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Small Farmers, Prosperous Farmers—Hopes from Central India

ASHOK KUMAR AND OM PRAKASH

Breaking the prevailing cycles of low production, a few small farmers are becoming prosperous by transiting to a state of high returns; they are driven by a passion to grow by working on their existing lands, keeping themselves updated on the latest developments in the agricultural sector and choosing their crops with great farsightedness and perseverance

ABSTRACT

PRADAN, a national-level NGO working for the promotion of livelihoods of rural poor communities in tribal pockets of Central India for the past 30 years, joined a study called 'Small Farmers, Prosperous Farmers (SFPPs)'. The study is focused entirely on the tribal belt of Central India, where the terrain is hilly and undulating and has poor irrigation facilities. Along with under-performing natural resources, these regions also have under-developed markets. Yet, there are examples of enterprising farmers, who have overcome the vicious cycle of poverty of this region, have created wealth for themselves and have helped many other farmers to prosper.

A systematic study of a few selected representatives of this dispersed tribe of individuals has revealed the factors and forces that lead to small farmers (with less than 2 ha of land) doing well in such challenging circumstances. An overarching commonality found in the farmers interviewed was that they were all exceptionally entrepreneurial—being achievement-oriented, ambitious, knowledge seeking, willing to take calculated risks, mobilizing their own financial resources and building effective functional linkages with the relevant stakeholders. Another factor that has contributed enormously to their success is the availability of assured irrigation, which they developed either by investing their personal resources in setting up irrigation facilities or drawing funds from a government scheme. These farmers have also taken calculated risks and invested time and energy in gathering the latest available knowledge and know-how on agricultural practices and markets. The success stories were all of vegetable farmers, probably because of the opportunities accorded by the difficult terrain and the deficit markets. Interestingly, none of the farmers was linked in any large measure with any of the mainstream programmes or services of agriculture extension, bank credit or insurance. Many of them were part of PRADAN's agriculture development programmes and were pioneers in their own right because PRADAN intervened in poverty pockets, where such entrepreneurs did not exist.

There are a number of policy lessons also that can be derived from these stories. First, in order to work with small farmers in rain-fed areas with a view to making them rich, and not just food secure, the intervention has to be comprehensive and holistic. Agriculture extension cannot be a top-down supply of knowledge and technology but needs to be a process of systematic hand-holding. Such extension will need to deal with change in the behaviour of the farmer, to develop entrepreneurial qualities in him, and create enabling conditions and linkages.

When developing irrigation sources, an approach of creating a large number of small structures offers far more dividends than a small number of large structures. Moreover, using a cluster approach when working with farmers rather than working with individual farmers in a discreet manner proved to be more productive. Government schemes and the financial institutions have to address how they can be more effective in supporting small farmers in their efforts to achieve prosperity and create wealth, rather than being constrained by existing schemes. Given the limitations of the state machinery and the markets, the role of civil society organizations (CSOs) becomes crucial in scaling-up efforts to create wealth and prosperity for a very large number of small and marginal farmers in these endemic poverty regions.

BACKGROUND TO THE STUDY

PRADAN is a public service organization, set up with the belief that in order to bring about change, educated and motivated people need to work directly at the grass-roots with rural communities. PRADAN's

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agenda is to work on livelihoods promotion, with the objective of agency enhancement of rural communities for larger change. As of today, PRADAN works with around 2.25 lakh families belonging to disadvantaged communities spread across seven states in the country. PRADAN was invited to participate in a study, conceived and coordinated by the IWMI (International Water Management Institute), on

small farmers, who have been able to break the prevailing cycles of low production and transit to a state of high returns, to reach prosperity. PRADAN decided to participate in the study because it would build greater internal understanding among colleagues on why some farmers are able to break the cycle of low production and poverty, and achieve prosperity. The study was conducted in PRADAN's field operational areas by those working in the area.

INTRODUCTION TO THE AREA

The study was conducted across ten districts (two each in Odisha, Jharkhand and Chhattisgarh and four in Madhya Pradesh) of four States, where PRADAN has a field presence. These districts are in central and eastern India, with tribal communities forming the major population. The area has hilly to undulating terrain and an irrigation percentage ranging from 2–3 to 10%. Many of these districts are in the list of the Backward Region Grant Fund (BRGF) and also in the list of districts affected by left-wing extremism. Tribal people in these areas, as is the case elsewhere, are second or, at best, third or fourth generation farmers. Agriculture in the area is marked by the predominant use of own seeds and a negligible fertilizer/

pesticide usage, characterized by a 'low-input, low-output' cycle. A significant chunk of household income comes from collecting forest produce. Despite an average landholding of one hectare or more, food security at the household level is for four to eight months from their own land and the rest of it comes from wage earnings and forest produce collection. The educated younger generation, however, is drawn more to the market-based economy in urban areas, seeking government employment or opportunities in the formal job market.

Agriculture extension cannot be a top-down supply of knowledge and technology but needs to be a process of systematic hand-holding. Such extension will need to deal with change in the behaviour of the farmer, to develop entrepreneurial qualities in him, and create enabling conditions and linkages

of two hectares or less, are able to generate a net income of Rs 2–2.5 lakhs/year (US \$ 4,000–5000/year) mostly from farming and make a decent livelihood for their family.

- ◆ To understand the demonstration impact of such successful farmers, who on other farmers in the village, area, or community.

- ◆ To identify and study examples of several farmers, who have emulated and gained

from the entrepreneurial success of a pioneer small-farmer.

- ◆ To identify and study examples, in which systematic interventions by NGOs/GOs/co-operatives/businesses have helped entire groups of small farmers to operate at a target level of annual household net income.
- ◆ To derive lessons and implications about what NGOs, the government, donors, financial institutions, and research groups can do to grow the tribe of SFPFs.

LIMITATIONS OF THE STUDY

The study was conducted by PRADAN professionals, who have been working in the area for a long time. Although familiarity with the socio-economic-cultural context is an advantage, it may have led to some assumptions being made and also may have created a bias towards a particular framework or way of thinking. The study focused on pioneer farmers, who are one of a kind in the area, but not so much on their followers, which may have provided more insights and helped create a more complete picture. This was because pioneer farmers were more an exception in these areas; however, even where groups of farmers existed, the focus was on the pioneer, which was realized later at the time of analysis. An aspect that has not been focused upon adequately is the risk mechanisms at the level of the SFPFs.

OBJECTIVES OF THE STUDY

- ◆ To understand the conditions under which enterprising small farmers, with a holding

PROCESS OF CONDUCTING THE STUDY

The study was conducted through the process described below.

The concept and objectives of the study was shared with all the teams, followed by a tele-conference with all interested writers. The concept and objectives, of the study was reiterated. The broad outline for the study and significant themes were discussed in detail. Individual members explained why they selected a particular farmer. Two senior members agreed to follow-up with and guide the writers on developing the cases as per the

outline. A format was prepared, laying out a set of questions and the areas for exploration. The areas selected for exploration included:

- ◆ Personal biography and historical background
- ◆ Resources available: land, water resources, irrigation infrastructure, cattle and human
- ◆ Family members: male/female
- ◆ Education level of the participating farmer
- ◆ Occupation: primary/secondary
- ◆ Cost and return of the occupation
- ◆ Achievements and failures
- ◆ Linkages

The writers conducted detailed personal interviews with the selected farmers on the issues listed. The cases were then written out with an objective to highlight the struggle, the strategies adopted and the actions taken by these small but exceptional farmers, living in difficult situations. Detailed feedback on most of the cases was given by senior members. Working on the feedback, repeated interviews were conducted for further clarity, and a second draft of the cases prepared. As per the guidelines, two case writers were selected for working further and presenting the findings at the IWMI partners' meet.

A two-day, joint meeting of case writers, senior professionals and a consultant from the IWMI was held at PRADAN's Delhi office to discuss the cases in detail. Three cases of Yadunath Gorai, Saryu Nayak and Subhnath Mahar were discussed in detail. It was found that some aspects required more exploration. Important lessons, commonalities, points of dissimilarities

The cases present live examples of people's struggle to move up the economic ladder, overcoming all odds.

Sixteen cases have been collected from the remotest areas of ten districts of four states, with varied agro-climatic characteristics, in terms of geography, society and agronomic practices

and deviations found in the cases were listed and discussed. This brainstorming and consequent findings served as the layout for preparing a synthesis of the cases. Another meeting of case writers and senior professionals was held to discuss the updates on the cases, based on the first feedback, and to finalize the case synthesis for presentation.

All the farmers studied were well-known to the writers, who have been working in the area

for the last 5–15 years. They are familiar with the SFPPs, either by directly working with them or because the farmers reside in the work area. The writers were familiar with the success of these farmers and hence were the first persons selected to conduct the study.

Criteria of Selection

The selection was based on the following criterion.

- ◆ Farmers with a land-holding of one to two hectares
- ◆ Engaged in agriculture or allied activities
- ◆ Successfully conducting the activity for some time (more than three to four years)
- ◆ Earning Rs one to two lakhs or more annually from the activity
- ◆ Accepted and admired in the village or area for their enterprising activity

About the SFPPs Studied

A total of 22 cases from four states, namely, Odisha, Jharkhand, Chhattisgarh and Madhya Pradesh, were presented for deliberations. Post the feedback work and modifications, 16 cases were finalized for synthesis from 12 districts of these four states. The selected farmers

belong to two social classes—Scheduled Tribes (56%) and Other Backward Castes (44%). The age of the chosen farmers was in the range of 25–50 years. The level of education of the farmer, too, varied—from primary to class XII; 37 per cent had attended primary school whereas 63 per cent had studied beyond the primary level. Only two farmers had studied up to class XII. Of these, 63 per cent of the respondents were primarily cultivators whereas 37 per cent were involved in trading, goat rearing or labour for their livelihood.

FINDINGS

The cases present live examples of people's struggle to move up the economic ladder, overcoming all odds. Sixteen cases have been collected from the remotest areas of ten districts of four states, of varied agro-climatic characteristics, in terms of geography, society and agronomic practices. However, the farmers show very similar attitude and behaviour, characteristics, economic activities and patterns. The commonalities range from basic human traits such as being passionate and hard working to being able to acquire and manage sophisticated skills such as information collection and analysis, to having the ability to manage stakeholders and be open to risks of marketing, experimentation, etc. The study of these cases shows that all the individuals who were successful farmers followed a systematic plan and showed specifically similar behaviour. In the following paragraphs, their specific and significant commonalities are discussed.

ACCESS TO WATER AND IRRIGATION

The SFPF cases reinforce the criticality of access to irrigation to achieve prosperity. All the farmers studied had access to secure

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irrigation. The arrangement of water for irrigating 0.5–4.0 acres of their field is the most common measure undertaken by all the farmers.

The creation of a facility to access surface water or ground water, in terms of creating a dug well, farm pond, *nala* bund or check dam along with an arrangement of devices—electric run or diesel-operated or both in many cases—are sourced from government schemes or through an NGO. They did not hesitate to invest their own money for irrigation infrastructure, if needed. Hemlata Lilhare of Takabarra, Balaghat, took help from the Jeevandhara Yojana to dig a well. Own dug well is the most preferred source. Half the farmers managed to create one for themselves, and the rest depended on check dams/passing streams for lifting water.

Farmers devised traditional as well as innovative measures to access and avail of water. Like Yadunath Gorai, farmers who had their own water facility partnered with others for aggregating their vegetables for sale. About five farmers utilized government schemes to create a water facility or used water from a reservoir, created with government aid. These farmers, unlike their village brethren, made efforts to learn about government schemes and to channelize the benefits.

