lending capacity. Yet, it has a limited understanding of how government programmes function.

The group was reasonably enthusiastic when it got to hear from the *gram sevika* (village development worker) about the government scheme of running a mid-day meal programme. Its members wanted to take part in this programme because they were told by the *gram sevika* that it would provide them a way to get *rojgar* (employment) on profitable terms. They would also, in a way, be able to serve their children. It is important to mention that the state government, by this time, had by and large become more accepting of the participation of the SHGs in the mid-day meal programme on account of the fact that cooking took away valuable teaching time from the teachers.

Its members wanted to take part in this programme because they were told by the gram sevika *that it would provide them a way to get* rojgar *(employment) on profitable terms.*

The members decided to accept this proposal. When I reached Keonjhar and started interacting in the area, the group members of Maa Bhagabati SHG shared their experiences and how they had divided the work among themselves. Every week, two members would go to the school and manage the cooking business. They would take some green vegetables from their homesteads so that they could save money as well as ensure that the children get a balanced diet. There was hope in the eyes of these members that their efforts would serve the children of the village well.

Although the effort appeared impressive in the beginning, a few days later, two members of the group came to meet me for a second opinion. They asked me whether it had been a right decision, after all, to undertake the programme. I was unable to give them a categorical answer. The effort appeared laudable but the women seemed apprehensive. Some days later, I attended their SHG meeting. What I heard there that day was totally different from what the members had shared initially.

When the scheme was first introduced in the village, the *gram sevika* had vouched that it was an income-generating opportunity. But no one had made an assessment of the person days of labour that the venture would entail. Nor was it ascertained what materials the government would provide and what the SHG would (if anything). The sharing of roles and responsibilities of the different stakeholders was unclear. Without such bare minimum planning or foresight, the eager women had lost more than they had gained. The group had invested around Rs 30,000 in the business expecting that they would get it back sooner or later as payment for their services. After a great deal of haggling with the school teachers and *gram sevika,* they finally received Rs 28, 000 of the total amount back. The group had taken a bank loan for its other expenses because it had invested its funds in the 'business' of mid-day meals.

On questioning as to what prevented the departments from paying for the expenses incurred, the group members said that this was primarily because of the poor relationship they shared with the school teachers. For a specific period, both groups (the members of the SHG and the teachers) were in a tussle. The group was expecting money for procuring fuel wood, which was not easily available in the nearby location. The teachers turned down the requests of the SHGs saying that there were no provisions for fuel wood within the scheme. This naturally made the

SHGs wonder as to how the teachers had procured the fuel wood so far (that is, before the SHG took up the activity). When the teachers failed to furnish a suitable reply, the SHG members concluded that they had been either misappropriating funds for fuel wood, or not preparing timely meals.

The sharing of roles and responsibilities of the different stakeholders was unclear. Without such bare minimum planning or foresight, the eager women had lost more than they had gained

No sooner did the SHG members voice their concerns, the teachers took it upon themselves to defame the SHG. They began to accuse the SHG of not being able to cook proper meals for the children. They even brainwashed a number of parents. The parents were also convinced by the reports of the teachers because the SHG was struggling to generate the required resources on its part. Choked on account of both delay and improper payments, the SHG fell into a debt trap. To make things worse, the SHG was not even sure if it would receive anything for its efforts. The eventual result was that the effort was an utter failure. The SHG was demoralized, people lost faith in institutions such as SHGs, and the mid-day meal scheme has returned to the callous hands of school teachers.

VILLAGE POND AT TURUMUNGA

The example of the excavation of a village pond in Turumunga village, Keonjhar district, is equally interesting. There were five SHGs in one hamlet of Turumunga. There was a huge hue and cry for getting work orders under the food-for-work scheme. There was cut-throat competition among the local people and the SHGs to get work orders. In this instance, the government was generous and willing to provide work orders to women-managed SHGs. Some of the SHGS comprising the village poor pointed out that the government's generosity had prompted the rural elite to organize (or perhaps disguise!) themselves as namesake SHGs and corner work orders. The elite had even attempted to buy out work orders from the local SHGs and promised them a pay-back cut in return. In other nearby villages, an informal selection process had been set up to select the SHGs that would assist in the implementation of programmes. The villagers claimed that most of the selection processes were rigged and the pseudo SHGs were accorded supervisory status for implementation.

Despite all such competition, the women members of the five SHGs in Turumunga succeeded in getting the work order for pond excavation in the village. They felt that the project would increase water storage, create small-scale opportunities by way of fisheries and, most importantly, save them from migration by providing wage relief. The group was assisted by a ward member in securing the order. The SHGs were able to secure this work under the programme because they were united in their demand for work, and the block-level officers were equally keen to sanction it.

The group diligently allocated responsibilities amongst themselves for managing the bank account, calling for meetings and mobilizing labour for work. On the technical front, the junior engineer from the block headquarters guided the members in getting the actual work done. The junior engineer's recommendation was required for releasing money to the members. The women members also played safe and tried to take him along with them so that

they would not face difficulty in getting the money.