Shyam Sunder Mallick of Palunkia village, Balliguda, Odisha, constructed a canal of 200 ft from a water source to his field, and lifted the water from it with a diesel pump. He spent Rs 35,000 to buy two sets of diesel pumps without any subsidy, to ensure water supply for his fields.

In not a single case has there been mention of crop failure or loss of production due to lack of water or irrigation. The farmers arranged

assured irrigation for their crop and completely removed the risk of 'drought'. What may be inferred with significant confidence is that this assured irrigation of their fields motivated them to explore agriculture in a big way, without any fear of unavailability of water and the ensuing risk of failure.

Policy Implications: However, the availability of irrigation alone did not propel them to the cycle of prosperity. In most cases, the idea to excel came first, followed by motivation to succeed. The arrangement for irrigation was one of the things that had to be done to pursue the idea. However, if more farmers have to be 'encouraged' on these lines, the creation of irrigation infrastructure would act as a positive, facilitating and enabling condition.

COMMERCIAL VEGETABLE CULTIVATION AS A SECTOR

The next commonality derived from the cases is the gradual shift from the traditional cereal cropping to commercial vegetable cultivation. Over the years, these farmers observed the growth in the demand and sale of vegetables vis-à-vis cereals. They observed the change in the consumption pattern and the food habits of the community, in which vegetables

have become an integral part. They have also realized the margin of profit derived from vegetable cultivation vis-à-vis cereal cropping. Ramanuj Singh says, "The return from one acre of vegetable cultivation is more than that of three acres of cereal crops."

Most farmers plant traditional cereal crops in a major section of their land, devoting one-fourth to half of their land for vegetables. None of the farmers have replaced cereal crops completely. Cereal cultivation provides the family with food security whereas vegetables give them cash income. In some of the cases (especially in Dhamtari) when farmers have taken up the cultivation of cereal crops commercially, the reason seems to be an assured buy-back mechanism run by the government, under the Food Corporation of India's procurement system. The cultivation of wheat and paddy in Punjab and Haryana boomed as a result of the Minimum Selling Price (MSP) mechanisms put in place by the government.

The shift to vegetable cultivation is based on past experience of growing vegetables on a smaller scale, which gradually increased to a sizeable area. All the farmers in the study learned the art of growing vegetables

Balram Sikdar resides in Mukdega village of Raigarh district, Chhattisgarh. He has one acre of land. In this one acre of irrigated land, he grows and harvests pointed gourd, cowpea, chili and bitter gourd during the *kharif* season, and onion and leafy vegetables in summer—earning Rs 1.5 lakhs every year.

Dalbir Singh of Tingudi in Singrauli district, Madhya Pradesh, owns 7.5 acres of irrigated and non-irrigated land. In two to three acres, he grows the traditional cereal crops of paddy, wheat, maize and pulses, which fulfills his yearly food requirements and, in 1.5 acres, he grows vegetables in three seasons, fetching him Rs 50,000 annually.

Santu Oraon, a resident of Gumla in Jharkhand, owns 2.9 acres of agriculture land. He takes paddy in *kharif* and tomato and mustard in *rabi*. For two years he has worked on paddy cultivation by introducing new methods in production. The success gave him a boost and, at present, he has diversified his crops to tomato, brinjal, cowpea, ladies finger in 10—20 decimals each, along with the paddy and mustard.

gradually, with initial instances of small successes and failures. Lodhi Singh Parte of Andhiyadhar village, Mandla district, Madhya Pradesh, grows multiple vegetables at present in 0.5 acres of land, earning Rs 0.53 lakhs annually. He started cultivating initially in 10 decimals with a little profit.

The success helped him increase his acreage. Giriwar of Dindori, Madhya Pradesh, opted to grow vegetables on one acre of his land. Other farmers too chose to invest in vegetable cultivation, in spite of the increased investment required of cash, labour and technology.

Farmers have built networks and have arranged the sources for all the required inputs—good seeds, fertilizers, insecticide and pesticide in advance. They keep themselves updated through various sources of knowledge, to keep their crops safe and to enhance production by incorporating new ideas. Yadunath Gorai and several others are shining examples of farmers, who have managed backward-forward linkages, handled various stakeholders and harvested profit.

The farmers have applied their experiential knowledge to minimize risks by growing more than two or three common vegetable crops instead of one single crop. They have displayed mature analytical skills and understanding of the demand and supply by choosing mainstream common crops such as tomato, brinjal, cauliflower, cabbage, okra, chilli, cucumber and gourd. Instead of growing high-priced niche crops with lesser demand, they have chosen to cultivate vegetables, which have a high demand and moderate but stable rates.

Policy Implications: For small-holder farmers, vegetable cultivation is increasingly becoming

A majority of farmers voice the lack of timely credit as a reason for subsistence agriculture. Surprisingly, the SFPFs studied, neither exhibited this concern for capital nor saw it as a bottleneck in their enterprise

an attractive economic activity because they can use their own family labour unlike large farmers, who need to depend on outside labour for growing vegetables—a highly labour-intensive crop. With the increasing labour costs, vegetable cultivation gives small farmers a strong competitive

advantage. This sector, therefore, assumes strong importance for small-holder farmers. The government needs to evolve facilitative policies for encouraging many more small-holder farmers to participate in this sector.

LAND-USE INTENSIFICATION

Adequate utilization of resources is another common feature widely displayed by the farmers. Unlike some, who remain limited to 150-200 per cent land-use intensity, the SFPFs have endeavoured to intensify agriculture and increase the cropping intensity to 300–400 per cent. In all the cases under study, the farmers ventured to produce summer crops. Traditionally, agriculture is not practised during the summer season mainly on account of the unavailability of water for irrigation and free grazing. Ramanuj and Dalbir Singh of Singrauli district, however, invested in permanent fencing to keep off the grazing cattle. Large investments have been made to build these permanent fencing structures. They are aware of the high market demand and high prices of fresh vegetables in summer and, hence, these measures paid out adequately. They take adequate measures to learn about and follow practices required and necessary during winter and summer. Yadunath Gorai, Ramanuj Singh, Dalbir Singh, Lodhi Singh and others also have nurseries for their crops, to ensure healthy and proper growth of saplings and the optimum utilization of their land.

ACCESS TO CAPITAL

The non-availability of adequate capital is one of the bottlenecks that hinders good agriculture. A majority of farmers voice the lack of timely credit as a reason for subsistence agriculture. Surprisingly, the SFPFs studied, neither exhibited this concern for capital nor saw it as a bottleneck in their enterprise. The SFPFs work out their cash requirements and devise adequate measures to secure it. Drawing support from input suppliers is one of the means that they use. Loans from the SHGs, the local money lenders and, in some cases, support from banks was found.

Most of the farmers predominantly depend upon and use their personal money. They have accumulated savings from previous sales proceeds. The use of personal money is one of the ways to minimize risks. Most SFPFs do not rely on mainstream institutions such as banks for short-term credit. Instead they work out various other arrangements to meet their needs. They clearly stated that bank loans create undue stress and fear. Additionally, it is not assured that even after the complicated procedures, the cash would be available on time. Hence, their reliance is never on banks for short-term credit. Only Yadunath Gorai, of the farmers in the study, has managed to build a relationship with the banks and drew credit to the tune of Rs 1 lakh for his requirements.

Some of the measures adopted by the farmers for arranging and use of capital are:

- ♦ Planning their purchasing so that the cost is spread out over time. Initially, the cost of seeds and fertilizers needs to be incurred. The other inputs are bought as per need and the stage of the crop.

Most SFPFs do not rely on mainstream institutions such as banks for short-term credit. Instead they work out various other arrangements to meet their needs

- ♦ Purchasing all the required inputs in bulk for the whole season is also practised. Ramanuj Singh says that he plans for, purchases and stores all the inputs in March–April.
- ♦ Devising a combination of crops in such a way that the first crop starts giving early returns and takes care of the cash required for the coming expenses.
- ♦ Using personal money and some credit from the input suppliers.
- ♦ Establishing a system under which the cost of inputs supplied on credit is deducted from the sale of the harvest (as in Yadunath Gorai's case)

A point of concern here is whether people, in such a situation, who operate at such a low economic scale and have to divert their money for capital-intensive activities, are compromising on essential family investments or larger consumption expenses. What happens to family expenses when farmers divert personal resources for commercial farming? This subject needs deeper study.

Policy Implications: Clearly, small farmers hailing from the rain-fed areas, in spite of a proven track record of earning assured large incomes, do not find mainstream banking a reliable support. This is an important area for awareness and response from the banking system. What are the demand and supply characteristics of credit here? Do these farmers have to either draw on their own meagre resources or resort to moneylenders?

ACCESS TO KNOWLEDGE

The findings revealed another area of commonality among SFPFs. The quest for

acquiring new information and technology concerned with their work is significant among these farmers. They are the first ones to attend any meetings, demonstrations or training conducted by government authorities, seed companies or NGOs. They meet seed sellers, agriculture officials, scientists and seed company officials; and visit shops, Krishi Vigyan Kendras (KVKs), etc., frequently enquiring about new information, problems that may arise and issues that others may have faced. They have established a working relationship by constantly being in touch with these persons and institutions for information. Their fields have the finest crops, where new technology has been used, best available hybrid seeds and fertilizers procured, the latest and most effective insecticides and pesticides utilized. The study shows that input suppliers are the most important actors in disbursing knowledge and information. These input suppliers may be used as sources of extension of knowledge on the ground, of course, with adequate checks and balances.

Another significant finding from the study was that the massive agriculture extension system does not factor in support for these SFPFs. The government machinery in these remote areas is either non-existent or dormant. It acts only as distribution points for some inputs, especially seeds. The role of the government for disbursing technical know-how needs to be devised afresh.

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The SFPFs conduct frequent experiments based on popular intuitive agronomy. The objectives of such experiments are:

- ◆ To test some specific seeds
- ◆ To adopt a new crop in the area
- ◆ To introduce a new technology in farming practice
- ◆ To increase yield
- ◆ To learn to test systems and practices in order to lower risks

The costs of all such experiments are borne by the individuals themselves. The risk too is borne by farmers. Such experiments, evidently, help in boosting the confidence of these farmers.

LINKAGE WITH MARKETS

The places where these small and prosperous farmers are located are quite remote and not usually connected with the markets where they need to sell their crops and produce. Yet, all of them have developed functional linkages with the inputs and output markets. Initially, they began by selling the produce themselves in the local market; slowly, as the volume increased, they were able to attract traders and, through them, sold their produce to distant markets. Although they did not have any prior exposure to the markets, they soon identified suitable people and connected with them; they first established linkages with the local market players and soon connected with distant markets. They quickly sensed the limitation of the local markets, and to overcome the chances of glut, they keep searching for new markets.

All SFPFs have a very good relationship with the input and output traders, who help them with information about prices, trends, new products and credit. Sometimes, they also collaborate for mutual benefit, using each other's strengths. Whether they are the farmers in Odisha or Jharkhand, they have all appreciated the role of markets for earning money and have actively linked with them.

Evident also is the fact that unless there is a volume attractive enough for the market, it is not possible to build an effective relationship there. To achieve this, they are increasing the area under vegetables (personal or leased) or collaborating with other farmers (in all cases, the scale of production in 2 to 5 acres, grossed crop area or more, is critical for prosperity).

All the farmers have experienced price fluctuations (Rs 2—25 per kg) and learned from these. They are more alert to price trends and respond to them by producing more when the prices are high and by avoiding crops that are consistently getting lower prices.

For the sale of their produce, they rely on market players such as traders, except Ramanuj Singh from Singrauli, who prefers to sell his produce himself because he gets a good price, and Yadunath Gorai from Jharkhand, who functions in a group and takes the responsibility of marketing and inputs.

Entry into larger markets/Agriculture Produce Market Committee (APMCs)/Barriers on Borders, surprisingly, was not mentioned as a hindering factor by these farmers.

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These farmers appreciate that the markets are real. They have understood the nature of markets and do not complain of price fluctuations; they have, instead, learned how to make use of them and use their superior knowledge of markets to make modifications in crop choices and timings

markets and do not complain of price fluctuations; they have, instead, learned how to make use of them and use their superior knowledge of markets to make modifications in crop choices and timings.

For information related to new products, practices and troubleshooting, the market plays a crucial role (the input suppliers are important sources of information on inputs and

troubleshooting; the output traders are sources of information regarding the quality of produce required in the market, the prices and trends). The farmers acquire information from the product literature provided by input companies, discussions with the traders participating in training programmes, and exposure visits organized by the input companies, etc. A good relationship with the market players also helps them to source quality products, though sometimes at higher prices, if taken on credit.

Policy Implications: How do we bring the market to the producer? Or do we rely on his/her enterprise to work around various constraints and risks and develop these linkages?

Relationship with the Government

The role of the government is not evident although, in some cases (Odisha and Madhya Pradesh), the irrigation infrastructure (wells, check dams, lift irrigation points, pump-sets) that have been set up by the government have helped farmers. Similarly, programmes such as MGNREGS, WADI and Watershed development have helped farmers develop their land resources (bundling, levelling, fencing, orchard development, etc., in Madhya

Pradesh and Chhattisgarh). Also evident is the fact that when these farmers are successful, access to government schemes such as the Kishan Credit Card (KCC), irrigation infrastructure, subsidies, etc., becomes easy. Either government officials come searching for them or they become confident in approaching and dealing with the government. Access to government schemes also becomes easier if an NGO (like PRADAN) is working in the area; PRADAN has helped them access the benefits of schemes such as MGNREGS, WADI, and Integrated Watershed Management Programme (IWMP), and lift irrigation, bank linkages, etc. In the supply of agricultural inputs by the government, issues such as timeliness and quality come into play.

The infrastructure created by the government has provided support conditions for some of these prosperous farmers but there was no software support such as effective training or capacity building, which may have enabled them to adopt high value agriculture such as vegetable cultivation. Skills and knowledge, therefore, are very important, in order to become prosperous. Some of the farmers (Sukhdeo) learned this by working in fields of other farmers whereas some of them (Jaleswar, Shankarlal, Jayanti bai, Budhram Munda, etc.) were trained by NGOs; some (Yadunath, Jairam Singh) learned by observation and reflection, and some (Robin Hansda, Yadunath, Subodh Patra, Shyam Sundar Mallick, etc.) learned by studying the product literature, interactions with salespersons, traders, watching agricultural programmes such as *Annadata*.

Policy Implications: Investments in creating irrigation sources and also building their

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land resources are very much in the purview of government programmes. We need to ensure that these programmes reach the deserving communities in a beneficial manner. In addition, there is also a strong case emerging for convergence of programmes and departments.

Risks and Failures

Not surprisingly, none of the SFPFs studied had access to institutional risk coverage mechanisms. Most of them seemed to be completely self-insured—no institutional or community insurance. A factor that seems to have worked in their favour was that all of them were primarily self-financed, which meant that, in case of failure, there was at least no prospect of a creditor looming large on the horizon. The SFPFs seemed to be following a strategy of starting small, building personal savings for capital formation for financing growth, following a multi-crop strategy to diversify risk, and ensuring food security through their land. However, in a risk-prone activity such as vegetable cultivation, farmers would have suffered fluctuations in production and encountered market-related risks. However, post-facto realization was also that this study did not spend enough time on this aspect with the respondents and, therefore, suffers from this limitation.

Importance of Clusters

Most of the SFPFs studied are in the nature of pioneers, the first people in the area to embark on this route. Gradually, seeing their success, others are making an effort to imitate them. These clusters make further expansion easier and allow more sophisticated institutions to emerge, for example, farmers'

groups, commission agents, institutional buyers, etc. Another point that needs to be noted is that what works for one need not work for another. While studying Nityanand and Cohort in Keonjhar district, Odisha, clearly, Nityanand, an OBC, made the transition; however, the other two Munda farmers from a similar milieu dropped out and are working as wage labourers in an urban market. Probably, more hand-holding is required or some more research is required on people within a community, to understand the phenomenon of dropouts better—and what makes for success and failure.

Role of NGOs

The case studies cover both the NGO-supported and the self-driven farmers. Some exceptional farmers have just taken off and gone on a growth spiral and have reached great heights. Could these exceptions become the rule? In many of the cases, the motivational as well as knowledge and skill building support was provided by NGOs, particularly in isolated areas. NGOs also played a crucial role in helping small farmers access different government schemes to create infrastructure such as irrigation, WADI, watershed development projects, etc. They have also helped small farmers meet food sufficiency through increased food-grain production programmes and have developed the skills of the farmers for high value agriculture such as vegetable cultivation.

The quest for knowledge, a keen observation and reflection are common characteristics exhibited by all the small prosperous farmers. PRADAN believes that these skills can be developed and nurtured through well-designed observation and reflection processes. Because NGOs have a long-term presence and

None of the SFPFs studied had access to institutional risk coverage mechanisms. Most of them seemed to be completely self-insured—no institutional or community insurance.

a working relationship with the small and marginal farmers, they can help small farmers acquire these skills in two to three years' time and become prosperous.

NGOs can also play a role in establishing production clusters. They can help organize clusters of vegetable/high value crop production, which will help in the development of a high level of entrepreneurship in the area.

Policy Implications: There is an important lesson for agriculture extension departments here. Extension in agriculture is not just about transfer of technology or knowledge in a top-down manner. It is about understanding the situation of the farmers and responding to the special needs they may have. It is about building their confidence and helping them to take risks. It is also about converging resources from many departments and institutions so that a wholesome response can be provided. Till such a thing happens, agriculture will remain captive to the vagaries of nature and the markets.

Some of the special qualities of agri-entrepreneurs are:

- ◆ Passion for agriculture
- ◆ High aspiration, ambition for high incomes
- ◆ Keen observation and reflection
- ◆ Constantly scanning for new ways to increase profits—new markets, new crops, new practices, field experiments
- ◆ Common sense and street smartness
- ◆ Exceptional capability to be good at managing a number of things (farm management, market, inputs, labour management, market orientation, quality consciousness)
- ◆ Exceedingly hardworking

Conclusion

All traits of a successful SFPF are very similar to that of a successful entrepreneur in any field. Because the study focused on SFPFs, the focus of the study was not on what kind of replication these farmers would be able to stimulate or inspire in the area. That might have also thrown more light from an interventionist perspective. The people who are to follow may not be required to possess the same levels of enterprise or need to invest the same effort in the initial cost of research, experimentation and market search and development. The threshold barriers may be lower for those who follow. This is an extant gap in the study, on hindsight.

Lessons for PRADAN and other stakeholders

An appreciation for the prosperous farmers in the project villages needs to be developed and

interactions with them from a learning point of view be enhanced because there are many lessons on entrepreneurship that these can provide. Several questions arise: How can we leverage exceptional qualities and success of these SFPFs for gains for the larger community? How do we facilitate social learning, replication and emulation? Sometimes it may happen spontaneously as with Yadunath. What can we learn from these examples? In the poorer areas, the adoption of the SFPF practices will not happen by default. It will require designed interventions, eco-system approach, and linkages with appropriate institutions and markets. Alternative implementation models for diffusion of new practices—the cluster approach—needs to be studied. Is it possible to look at a collaborative enterprise between the better-off farmers and the budding new farmers and evolve a win-win arrangement?

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On the Path towards a Just Society: Challenging *Jati Panchayats* and the Dowry System

RANVIJAY KUMAR

Defying the jati panchayat's decision was momentous for the women of DMMS, who, through their SHGs, are realizing the power of collective action in shattering age-old domination structures and in moving from passive acceptance to quiet assertion of their rights

The story begins with the General Body (GB) meeting that was held in May 2013 in which the members of the Damodar Mahila Mandal Sangh (DMMS) Federation passed the following resolutions.

- All members of DMMS, Koderma, will stop practising the dowry system because it leads to high cash transactions during marriages and puts a heavy burden on the bride's family.
- DMMS members will not participate in marriages wherein cash transactions have taken place, especially if the women of the family are members of the Sangh.
- DMMS members will promote marriages in which no exchange of dowry takes place.

Two days before the momentous day of June 8, members of DMMS heard about a *jati panchayat* meeting taking place regarding a marriage proposal between Sunil Kumar Rajak and Priyanka Kumari, both from Jainagar. Sunil's family told the women members that the 24-year-old had been earning his living by taking tuitions in Koderma for the last three years whereas Priyanka, 21, was a B.Sc. II year student. They had met two years ago in the college campus and had fallen in love. Nearly a year earlier, Priyanka had told her family that she wanted to marry Sunil. When her parents met him, they liked Sunil. They decided to place the matter before the members of the *jati panchayat*. And if the *panchayat* agreed, the proposal would be carried forward.

The *jati panchayat* members interacted with both the families and others from the *jati* and after some deliberations came to the conclusion that both Sunil and Priyanka belong to the same *gotra* and are, in effect, brother and sister! Thus, a marriage between them could not take place. The news spread throughout the *jati* and made things difficult for the young couple.

Priyanka's marriage was twice arranged elsewhere; both times she called it off saying that she would not marry anyone other than Sunil. These incidents made her parents angry and her family began to torture her by not giving her food, locking her in a room and not allowing her to communicate with anyone outside the family. Six months passed and her marriage was once again arranged with the help of the *jati panchayat*. The date for the marriage was fixed. It was to take place on the 13 June 2013. The *mukhiya* (head) of the village took Rs 5,000 as commission from Priyanka's family for finding the prospective groom.

The *jati panchayat* held several meetings on the issue. Each time a meeting was called, both the parties had to give Rs 500 rupees to the *panch* as '*panch kharcha*' (expenses of the *panch*). In every meeting, both the families were warned about the dangers that they would have to face if they dared to go against the decisions of the *jati panchayat*. Priyanka and Sunil were also called to the meetings and were pressurized to say/write that they would marry whoever was chosen by the *panchayat*. But Priyanka stuck to her decision of marrying Sunil and Sunil's decision was that if Priyanka and his parents agreed, the marriage would take place.

In every meeting, both the families were warned about the dangers they would have to face if they dared to go against the decisions of the jati panchayat

In spite of the pressure from the *jati panchayat*, Priyanka's parents approached Sunil's parents to let the marriage take place because they were fed up with their daughter's stubbornness. The problem became aggravated when Sunil's family demanded Rs five lakhs in cash and a gold chain as *tilak* (dowry). The excuse given by Sunil's family was that because the *jati panchayat* was against the marriage, the *tilak* would be needed to bribe people. Hearing this, Priyanka's family backed out of the offer.

On 7 June 2013, some DMMS members heard that a final meeting had been called for that day by the *jati panchayat*. The Sangh called a meeting before the *panchayat* met, to discuss what they could do to resolve the issue. Some of them went to meet Sunil and his family.

When interacting with them, Sunil said that although he loved Priyanka, he knew that the *jati panchayat* would never agree to their marriage. They asked him that if he would be ready for the marriage if he were assisted by the women of the Sangh. He hesitantly said yes. They asked his mother if she would be ready to get her son married to Priyanka without the *tilak*. She too said yes, adding that she would accept whatever *tilak* they gave and would not demand Rs five lakhs.