The initial instalments were released without a delay. However, when the members went to the block office for the final payment, problems began to surface. The final payment was supposed to be released with the work completion report from the junior engineer. The sub engineer then informed them that the work had not been completed properly so they would be paid less than what they were demanding. The women had to persuade the engineer for many weeks. The women members went to the block office on several occasions. This entailed heavy expenditure. When the group sat down to ascertain its expenses on travel and lodging, it was astounding. The loss of person days in persuading the sub engineer was substantial. The group had expended no less than Rs 7,000.

Though the SHGs had participated in the programme proactively hoping to gain from it, and the government had readily sanctioned the work, it eventually resulted in much dismay. The group also spoke of the bribes they had to pay to ensure that t hey receive payments in time. Till date, the group is yet to receive Rs 70,000 for their work and yet to make payments of Rs 44,000 for cement, stone and their own labour. On account of this, the group is not being able to wash its hands of the programme just like the Maa Bhagabati group. The villagers share that whereas they are in deep trouble, the government has achieved its own targets. The targets set by the administration have been achieved at the expense of the people.

Besides altruism, a safe exercise of caution where collaborations are concerned is necessary for forging sustainable village institutions.

In both cases, there was a degree of confusion even when people's institutions had willingly tried to participate in government programmes. Besides altruism, a safe exercise of caution where collaborations are concerned is necessary for forging sustainable village institutions. In the case of Maa Bhagabati Mahila Samiti, there was utter confusion regarding the sharing of roles and responsibilities. There were no Terms of Reference in the work the SHG undertook. In addition, the school teachers were disinclined to be transparent in their dealings. In Turumunga, there were all kinds of procedural delays and lapses. Here too, the villagers lacked clarity about the rate at which they would be paid. Being unaware of how measurements were being carried out by the engineers, they initially chose to believe that the check measurements made by the engineers were correct. Despite having completed the work and having paid bribes, they are yet to receive Rs 70,000 from the department.

Undoubtedly, government schemes and programmes provide a great means to centre-stage village-level institutions. These also provide local institutions a great opportunity to contribute to village development. But when collaborative efforts between the government and people's institutions fail, it damages the faith people espouse in both—village-level institutions and government programmes. It takes a long time for people to put the past behind them and engage meaningfully with the state machinery once again.

NGOs such as Pradan have a significant role to play in this regard. Efforts to institute

mechanisms that will ensure transparency and accountability right from the beginning are necessary. Unfortunately, most village communities feel too subservient to the government, to press for the same. Facilitation by NGOs must also ensure clarity on how roles and responsibilities, and benefits will be shared. By capacitating the SHGs to carry out a feasibility analysis of opportunities presented before them, one gives the members information about what an opportunity has to offer, the risks it will entail and the actual profits they will reap.

Chickpea: Synopsis of a Value Chain Study

SHIVAJI N CHOUDHURY

Chickpea cultivation, which has huge potential in India, is as yet underutilized and undervalued. Planned interventions will go a long way in motivating the small landowners to cultivate chickpea, both as a viable crop and for its nutritive value.

Chickpea is one of the most commonly used pulse crops in India. In fact, a cursory look at the statistics tells us that India produces two-thirds of the world's total chickpea production and yet it imports a third of the gross imports, underlining how important a crop it is for us. For the last eight months, since September 2009, I was part of Pradan's thematic team for a value chain study on chickpea. The study demanded that I interact with various stakeholders, such as traders, agents, retailers, apart from the farmers.

Although chickpea is also called Bengal gram, it is not grown in Bengal. For me, who didn't even know how to differentiate between *kabuli* chana and *desi* chana, this was quite a revelation. *Kabuli* chana is the irrigated variety of chickpea whereas *desi* chana is the more resistant and indigenous variety. I did not even know that such a distinction existed! In any case, I motivated myself by saying that it is always best to start right at the bottom, as far as awareness about chickpea is concerned, because that would mean that the only way to go was up!

My visits took me to many places—Mandla (MP), Chitrakoot (UP), Vidisha (MP), Chhattisgarh, Pakur (Jharkhand), Betul (MP) and Bikaner (Rajasthan), to name a few. These visits were an eye-opener for me because after having spent four to five years working in the rural hinterlands with tribals, the nitty-gritties of chickpea cultivation and sale took me by complete surprise. I was also surprised by the unutilized potential of this crop to address poverty and malnutrition.

The farmers of different regions cultivated the crop for different reasons. A tribal farmer in Mandla or in Dindori cultivated it for self-consumption first and then, maybe, for commercial sale. A farmer in Vidisha or the Malwa region knows that chickpea is one of the more sturdy crops for farmers with lands that have erratic irrigation and poor soil quality. This is why most farmers here undertake to cultivate the crop. On the other hand, in water-scant Rajasthan, especially Bikaner, the farmer cultivates chickpea only if there are normal rains. Farmers in UP, especially Chitrakoot, are happy to cultivate chickpea because it hardly needs any aftercare and, therefore, suits the smallholder farmer, who looks for wage labour during the same time.