The next step of the DMMS members was to meet Priyanka and her parents. Initially, they were not allowed into the house; however, one of the members was a relative of the family and, therefore, they were invited in. Priyanka said that if she were not allowed to marry Sunil, she would commit suicide. She said that she had made this clear to her parents as well

as to Sunil. Priyanka's mother said that she just wanted her daughter to be happy. She cried that she could no longer bear the plight of her daughter. Priyanka's grandmother and aunt said that Priyanka would have to listen to the *jati panchayat*, "She is a woman and should learn to obey." They said that they would not allow Priyanka to get married to Sunil, no matter what. Both Priyanka's and Sunil's families were then invited to the Federation office for a meeting, to try to reach a consensus.

When the *jati panchayat* members heard about DMMS's intervention, they were angry. In the *jati panchayat* meeting held that night, they warned that both the families would be given stringent punishment if they listened to the women. The *jati panchayat* leaders remained in the police station throughout the night trying to influence the police officers.

The next morning, the families did not appear for the Sangh meeting. Two members went to Sunil's home and two to Priyanka's to call them for the meeting. Although Sunil came, his parents did not and Priyanka's relatives did not allow her or her parents to come to the meeting, saying that they did not need the help of DMMS. Priyanka, however, waved from the window of the room where she was locked and said that she needed help. The DMMS members went to the police station for support but the police were busy with an external visit. They promised to be there in the evening.

Taking stock of the situation, DMMS members realized they could not wait for the police and decided to take action there and then. Within an hour, nearly 250 members from different villages got together and sat in *dharna* in front of Priyanka's home, demanding her release

In the jati panchayat meeting held that night, the members warned that both the families would be given stringent punishment if they listened to the women

and seeking support for her from the family. Most of the members were on an empty stomach because they were celebrating the festival of '*bar puja*' and had come forward for the cause, leaving behind the *puja* being conducted in their homes.

There were heated discussions from both sides. After a lot of effort and struggle, DMMS members were able to convince Priyanka's parents to break the barrier and come out. In a hurry, clothing was bought for the would-be- bride and groom. Two pundits were organized for the event. The venue for the marriage was to be the temple inside the Jainagar Police station premises. The decision to organize the social marriage instead of a court marriage was taken to let society know. Consent letters were taken from both the families before the marriage was conducted.

DMMS members sang songs, danced, helped in the rituals of the marriage and distributed sweets to all. The parents of the bride were initially not allowed by the *jati panchayat* members to go into the temple for the marriage rituals but on the insistence of the DMMS, they came in and participated.

Against all odds, 40 young girls (aged 15–20) also participated in the marriage through PRADAN's efforts. The news spread like wildfire throughout the district. After the marriage, some Community Service Providers (CSP) met the couple and counselled them. After a day, they were taken to the court to have their marriage registered.

This victory over the *jati panchayat* has, on the one hand, strengthened the hands of the DMMS and the people, who want a society free from the unjust decisions taken by the former as well as the evils of the dowry system.

On the other hand, DMMS members are being threatened with violence by some of the *dhobi jati samaj* members. Some goons went to the houses of some DMMS members to threaten their families. However, as is said, "God helps them those who help themselves," has been proved. The road was full of hurdles; yet, once the DMMS decided to walk on it, nothing could stop it from attaining its goal.

Within an hour, nearly 250 members from different villages got together and sat in dharna in front of Priyanka's home, demanding her release and seeking support for her from the family

regularity of meetings, attendance and book-keeping, establishing linkages with banks, creating livelihood options, and building financial services such as maintaining books of account, thereby strengthening the functioning of SHGs.

In 2006, PRADAN's Koderma team separated from the Hazaribag team. Considerable expansion and nurturing of the SHGs was carried out in Chandwara block and a small part of Jainagar block. The first federation was formed in 2005 in Telaiya whereas the second was formed in Jainagar in August 2011, under the umbrella of DMMS.

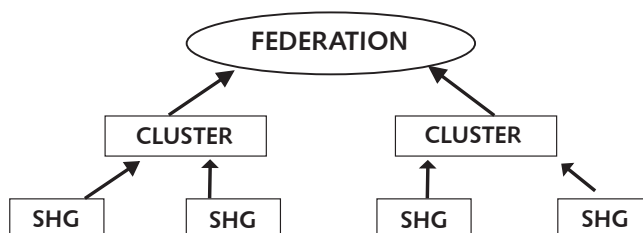
DAMODAR MAHILA MANDAL SANGH

The journey of the DMMS began in 1991–92 from Titirchanch and Jamukhandi villages, where PRADAN helped start self-help groups (SHGs) of women. The path was not easy, especially in a male-dominated society, in which women were viewed as home-makers only.

The condition of the families in those days, especially that of the women in these areas, was pathetic because the construction of the Tilaiya dam led to their displacement from their homes to resettlement in the area. As time passed, SHGs expanded to other parts of the undivided Hazaribag district. The focus of SHGs during the early days was on maintaining

Looking back at the condition of the people in areas where SHGs, clusters and federations now flourish, it is immediately evident that the poor economic condition of the people was due to lack of livelihood opportunities, high migration of young men, debts owed to moneylenders, poor health status, lack of general awareness, confinement of women to household chores, nearby wells and jungles for collection of firewood, poor quality of education and low literacy rates, alcoholism, domination of men over women, gender discrimination in all spheres of life, lack of

Figure 1: The Three-tier Structure of Operations of DMMS



- SHGs are functional at the hamlet and the village levels. Clusters are formed at the *panchayat* level and federations work at the block level.

accessibility to government schemes by the community, high level of corruption in government offices, etc. The upper caste people dominated over the women and the weaker sections.

The SHGs gave its members the forum and the opportunity to discuss their personal issues as they sat together in the group meetings. There have been instances when SHG members have helped each other through collective measures. These have paved the way for widespread 'gender-action' by the women.

The last two years have been quite busy for DMMS because it has decided to walk on the roughest terrain—challenging patriarchy and, thereby, the norms of society that was being followed blindly by all. People are being sensitized regularly at the SHG, village and block levels, the *Panchayati Raj* Institutions, the health department, the local police officials, the education department, the legal department, District Rural Development Authority and other stakeholders.

Significant changes have been made at the self and family levels by DMMS members after they receive training, attend meetings, etc. They are challenging the patriarchal society and gender-based inequality, understanding and resisting violence against women, creating awareness on health and hygiene, and building relations and working with the different government agencies. Various methods such as institutional mapping, theatre of the oppressed, modules for training of the SHGs through songs, games and exercises have been used to spread the

DMMS members sang songs, danced, helped in all the rituals of the marriage and distributed sweets to all

message and make people aware. The issues of violence against women are discussed regularly in SHGs, clusters and villages. Cases are heard in the three *Nari Adalats* in the district,

set up with the objective of providing justice through gender perspective. *Anganwadis*, the public distribution system, village health and sanitation committees, village water committees, school committees and primary health centres are all being monitored by SHGs and their review is conducted by the clusters. The two-day cluster *adhivesans* and the two-day *mahaadhivesans* have also played a great role in conveying the messages of equality and solidarity in the community and among various stakeholders through games, plays, etc. Influenced by DMMS, the District Collector, the Superintendent of Police, the Judge and the Deputy Chairman of the District Board have attended federation meetings several times, appreciated the work done by DMMS and encouraged members to keep moving forward with the same zeal and courage.

Of note is the fact that women from this area are ready to risk challenging their iniquitous situation. Their energy is being tapped positively for collective action, and instances of DMMS members uniting and acting to break the patriarchal norms of society is steadily on the increase. Recently, DMMS members have organized rallies and campaigns against liquor consumption with regular follow-ups. They have participated enthusiastically in the 'One Billion Rising' campaign, counselling victims of domestic violence. And most recently, on 8 June 2013, DMMS members arranged a social marriage, defying the *jati panchayat's* decree.

Challenges of Livelihoods in Difficult Tribal Regions: Understanding Markets

K.S. GOPAL

Underlining the fragile plight and future of the tribal people of the country, the article advises that the tribal community, its welfare and growth be included in the planning and implementation of development activities, schemes and projects

The promotion of livelihoods in rural areas is centred, dependent and driven to serve mainstream markets or to grab a share of them. Rapid market integration and the opening of trade and investment frontiers to globalization are leading to a drastic transformation, often with brutal consequences. Markets today are complex, with advantages skewed towards big corporations with deep pockets, product/technology domain expertise and are based on their attendant perceived standards. New forms of pricing, large volumes with short margins, technology innovation and market domination, including cartels, determine market entry, market share and profits. The market is increasingly controlled by big players; producers have little or no option but to serve the needs of these players and use their channels and are thus rendered powerless to negotiate.

Whereas economies are growing, the imbalanced income and earning distribution is leading to a stagnant demand. The worst-hit area is agricultural commodities, the demand for which is inelastic. Income opportunities for a large mass of people are declining due to technology because the focus is on higher productivity with lower manpower. With most people looking for livelihoods and employment incomes, purchasing power remains with a few, affecting those producing and offering demand-inelastic commodities. This inequality is being addressed by creating social safety nets using the Keynesian logic of putting money in the hands of the people. However, this does not solve the problem because the aim of Keynes was to manage the economic vicissitudes of capitalism and not to address its crisis origins or to widen livelihood opportunities.

The focus in livelihoods promotion is, therefore, to supply or to add value to a product by going up the chain with a higher value offer for better price realization. For example, a farmer producing groundnuts may be asked to first take out the shell before selling it or to join a producer company to convert it into oil. Poor farmers offer generic goods at cost plus price, whereas companies earn higher margins through branding. Brands dominate the market and the buyer behaviour, leading to multiple approaches to price-based surplus extraction.

DISTORTIONS

This scenario explains market entry, access and staying power aspects. However, the production of real goods and services is increasingly dependent on complex multiple variables such as credit and risk, financial investment modelling, taxation, technology platforms, intellectual property rights, cartels, labour laws, etc. These have a profound and an invisible influence on product prices or the surplus generated by economic activities. The product market value, pricing and purchase, thereby, are influenced by factors that rest elsewhere and are not necessarily intrinsic to the product. This impacts the exchange equations among economic sectors and the 'terms of trade'.

We also witness shifting of the cost burden to the environment, labour and women. Finance drives market integration and globalization and dominates the overall factors of production and exchange. Livelihoods, today, call for negotiating the political economy and the challenge is to calibrate how people can engage the market, rather than how the market engages them.

Let us take a look at some of the outcomes of globalization, for example, the exchange rate of the dollar vis-à-vis the rupee. In the past 60 years, the dollar has gone up 20 times. The reason given for the increased global oil prices by the Organization of Petroleum Exporting Countries (OPEC) was that water, a supposedly free commodity and occupying three-fourth of this planet, was being sold at prices higher than that of a litre of petrol, a finite resource; facing a 'choice', Malaysia, a country well-endowed with forests, posed a question to the world as to why it must not cut

Income opportunities for a large mass of people are declining due to technology because the focus is on higher productivity with lower manpower

its entire forests, sell the wood and put the money in a bank because the earnings from the bank deposit interest were much higher than the retail selling of forest products.

Thus, the market of a product is determined by money, finance capital and technology rather than the real goods and services coming from the natural resource endowments and human effort. The financial sector plays such a major role in the markets today that even the central banks are helpless. Yet, mainstream believes that the market mechanism has self-correcting capacities. Nicholas Stern called global warming as the biggest market failure. It is for such reasons that Gandhi rejected the European growth model with one simple explanation: if the whole of India and large parts of the world is in fetters, to keep affluent a few million English people, where would India go with its large population but to ruthlessly subjugate mankind all over the world.

The fundamental driver of the emerging market economy is 'spend', leading to conspicuous consumption and wastage. Let us look at how national accounting handles data regarding this aspect. Statistics tell us that 30 per cent of the food grain produced is rotting because of ineffective market chains. Preventing this wastage is given as the compelling reason to invite foreign investments in retail. How is the data calculated, however? It begins with the producer and ends when the commodity is sold to the final buyer or the consumer. What is not accounted for is the wastage by the consumer after its purchase. A recent study in Europe showed that 44 per cent of tinned food items purchased in the supermarket transit to the buyer's refrigerator only to be dumped a few days later into the nearest garbage dump.

THE TRIBAL EXPERIENCE

The focus of this article is on the opportunities of livelihoods for the tribal people—the most deprived in India. The remote tribal areas have become the focus of attention because corporations and market players are enviously eyeing the immense natural resources found here. There is resistance to the exploitation of these natural resources from the tribal people, with some communities taking to arms and the Prime Minister calling it India's number one internal security challenge. The region of review here is Dandakaranya that spans many states and is inhabited predominantly by tribal people.

Indian policy makers have acknowledged that the tribal communities have suffered a historical injustice. For instance, large tracts of forests were cut down to build the Indian railways so that the British troops and commerce could move swiftly. 'Development' of tribal areas is solely extraction-centred, leaving the people in squalor. Irrigation water, hydel power and mineral wealth are all extracted from the area for voracious consumption elsewhere. There is an absence of a local elite or enterprise, which has a stake or a say in the development. Trade and investment is driven and controlled by 'outsiders', who do not build, invest or lobby for social infrastructure such as schools, healthcare, etc., giving the local population no opportunity to participate in the rising economic activity in their region. Once the resources are extracted, firms leave the areas, closing down the schools and hospitals they built when the mining was on.

Non-timber forest produce (NTFP) is a unique resource of the tribals that could have had a

The market of a product is determined by money, finance capital and technology rather than the real goods and services coming from the natural resource endowments and human effort. The financial sector plays such a major role in the markets today that even central banks are helpless

competitive advantage; yet, it saw no product or market development. Its management was vested with the forest or tribal department, the primary interest of which was to earn revenue for the state. Thus *beedi* leaf, a unique product and a major source of income of the poor, gave way to competitors making cigarettes. Leaf procurement was vested exclusively with the forest department, which did not

expand the area or productivity, and *beedi* rolling remained reserved for the small-scale sector with no capacity to develop brands or fight the onslaught of competition from large cigarette makers. Consumers shifted to cigarettes and *beedi* saw a shrinking market share and lost its competitive advantage. Restrictions on cutting trees led the paper industry to shift to substitutes, import pulp or have captive plantations. Bamboo cutting is not allowed. Poor marketing and unsustainable tapping practices have led to dead gum karaya trees.

The tribal people are, therefore, wary of the mainstream development approach. They pick forest produce from the forests and practise subsistence farming. They allow water to flow through their lands. Forests serve to construct a house, cook food or make simple furniture. Marketable surplus is kept low and seasonal. The area has no basic amenities such as electricity, piped water, higher education and quality manpower. Officials of the administration and other professionals do not want to work in such places, leading to an absence or poor availability of government services and little administration outreach. The tribal communities prefer 'autonomy' rather than dealing with distant markets, being apprehensive of its players.

EMERGING REALITIES

The corporate business leader of today is under stress, they are expected every three months by the stock market to deliver. If companies were to take a long-term approach to investment, they want high assured returns. To mine minerals or generate hydel power, companies want resource monopoly and want to be assured of protection from market risks and volatility or sovereign guarantees. In most instances, they are governed by international contracts where all arbitration is out of the country and where Indian laws are not applicable. The government is desperate for royalty and the politicians are happy to 'negotiate'.

If high income potential is in the medium term, the dice is thrown differently by corporations. They want subsidies and tax concessions. If the market for a product is to be tested or is likely to mature over time, they use intermediaries to reduce the transaction costs. Virginia Tobacco was among the first to come to these high altitudes, and once product quality value was demonstrated, India Tobacco Ltd. stepped in to monopolize this unique flavour premier tobacco. Once the product becomes market viable with scale potential, companies bring all their might to capture and redirect resources to serve their business. It is somewhat like we see in the cities: A poor vendor puts up kiosks or a push cart to sell eatables. As his business grows, other shops follow and the push cart becomes a traffic nuisance. Zoning follows and this gives way to supermarkets that is followed soon by malls. The poor risk and explore new avenues for a living while the rich players harvest the opportunity.

Indian policy makers have acknowledged that the tribal communities have suffered a historical injustice. For instance, large tracts of forests were cut down to build the Indian railways, so that the British troops and commerce could move swiftly. 'Development' of tribal areas is solely extraction, centred, leaving the people in squalor

The corporate sector also harvests the purchasing power of the tribal people. For example, the people are introduced to and encouraged to use a paper tea sachet; this big early success is followed by promoting the use of plastic because it is easier to transport, has a longer product shelf life and can be made to affordable sizes. Corporate players are in 'sync' with market opportunities emerging from technology. Thus, the *adda* leaf has given way to plastic and paper plates. The worst affected by these marketing strategies are products that use nature as the production base whereas, in other instances, the costs are passed off to the environment. It is here that the tribal people face big challenges.

The issue for livelihoods promotion is: how should the tribal people play the market and occupy space that can enable them to develop an agenda of enhanced and sustainable livelihoods, based on their capabilities, culture and the natural and human resource potential of the area? The task of a livelihood intellectual is to find ways to use the market play and government policies, and make them beneficial for tribal communities. This will help develop human capacities and the competitive advantages of their natural resource endowments, which will, in turn, serve and develop livelihood opportunities for the local people.

There is another aspect to be borne in mind and that is with reference to the growing Indian population. Whereas some people in India move to urban areas seeking opportunities to work, many head to tribal areas which have productive land and water resources, with sparse and thinly spread population. However,

in these areas, the Tribal Land Protection Law is in place to protect tribal communities. With more people moving to these areas, the law will have to be changed. One must not forget that this is the place where most of the refugees from Pakistan, Tibet, Bangladesh or Sri Lanka have come and settled. In a recent TV interview, a Chief Minister of a tribal-dominated state was asked, "Why not allow the tribals to sell their land because that would mean a good income?" The Chief Minister replied that amending and relaxing the land law would mean that the tribals would soon vanish from India.

CENTRE STAGE: THE CITIZEN

The rising demand for natural resources and minerals means that the tribal population will not be able to withstand its fury. The many questions dominating the contentious discussion are: Should the tribal communities alone have the right over precious metals and minerals of global demand that are vital for the Indian economic miracle? Is it not national wealth? Does it only belong to the sons of the soil? Is it necessary to have safe government custody for selective sustainable mining by public sector companies? What is a fair compensation for the locals—alternative land sites, jobs, shareholding, compulsory corporate social responsibility investments or the adoption of least damage-causing technologies?

What should be our response? What follows are the contours of a perspective closer to the tribal approach to life and management of scarce resources—the resource is water, which is the topic of heated discussion on contemporary TV.

The tribal people are, therefore, wary of the mainstream development approach. They pick from the forests and practise subsistence farming. They allow water to flow through their lands. Forests serve to construct a house, cook food or make simple furniture. Marketable surplus is kept low and seasonal

Democratic values and ethics emerged from the struggles of the people for freedom, equality and justice. Democracy, in practice, is voting and the voicing of an opinion and then leaving the rest to elected representatives. Not the ideal situation. Yet 'project democracy' is the only available civilized option for governance. Efforts are on to improve citizen partnership. How should we, then, see water resources in the framework of an evolving democracy project?

The motivation and dynamics of the three key players in the economy—the government, the corporates and the citizens—need to be understood. The government has an insatiable thirst to increase its revenue whereas the corporates are hungry for profit. The citizens want to reach their capability index. Only unhindered and rapid economic growth can bring in and increase revenue and profits. Thus, the government and the corporate sector must necessarily work in tandem, despite respective public posturing. Add to this, the greed that acts as lubricant for the decision-maker, the politician! The current situation to vest ownership and natural resources in the government is a perfect recipe, suiting, serving and safeguarding the shared interests of the government, the politician and the corporate sector. The only option available for the citizen to be heard and his interests to be considered is to vote, and failing that, to protest against the decision-makers.

Water, although scarce, is wasted, and exhortations to conserve it meet with little response. Some technologies are being introduced such as drip agriculture or water recycling in industrial plants. The technology is profitable and saves water but does not

necessarily maximize the use of water. Supplying tanker water in cities and in drought-hit areas is good business and helps the political class and the government to show their gratitude to the community. Some experts have suggested water pricing. However, water cannot be sold at a high price because it would lead to riots, and will not necessarily be conserved or used judiciously by the rich.

To entice industrial investments, contracts for water supply are offered by the government. The volume and the price of water are negotiated by those in authority even though ground water is private property. The water crisis is overwhelming, and the alternatives offered by the government and industry do not address fundamental issues; so citizens give up ownership to the government and then absolve themselves.

It is time that decisions on the bounties of nature such as water are seen in the context of democracy, with centrality to the citizen. So, rather than water distribution, the role of the government must be focused on harvesting and storing precipitation. Ground water must not be personal property, except what is individually or collectively harvested from precipitation. Of the total water harvested and stored, 30 per cent should be set apart for explicitly designed environmental and freshwater fishery commitments, 10 per cent as transfers to water-scarce areas and another 10 per cent as buffer to meet emergencies.

The remaining 50 per cent of the water should be given as entitlement to citizens, with the rights to use, transfer and sell. The entitlements could be built around categories such as

The issue for livelihoods promotion is: how should the tribal people play the market and occupy space that will enable them to develop an agenda of enhanced and sustainable livelihoods, based on their capabilities, culture and the natural and human resource potential of the area?

farmers, artisans and small-scale industries. The quantity of entitlement could be region-based or agro-climate based, and some regions supplemented, to ensure a minimum water requirement. Water transfers could be provided for natural calamities such as droughts. Each entitlement would get, say, a million litres of fresh water annually. In this regime, if someone or an entity wants more than its entitlement, he/she

would have to approach a water entitlement holder and purchase it. The sale and transfer of water could be facilitated by a regional or national exchange board. If someone is in another town, he/she could exchange their entitlement for money. The price could vary, based on the season and the buyer's capacity to pay.

The system can be manipulated through taxation or incentivizing instruments. This would lead to water conservation being a profitable business and would unleash the creativity of a new genre of citizen-driven innovations for conservation, to attain the highest level of water efficiency, rather than profit being the driver. This would change the focus of the water management regime and bring the citizens and conservation to centre stage. Starting with water, it is crucial to take away all natural resources from the government and corporate sector control and hand it back to the citizens. Acts of God or Nature (based on individual beliefs) must not have proxy custody. Natural resources must belong to the citizens. Government tax income and corporate profits must be limited to what can be accrued from the 'acts' of the people. The above is not utopian, but is easily achievable. It can be managed with technology such as

sensors, electronic exchanges, water-grids and unique identification cards. The concept needs detailing and fine-tuning. That is how the tribal people see their natural resources.