The situation is complicated by the *kabuli* variety of chickpea. Many of the support organizations, particularly NGOs, that hosted us during the course of the study, were promoting *kabuli* chickpea as part of their partnership programme with Oxfam. *Kabuli* is an irrigated variety of chickpea, which can be grown in residue moisture only in black soils that have better moisture retention capabilities. But an assessment of the historically disadvantaged marginal and smallholder families reveals that *kabuli* is not suited to their needs because neither do such segments of growers enjoy access to irrigation nor do they own the more fertile and precious black soils. Even those who enjoyed irrigation facilities would prefer a crop that would add to their household food security rather than cultivate chickpea, which has limited relevance in this respect. Also, with the NREGA promising 100 days of wage labour for every household, the more labour-intensive *kabuli* variety has become less of a priority compared to the *desi* varieties. The introduction of varieties that are suited to local contexts has been a primary learning of the study.

Chickpea, in most places, is being cultivated using age-old practices and, therefore, has been continuously yielding diminishing returns. Farmers continue cultivating it because of the labour available in their own households and also for want of better Rabi cropping options in un-irrigated areas. Seeds are recycled and there is hardly any seed treatment. Although there are various varieties, which have been introduced from time to time, the knowledge about the varieties and micro-practices in chickpea cultivation is very limited. Overall, chickpea is a crop that is most suited to the un-irrigated lands of farmers living mostly in the semi-arid regions of MP, Rajasthan, Maharashtra and AP. The cultivation of the *kabuli* variety can actually make an impact in remote areas where there is irrigation and where there are black soils. This is primarily because regions with irrigation nearer to markets would opt for vegetables and other more remunerative options.

The national average is 790 kg per hectare (FAO) whereas countries such as Myanmar have an average yield of 1,100 to 1,200 kg per hectare; our domestic production has been hovering between the 5.5 million MT and 6 million MT mark. Things stand in stark contrast when we consider the potential of chickpea both in irrigated and un-irrigated areas (The average potential productivity estimated by the farmers and experts for irrigated chickpea is 20 Q and for un-irrigated chickpea is 12 Q). The demand for chickpea has been hovering between 6.5 and 7 million MT mark. A growth rate of almost 2% in the chick pea demand may be assumed, primarily due to the growing population and also the fact that it is priced relatively lower than the other pulses. This deficit in supply is met by imports from countries such as Tanzania, Myanmar, Australia and Spain.

The *kabuli* chickpea does pose some exciting prospects in the chickpea sector but, for the masses, *desi* will always be the option for daily use. Therefore, although there may be some rise in the demand for *kabuli*, it will never be able to gain substantially on the demand for *desi*. Despite these developments, the primary producers are not in a position to benefit from the enhanced demand dynamics because the productivity of chickpea is very low and erratic, owing to various reasons (lack of technology penetration, lack of seed research, long supply chains, etc.) The nil import duties for pulses also mean that

countries with higher levels of productivity and lesser costs of productions such as Myanmar and Australia will have cheaper farm gate prices and, therefore, will prove to be a better option than the home-grown desi chickpea.

Up the value chain, almost all the actors (millers, besan mills, etc.) are trying to diversify their businesses by trading in other items such as ginger and coriander. That there is indeed excess milling capacity in the country is evident from the fact that almost every mill utilized not more than 50 to 100 days for milling chickpeas.

The government's apparent view that pulses is only 'a poor man's food' and not a 'poor man's crop' is perhaps driving the policies around pulses. Even the small NGOs, involved at the grass roots level in popularizing chana, particularly the *kabuli* variety, are doing so with a myopic view, and without weighing the threats and the opportunities simultaneously. Only in Sironj has a scientific Package of Practices (PoP) and marketing services extended to its producers; the rest of India's smallholders are at the mercy of the *adhatiyas*, the traders and a very erratic price system. *Adhatiyas* is the local word for middlemen in Rajasthan; they are basically brokers who aggregate agri-produce in the village or at the entry point in the mandi and then sell it. They are typically those intermediaries that make the chickpea supply chain an unusually long one, and add little value in the process. With the rising population and a very low productivity in the pulse sector, there is always a demand-supply mismatch and, therefore, our dependence on the international market for imports to meet our demands.

At the end of the study, I have mixed feelings. I am able to talk about the subsector with a greater degree of confidence. However, I am disappointed to see how little the small and marginal farmers have benefited from this crop. Intervention in this sector is largely simplistic. Moving past naiveté, it is high time, we gained a better understanding of this crop and gave its value chain its due. This is necessary for any intervention to be successful.

Suniya Bai shares that prior to using Jeevamrita she got only 8 quintals of paddy from her land. The yields with Jeevamrita were a startling 22 quintals of paddy per acre. She has reduced the use of fertilizers and DAP from 50 kg to 30 kg. Her family used to migrate for work in the past, but with the greater food security nobody from the family migrated this year.

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. News*Reach*, Pradan's monthly journal, is a forum through which professionals working in remote and far-flung areas in the field share their thoughts and experiences. News*Reach* helps them to reach out and connect with each other, the development fraternity and the outside world.

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