THE MARKET HAS ARRIVED

The supply opportunity to the market, especially of generic products and agricultural commodities, will grow rapidly and witness diversifying customer demands. Competition will drive the search for new places with lower prices and product qualities suiting the consumer perception or for its substitutes. With such opportunities and the entry of big players, India will be able to address the difficulties and disadvantages hitherto faced of procuring supplies from the tribal areas. Issues of sluggish market activity, small market players with little money and low ambition, inadequate and poor physical infrastructure, difficulties of procuring sufficient quantities, grading, lack of viable transport volumes with frequency, high transaction costs, etc., will soon be history. These areas will integrate with the mainstream markets due to a demand 'pull' accompanied by the 'push' from the tribal youth, to harvest higher incomes to meet the rising costs of health, education, old age, etc. In short, procuring from the tribal regions has 'arrived'. The challenge for the development activist is to understand, shape and moderate this opportunity as an advantage, with the power to transform livelihoods that meet the expectations of the people, develop their capabilities, retain autonomy, enhance the productive factor endowments and thus shape a development dynamic that secures their destiny.

The task of a livelihood intellectual is to find ways to use the market play and government policies and make them beneficial for tribal communities.

This will help develop human capacities and the competitive advantages of their natural resource endowments, which will, in turn, serve and develop livelihood opportunities for the local people

THE CHALLENGE

The biggest player in livelihoods today is the National Rural Livelihoods Mission (NRLM). It has a direct and indirect impact, in shaping tribal economy. Whereas NRLM has laudable plans and goals, its construct and focus are primarily on women communities: to help them participate, borrow, serve and benefit from emerging market opportunities. However, if implemented, without understanding 'power' and 'equations', it will lead to an

impact opposite to what is intended for the tribal community. At present, markets play a limited role in the livelihoods of tribal people. The activist must seek a larger framework and approach, to deal with NRLM livelihoods platforms.

Two questions are crucial. "How should livelihoods for the tribal people be conceived and constructed?" And if serving and succeeding in the emerging markets is the central opportunity to livelihoods, "how must the markets be negotiated and the productive forces that safeguard their interests, foster their well-being and retain their 'autonomy' be developed?"

This perspective involves tough choices and a deeper understanding of market dynamics. The activist must see her/his task as reshaping NRLM, to serve the tribal people to pursue strong autonomy-based strategies that suit their capacity and culture, and safeguard the natural resource endowment and human capabilities while negating their historical experience. Any strategy must be in sync with tribal human values for modest but assured income expectations and be in harmony with nature.

Old development theories and livelihoods approach will not work because the tribals are angry and helpless at what is unfolding for them. Development investments whatever, their origin—government, donor or corporate social responsibility—are driven by the consumer self-interest of the rest of India. The interests of the tribal people, are incidental, whereas, for activists, the interests of the tribal communities must be intrinsic. The activist must understand how to build the competitive advantage of tribals, shape the people's understanding of enterprise and deliver a roadmap where their produce emerges as the key economic player rather than being driven by the market. The task is to help navigate and influence the evolving economic development model and the market dynamics trajectory for the tribal people, to take advantage of the opportunity while keeping away from the attendant threats and risks. One must maximize the potential of their productive resources—human, physical and natural.

Once the cultural and philosophical perspective is grasped, the activist must engage and empower community leaders to plan, participate, negotiate, sharpen and shape their ideas, leading to their development and well-being. When engaging with the markets, the aim must be to have negotiating power, a seat on the marketplace high table and the interests of autonomy of the markets served. So the focus must be to identify and recognize products and processes wherein the local people have a natural, competitive, and unique advantage and capability. The opportunity must be in tune with the specific

The motivation and dynamics of the three key players in the economy—the government, the corporate, and the citizens—need to be understood. The government has an insatiable thirst to increase its revenue whereas the corporates are hungry for profit. The citizens want to reach their capability index. Only unhindered and rapid economic growth can bring in and increase revenue and profits

realities of the endowments of different areas. It must capture and trigger tribal imagination. The key areas to focus on when promoting the livelihoods of the tribal people are autonomy in trading, strengthening the local economy of exchanges through multiple instruments, assuring the deliverance of government social protection and welfare schemes.

It is crucial that work on livelihoods development for the tribal people must start with giving tribals access to all social protection and welfare schemes. This will provide them with their basic necessities; currently,

the people's despicable situation should be a matter of shame for us. The key and challenging task for activists vis-à-vis welfare schemes and NRLM investments is to ensure the delivery of funds with regularity and predictability. This will instil confidence in the people. Otherwise, they will have to go to government offices repeatedly for their payments, which may be a task so overwhelming that they may not follow up at all. The next step would be to help tailor the schemes to suit the requirements of the tribal areas. Key central ministries must have an advisory group to ensure that implementation guidelines take into consideration the specificities and needs of the tribal community and of the personnel serving them. This committee must not comprise academics and bureaucrats alone, but must include activists, field implementation officials, elected representatives, tribal leaders, etc. This includes MGNREGS, the Right to Education, and the food and nutrition provisioning entitlements of ICDS, PDS, Mid-day Meal, pensions for the old and widows, etc.

Nothing succeeds like the timely provisioning of food to gain tribal interest. Innovations must be offered by linking MGNREGS wages to PDS and old-age pension such as the advance wage payment in MGNREGS in Andhra Pradesh.

It is crucial to take away all natural resources from the government and corporate sector control and hand it back to the citizens

Implementation effectiveness is generally sought by adding more manpower but unless complemented with removing the obstacles to decision-making, it will not be effectual. It is crucial to adopt innovative and decentralized approaches to programme management, with transparency and accountability as the hallmark. The risks involved in effective outreach must be taken into account. It is important to be broadly and basically right rather than to seek perfection. The Ministry of Rural Development (MoRD) must not pass on the responsibility to the tribal welfare department or the *gram panchayat*. Those institutions lack resources—both human and financial.

Convergence is crucial but is not practised. Everyone talks of convergence, yet no one provides its 'know-how'. The focus of convergence must include arranging financial resources, harnessing technical capabilities, organizing institutional infrastructure and, above all, viewing and delivering the outcome from the lens of the user or the beneficiary community. One instance of convergence at work, coming by default and albeit with many inadequacies, is the instituting of watershed projects in some states. These have evolved over two decades, aided by a clear definition of the roles and actions of the participating implementation departments, specific budget provisions and oversight aegis by a community-led management body. The task of convergence must begin with schemes administered by MoRD. It has an investment

exceeding Rs 100,000 crores annually and NRLM must be the crucial springboard to start this process and bring in public sector institutions such as banks.

MGNREGS, for instance, is doing poorly in tribal areas

whereas the tribals are desperate to earn incomes. MoRD often shirks its responsibilities, saying the 'guidelines' are flexible. Yet no government official will risk using this proviso. The finance person will strike the proposal down, saying that it is not covered under the guidelines. Let us take the example of crèches in MGNREGS. After discussions with the women and understanding all aspects of managing and keeping the children and the mothers happy, the village was found to be the most suitable place to locate crèches. Despite the government agreeing to suggestions on how to foster and implement the crèche scheme, no one advanced its adoption. The reason, later cited, was that the crèche being an item listed under the heading of 'workplace facility' must be located at the worksite and not the village.

Vizag, a predominantly tribal area where people practise shifting cultivation, won the recent national district award for implementation of MGNREGS. It gets about 1,000 mm of rainfall every year. The officials' claims for the award were their coffee plantations, an alien crop with no consumption value to the tribal. The local communities have no role in its plantation, production, processing or marketing. The capabilities of the tribal people are completely undermined and they are silent, helpless observers, serving, at best, as wage workers at these coffee plantations. It has destroyed their ability to 'negotiate'. The photographs of the greenery around coffee plantations are displayed in Delhi and everyone is happy to see the forest land restored—from the practice

of shifting cultivation to lush coffee plantations. Worse, not a penny has been invested in MGNREGS, to produce adequate and easy access to firewood or housing materials for the local population. The tribal people have lost control over their land.

Once social protection and welfare schemes reach the tribal people, the next step is to identify potential areas of production, which enjoy comparative and competitive advantage (human and natural resources) in the markets, and bring value addition to economic activities. Also necessary is the need to identify the aspects of ease of accessing the markets, in terms of logistics, and tapping market potential at higher levels in the supply chain. We must look at the local markets in nearby towns rather than aspire for large cities. After that, we can plan the steps and invest in aspects needed to create or develop enabling conditions for the economic growth of the area. The production ecology of forest areas must be understood; otherwise the rush to harvest the produce will see a repeat of the demand for timber by the Indian railways during the British rule, leading to the ravaging of forests, and the widespread outrage and anger among the community. MGNREGS can serve to provide the investment for improving the resource infrastructure.

Cash transfer schemes will become operational soon, and subsidies will be distributed directly in cash to beneficiaries, vide their bank accounts. Here too, the big ticket items are cooking gas, fertilizers, etc. Electricity, a state subject, will soon join in. Most cash transfers are market linked to subsidy schemes that are private, efficient and customer-driven such as

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with gas. They serve the middle classes and the urban people. The tribal population cannot access or use them. In addition, welfare schemes implemented by the government have high numbers of exclusion and are characterized by poor servicing. Cash transfer schemes that will, to some extent, benefit the tribal population are government welfare schemes such as PDS and old-age pensions, which constitute a very small amount and hence will provide paltry gains to the tribal people. Development activists must advocate a new subsidy regime that is not budget deficit-

centred but is just, equitable and need-based to the requirements and welfare of the people in these regions. This is a livelihood issue.

In NRLM, a major thrust is financial inclusion and bank linkage. Any business plan, therefore, must meet banks' requirements for them to lend. This compels people to understand enterprise management. The development worker has a major role to play here because the local people have no understanding of the financial system. Experience shows that the poor, as placed now, accept and go along with any government or NGO investment, however irrelevant it may be to them. The task, therefore, is to trigger enthusiasm among the people of the potential of their own project ideas, rather than be led by the lending schemes of the banks. This will happen only when we address tribal aspirations with scope for substantial improvement to their life. Unless the possibility of such a goal were to be shown to them, the people will not put their entire efforts into the project—a basic for any business to succeed.

How does one identify business opportunities? The first step is to list all the possible opportunities and then eliminate some. For instance, we all know that there is a high demand for fresh vegetables. These can be produced in tribal areas, where land has higher productivity. However, the hamlets are dispersed and the region is hilly. Road connectivity and cold storage facilities are lacking. So for areas far into the interior, businesses that focus on procuring and marketing of perishable vegetables will be excluded because it is difficult and risky. The sale of vegetables is excellent if the markets are nearby or transport is reliable.

The business plan should then focus on scheduling the production in order to be in sync with the market and thus avoid getting lower prices or incurring wastage. For remote interior areas, the business plan must be to produce such fruits and vegetables that have a longer shelf life, for instance, jack fruit, gourds or pumpkins.

The poor operate on low profit margins. It is important that the markets they serve are steady and provide an assured income. Risk reduction and stability must be at the heart of determining and developing the business plan. Pricing must not only be cost plus. The aim must be to move higher up on the value chain. The focus must, therefore, be on creative - strength based thinking on business development, taking into account local capabilities, removing or addressing risk bottlenecks and building on comparative advantages. Instead of excluding and eliminating the local seller, his expertise must be used because he has a better business sense.

Old development theories and livelihoods approach will not work because the tribals are angry and helpless at what is unfolding for them. Development investments, whatever their origin—government, donor or corporate social responsibility—are driven by the consumer self-interest of the rest of India. The interests of the tribal people are incidental whereas, for activists, the interests of the tribal communities must be intrinsic

Another aspect is to fully avail of the Forest Rights Act (FRA) both for individual and community *pattas*. This will give a big boost to their ownership and expanse of the tribal territory. This must be followed by measures to enhance NTFP production. The impetus here comes by developing and using technology and methodology for productivity enhancement and for sustainable harvesting techniques. In its absence, business models on existing surplus will not be viable. Whereas all this is possible, a major challenge along the way would be to get banks to invest and lend. There is talk of setting up a National Dairy

Development Board (NDDDB)-type structure for NTFP development and marketing, which might address certain lending and technology development work. However, the experience of government-controlled and managed NTFP produce is dismal. The issue is not the architecture of the institution, although it helps to mobilize certain resources, but of the lack of vision, sagacity, smartness and clarity of purpose that stalwarts such as the Late V. Kurien demonstrated. Under NRLM, the setting up of some tussar producer companies is being envisaged. How the task is understood and the activities unfold will have immense bearing in the marketing of NTFP.

NRLM must not be in a hurry to create market linkages, to serve high value markets. Instead, it must deliver a limited agenda, based on developing the comparative advantage of the produce of such regions. It must develop regional marketplaces and foster local players, to service the market chain. It must promote

the increased circulation of money within the local economy. NRLM must take a long-term approach, to develop the potential of natural resources and the capacities of the people. Its task must be to invest, based on the interests of the tribal people, and promote enabling conditions so that the poor are able to negotiate and avail of benefits of their integration into mainstream markets. Otherwise, the poor will end up at the bottom of the market pyramid, to serve and satiate the urban market appetite.

Conceived and developed properly, the above steps and approach will enthuse and energize the local staff and the tribal leaders, to encourage active community participation. It will address some of people's fears of extraction, exploitation and extinction. It is only when the tribal representatives sit on the high table and negotiate that we can trigger off the processes for the people to successfully participate in and direct the process of inclusive growth—a key national goal.

The paradigm shift, therefore, that needs to take place is that NRLM must pursue a long-term, sustainable, people-centric approach to poverty reduction, deprivation and economic backwardness. Its strategies must aim to improve and create a fair relationship, and balance the terms of production and trade. Centre-staging development with finance as impetus has little relevance to the aspirations and the needs of the people in such areas. The rising power of finance capital and the increasing casino approach distorts development and destroys societies.

Linking with and going up the value chain must be seen in all its multiple facets. It must

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not merely aim at servicing high value markets through big corporations. It must ensure autonomy and control in the hands of the people over the production process and its products rather than the powerful market forces, especially because they are outside the state check, control or radar. For instance, growth demands that we aim for the lowest product cost but

development calls for influencing how the costs behave and the incomes are distributed, thus helping each to rise to its potential.

With few options left but to pursue the rapid growth of the Indian economy and its urgency, India is poised to aggressively penetrate the resource rich tribal areas. NRLM has multiple in-built strengths. NRLM is a mission and not a department; it has a seven-year timeframe, is led by an autonomous body headed by committed young officials, has flexibility in staffing and employs a large workforce that is young, motivated and keen to show results. It partners with village communities and institutions, and enjoys a liberal, open-ended, technical support funding from World Bank.

Promoting livelihoods is not just a simple issue of putting together resources and capacities such as human, financial, natural resources and technologies. This approach may help a select few in joining the market bandwagon to gain advantage; only a few tribal people will benefit from it. A rich and full harvest will occur only when the political economy compels markets and institutions, to fulfil democratic aspirations of a just and egalitarian society, which reaches and serves the last man, as sought by the Father of our nation.

Organic Farming in Balaghat: Power to the Community, Power to the Farmer!

CHANDAN SARMA AND PANDIT ARJUN

Exploring the possibilities of introducing and implementing organic practices in several villages has resulted in better yield, higher income and an exponential increase in the confidence of women engaged in organic farming, raising hopes for greater economic stability as well as gender equality

INTRODUCTION

The National Organic Standards Board, based in the USA, provides a succinct definition of organic agriculture: a practice, which comprises an ecological production management system, which promotes and enhances biodiversity, biological cycle 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.

The Balaghat team of PRADAN was set up in 2008. The team is currently working in two blocks—Paraswada and Balaghat Sadar, with the Schedule Tribes (ST) such as the Gonds, the Particularly Vulnerable Tribal Groups (PVTG) such as the Baiga, and Other Backward Castes (OBC) such as the Pawar, the Marhar and the Ahir communities. The outreach is 6,200 families in 150 villages, covering 500 SHGs. The area has about 60 per cent forest cover and an undulating terrain. Low accessibility and widespread poverty are the characteristic features of the villages in which PRADAN is working. The average land-holding of the community is about 1.5 acres.

The team has been exploring the possibilities of introducing and implementing organic practices in patches since 2009. Usually, traditional chemical practices, especially in paddy-based intervention, were promoted. In vegetable cultivation, the approach has been more in tune with the organic way, as already practised in this area (vegetables grown for consumption purpose by the community). Based on the outcome of these experimentations in various villages, the team's approach to agriculture has undergone a radical change, with a complete shift in focus to the organic process.

The reality is that during the past decade, the change to chemical methods in the agricultural practices in this area has resulted in the loss of indigenous seeds and has increased dependency on external forces. With this change, the influence of the woman of the family in the agricultural activity has greatly diminished. The introduction of organic farming, it was believed, would, perhaps, facilitate in rectifying this situation.

At the core of organic agriculture is sustainability vis-à-vis economic profitability and social equity (farming independency). All three terms needs to be explored to understand the urgent need of a different way of practising agriculture in the area. As defined by D. Rigby (University of Manchester) and D. Caceres (University of Cordoba), in their study on sustainable farming, agricultural sustainability rests on the principle that we must meet the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability can be a tricky term. For example, if an irrigation facility is used for farming (using coal driven electricity or oil, which in the long run is exhaustive), the concept is weakened a little. But our observation and assumption is that chemical agriculture not only causes health hazards and depletes the natural environment, thereby diminishing the ability of the future generations to meet their needs, but also forces the farmer to be dependent on external market forces for sustenance.

Economic profitability is often cited as the reason for the non-viability of organic agriculture. However, based on our intervention with the farmers of this area, we found, as is discussed in this article, the margin of profit in

Traditionally, the community in the area cultivated vegetables for personal consumption using totally organic methods. In paddy, Di-Ammonium Phosphate (DAP) and Urea along with organic matter was used

organic agriculture is comparable to that of chemical farming, if proper scientific techniques such as seed treatment, line-to-line sowing, etc., are followed. And with reduced input costs and greater health safety, the economic benefit outweighs the loss that occurs for a season or two due to the shift.

The third and the most critical aspect of organic farming is the control of the community on the farming process. The community in this area had been practising farming without much dependency on external market forces since the dawn of civilization. However, in the past few years, there has been a huge transition from independence to complete dependency on the external market, especially in paddy and vegetables cultivation—right from the procurement of seeds, to fertilizers and pest management. The situation is so critical that today, right before the *kharif* season, we find the agents of the companies, at the decentralized village level, competing with each other to sell seeds. The prices of chemical fertilizers and pesticides have shot up rapidly in the past few years, forcing the farmer to struggle for food security. The experience at the village level has proven that the situation can be addressed; the issue of a farmer's independence and control over agriculture can again be shifted back to the community. All that is needed is a more holistic approach and a sense of empathy for the farmer and her/his dignity—and organic farming is one of the ways to empower the farmers.

TRANSITION IN THE TEAM

Traditionally, the community in the area cultivated vegetables for personal

consumption, using totally organic methods. In paddy, Di-Ammonium Phosphate (DAP) and urea along with organic matter were used. In the first two years, PRADAN was actively involved in promoting improved agricultural practices through a chemical method. The team motivated the community by taking them to other PRADAN teams and introducing them to the chemical method of farming with a proper Package of

Practices (PoP). This, in turn, trickled down at the ground level, with widespread adoption in the first year. However, during the second year, the interest level of the community drastically dropped because the benefits of chemical farming were below their expectations and input costs were high. This was particularly stark in the case of vegetable cultivation. In paddy, where mixed organic and chemical farming was being practised, the results were quite encouraging.

This served as a wake-up call for the team. The Balaghat team began analyzing the traditional practices (organic, with controlled external input) as well as the newly introduced chemical method of agriculture. Sustainability, food security, production, farming independence of the community, etc. were studied and discussed. The team decided to explore organic methods, experiment with them in a few places and then present them to the community and let them decide what was in their best interest.

The initial quest for organic farming, as far as the team was concerned, came from the community itself. The traditional practices in this area, being in the vicinity of the forest, were largely based on organic matter even if seed treatment, line sowing or timely weeding

The initial quest for organic farming, as far as the team was concerned, came from the community itself. The traditional practices in this area, being in the vicinity of the forest, were largely based on organic matter even if seed treatment, line sowing or timely weeding was not done

was not done. Also, it was the norm in the area, especially in vegetable cultivation, to place two or three plants in one spot. The idea of vegetable cultivation as a cash crop in *kharif* (or even *rabi*) was new to the area. The dependency on external inputs, though gradually on the rise, was still under relative check. In 2009, professionals from the team visited Subhash Sharma's farm (the pioneer of natural farming in India) in Maharashtra

and found the experience very inspiring. The team then began experimenting in small patches in many villages. However, there was still skepticism in the team regarding organic farming.

But by 2012 the team was convinced. They organized an organic *mela* at the cluster level in Durenda and Pachpedi villages, which was attended by 1,100 farmers. Durenda and Pachpedi have been the focal point of the team in terms of organic agriculture and this *mela*/gathering served as a brilliant platform for farmers from more than 50 villages to be trained in organic farming. In Durenda village, organic farming is practised on contiguous patches, and some on-field demonstrations helped the farmers form a clearer picture. Durenda is an interior village in Balaghat and, traditionally, the practices were inclined to the organic process.

Workshops held in Hyderabad by the Centre for Sustainable Agriculture (CSA) in the month of August 2012 and Chetna Organic in Mandla in September 2012 were attended by professionals of the team. These helped the team cement the belief in organic farming. Further visits to Yawatmal (to Subhash Sharma's farms) by more than 600 farmers as well as professionals in December 2012

inspired and motivated both the community as well as the professionals. *Kisan melas*, based on the theme of organic farming and focusing on the women farmers (*mahila kisans*), were held in three places in February 2013. More than 1,300 farmers attended this event, along with officials from the agriculture department. There was vibrancy in the energy of this gathering of farmers, marked by singing and dancing. Plays were performed showing the woman farmer carrying the organic bandwagon. These were truly inspiring events for the team.

The desire on the part of the team to promote organic agriculture in all the villages is based on the following points:

- ♦ High level of acceptance and desire on the part of the community
- ♦ Reduced input costs
- ♦ Farming independence and reduced dependency on market forces
- ♦ Easy to learn
- ♦ Improved soil health
- ♦ Easy to replicate
- ♦ In tune with their traditional practices
- ♦ Perceived as safe by the community
- ♦ Strengthens the identity of a woman as a farmer with newly acquired technical skills
- ♦ High yields using indigenous variety of the seeds
- ♦ Availability of varied species of highly resistant indigenous seeds suitable for the local area
- ♦ Good market rates for organic products,

Based on the team's collective experience of three years on the different ways of implementing organic farming and the high level of acceptance in the community, in the kharif season of 2012, the Balaghat team decided to encourage only organic practice in vegetable cultivation

especially indigenous vegetables, in the local as well as the larger market

- ♦ In tune with the goal of the farmers and their way of life

THE BEGINNING: A SMALL STEP

When the PRADAN team started agriculture intervention in Balaghat in the *kharif* season of 2009, the baseline data showed that the farmers were using traditional seeds and practices in vegetable cultivation. They cultivated only five to ten plants of brinjal and chilli in the homestead land for the purpose of personal consumption. The team began promoting vegetables as cash crops for the impoverished families of the area, using a PoP, that included high-yield varieties of vegetable seeds with chemical fertilizer (urea, DAP) and pest management (ridomil, forret, bawastien). For many farmers (especially the women from the SHGs) in this area, this was their first brush with a chemical practice. They faced a series of problems. Insecticides were mixed with water in buckets and sprayed using brooms and then the same buckets were used after washing for fetching water for consumption. Some farmers also shared their apprehension regarding chemical insecticides and how they have to keep it outside the household. Incidentally, in the same period, the team also introduced 50 farmers to organic Handikhad in vegetable cultivation. This was practised in three stages—after transplantation, at the flowering stage and at the fruiting stage. The results from the initial organic practices were excellent, with similar yields between organic and inorganic processes, but with a marked reduction in the input cost for organic agriculture. The input cost fell by about 50 per cent, in case of organic farming. There was

very little variance between the production of organic and inorganic methods. However, the two main advantages of organic processes were that the input costs went down and the women found the processes easy to learn and handle.

In food crops, the farmers traditionally grew paddy through both the chemical and the farmyard manure methods. Even traditionally, the dependence on external inputs was low. But in the last decade or so, the use of chemical fertilizers had gone up. DAP was applied in large quantities. The average production was around six quintals per acre. In the first year (2009 *khari*), PRADAN initiated the System of Rice Intensification (SRI) with 506 farmers with recommended doses of chemical fertilizers. Of these, 40 farmers were invited to adopt the organic Jeevamrita practice in paddy. The comparative analysis of the production is listed below:

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

During the subsequent seasons, the quantity of the chemical input in paddy cultivation was reduced gradually whereas that of the organic input was increased. In 2011–12, the practice of combining chemical and organic methods for paddy cultivation was promoted with 506 farmers. Encouragingly, the team managed to shift from chemical insecticide to bio-extracts

such as *neemkada*, *agniastra* and *brahmastra* for pest control in paddy. In the paddy season of 2012–13, pest control was completely through organic bio-extracts with chemical pesticides being rarely used. In 2012–13, the farmers opted for less chemical fertilizers and increased the usage of farmyard manure and organic matter. The pattern of use is as below:

Year	Soil Input (Quantity/Acre)	Rationale	Pest Management
2009–2010	DAP 40 kg Urea 20 kg Potash 10 kg	This was the first year; wanted to know the effect and to build confidence in Jeevamrita.	Insecticides, Fungicide
2010–2011	DAP 30 kg Urea 20 kg Potash 10 kg	Started applying bio-micro-nutrients in the soil along with Jeevamrita FYM	Reduced insecticide, fungicide. Introduction of bio-extracts
2011–2012	DAP 25 kg Urea 25 kg Potash 10 kg	Increased use of Jeevamrita and micro-nutrients, FYM	Reduced insecticide, fungicide. Scaling up of bio-extracts
2012–2013	DAP 25 kg Urea 20 kg Potash 8 kg	Increased use of Jeevamrita and micro-nutrients, FYM	Total organic pest control through bio-extracts including preventive measures

Though the team would have ideally liked to shift to organic paddy as early as possible, the process has been gradual due to several factors. All the farmers were not ready for a complete shift. Even from the technical point of view, the chemical practices followed have led to a depletion of microbial activities of the soil. This will require some years to be restored. Farmers also do not have sufficient organic matter for a large-scale transition.

In 2011–12, the team promoted both practices—the chemical and the organic fertilizer, with 506 farmers. In 2012–13, we minimized the use of chemical fertilizers from 70 kg (in 2009–10) to 53 kg. In the monsoon season, total organic practices were adopted by 65 farmers from seed treatment to insect and pest control. More than 1,000 families have used *Jeevamrita* in paddy at least once or twice. In paddy, the farmers have been using integrated balanced fertilizers with chemical and organic inputs and 906 families have been using *Handikhad* and vermi-compost in vegetables. Almost 250 farmers have been using vermi-compost in paddy and vegetables. Based on our learning in the last few years, the paddy growth in the up-lands was stunted due to micro-nutrient deficiency. In 2012–13, 210 families in the up-lands treated 84 ha of their land with micro-nutrients.

The discontent of the community with chemical farming, the rising prices of inputs, the fluctuating market prices, the health hazards while using pesticides and the lack of control of the community over the farming process—all reinforced the view that there is a need for an alternative way

SCALING-UP ORGANICALLY, IN VEGETABLE CULTIVATION

In the *rabi* season of 2010–11, the team intervened with 350 farmers, to promote vegetable cultivation with a high-yield variety in onion and brinjal, using chemical fertilizers and insecticides. Most of these farmers were using their traditional methods of cultivation with indigenous seeds, and manure and other organic matter as fertilizer.

However, though production doubled, there were problems such as wilting and pest attack. Also, in the case of brinjal, though production increased, the rate in the market was less than of the indigenous products. So, in 2011–12, both indigenous seeds and hybrids were promoted, using a mixed organic process and chemical practice (wherever necessary). Organic *Handikhad* with bio-extracts was widely used. Seed treatment, line-to-line sowing, etc., were promoted in all cases. The results were successful with a similar range of production in all cases.

The community service provider (CSP) promoted patch-wise planning and the use of bio-extracts in vegetables. The focus was on a clustered approach to organic farming, to control insecticides, because the use of insecticide the previous year had a negative impact on the adjacent organic plot. In 2012, a preventive spray of *neemastra* was used

No.	Type of Practice	Average Yield in Quintal Per Acre
1	SRI along with <i>Jeevamrita</i> and chemicals	18
2	SRI exclusively with chemicals	14
3	SRI exclusively with organics	12
4	Conventional farming with chemicals	6

on the land of 600 farmers. In the *wadi* (backyard) plots, each farmer has eight to ten plants of *semi* (beans) on an average, with each plant yielding 2 to 3 kg of produce. Due to pest attacks, it had come down to below the potential production. In 2012–13, the plants were treated with the preventive spray in entire patches, covering the land of 300 farmers, and the per plant production increased by 1 kg. Indigenous *semi* was also introduced with the Baiga community in two places and it proved very successful.

In the *rabi* of 2012–13, the team intervened in the *chana* (chickpea) cultivation by introducing a natural farming process. Experts were invited for demonstration at the plots where the farmers were advised to adopt intercropping with line sowing for *chana*, peas, mustard and coriander—crops that the farmers were familiar with growing. There was a need to intervene and introduce them to line-to-line sowing. In all, 51 farmers are now engaged in the natural farming process.

Based on the team's collective experience of three years on the different ways of implementing organic farming and the high level of acceptance in the community, in the *kharif* season of 2012, the Balaghat team decided to encourage only organic practice in vegetable cultivation. The Community Mobilizers (CMs), the Service Providers (SPs) and the farmers were all trained in organic practices, for both paddy and vegetable cultivation. The use of indigenous seeds was encouraged. *Matkakhad* for soil fertility and *neemastra* and *agniastra* were used extensively for pest management. Decentralized training on organic practices was organized in every village. In all, 1,526 farmers cultivated vegetables as a cash crop, using organic methods. In the *rabi* season

The Balaghat team has initiated a fourfold practice in agriculture in the area: SRI in paddy and vegetable cultivation, organic soil nutrition management, pest and disease control and indigenous seed promotion

of 2012–13, an additional 80 farmers (in addition to those who participated in the *kharif* cultivation), joined the programme for organic vegetable cultivation. The observed trend for production, as compared to the production through chemical practices, is much lower input costs and higher market prices for the

produce.

THE DHUTTI EXPERIENCE

The entire patch (river side land) adjacent to the Dhutti Dam gets inundated during the rainy season. During the *rabi* period, the water subsides and the patch is available for vegetable cultivation. The area is under the irrigation department and they lease it to small land-holders and land-less farmers from the Gond community. In 2011–12, 80 farmers in this area were growing indigenous seed, using traditional practices, in small patches of 5 decimals each. PRADAN intervened with two farmers for vegetable cultivation and helped them adopt SRI practices, using indigenous seeds in just two acres of their land. The results were outstanding, with Ramkali Bai earning Rs 25,000 and Hemlata Bai earning Rs 60,000. This inspired the other families and in the *rabi* season of 2012–13, all 80 families adopted organic SRI practice in vegetable cultivation completely. The results from this intervention have been very encouraging with bulk organic production from the patch.

FOCUSED GROUP DISCUSSION WITH FARMERS

In February 2013, the team conducted a Focused Group Discussion (FGD) in three groups of 15 farmers each, with the purpose of reviewing the team's intervention along

with suggestions from the farmers for further engagement in Amoli village. Farmers from Amoli, Dhutti, Takkabarra and Alipur were present in this FGD. These four adjacent villages are heavily involved in vegetable cultivation. During the review, the farmers shared the progress of agriculture productivity and what they had learned. According to them, paddy production doubled after PRADAN's intervention in *kharif* and the input cost had gone down due to the focus on the organic approach to farming. In the case of *rabi* vegetables, production increased, but there was saturation due to a faulty strategy adopted at the market place. During the last year, they had had to compete with vegetables that came from adjacent districts and which were produced through the chemical method. There was lack of awareness in the market about the vegetables grown through the organic process. To create awareness, the farmers set up a banner, "*Desi bhatta nachakna, sadapi khathu tha fasal* (indigenous brinjal and vegetable, organic matter, crops)", and sat with it to acquaint the people with the concept of organic vegetables at both the Lamta local market and in the adjacent block of Paraswada. The farmers also formed an execution committee (*Karyakarni Samiti*), to further explore the markets at the district level.

EXPOSURE TO THE BALAGHAT MANDI (MARKET)

In February 2013, PRADAN organized an SHG members' 'exposure to the market' with the purpose of:

- ♦ Understanding the system of the *mandi*

The last few years have been an incredible learning curve for the Balaghat team. Organic agriculture has been promoted after many deliberations, at both the community as well as the team levels. In vegetable cultivation, the shift towards organic farming has been complete. The next challenge is to replace hybrid seeds with high yield indigenous seeds, the process for which has been initiated

and the interaction with the stakeholders

- ♦ Learning the importance of grading, vis-à-vis the rate differences according to grading
- ♦ Being informed of the rate of vegetables in different places
- ♦ Knowing the supply and demand vs rates
- ♦ Comparing the rates to the local area

Of the 15 members, 13 of them had never seen the district market before and the other four had never been to the district.

The large vegetable market

overwhelmed them but they were very excited to see the process of the announcement of rates. The women interacted with the vegetable farmers and traders, and in the process learned the rates and the varieties as well as the mechanics of the demand and supply. They also studied other details such as packaging and grading, and became familiar with tools such as the crate and the weighing machine. The women learned that indigenous and organic varieties of vegetables fetched a much higher rate (about 30 per cent higher) than the hybrid chemical variety. They realized that there was great scope for learning and for using the local market as well as the market in the adjacent block of Paraswada, if proper strategies were followed.

The women shared their learning at the village-level meeting and re-strategized their approach. They decided in this meeting that the women would set up an organic crop production and knowledge centre in Dhutti, where the vegetables were collected, and that they would sell their produce as a collective, after grading, weighing and packaging the

vegetables. They found that the key to greater profits was to have an understanding between farmers, to slot production and market the produce according to the demand of the local market. They also decided that surplus production would be collected and sent to various local markets rather than to a single place. All the farmers now sit under a banner that says “*Desi Bhatta Na Chaka*” meaning organically produced vegetables. With the increased awareness about organic produce, the margins of profit have gone up significantly.

A bumper produce of brinjal, tomato, chilli; *guar phalli* and peas was harvested by the farmers. The production of 20 farmers was analyzed and the net production of vegetable was 30,251 kg from February to May 2013. The net sale was for more than Rs 3,31,760. Farmers like Maheshwari, Ramkali, Bhagwanti, Sahabati, Mahbati and Koushal were not only part of the farming process but also accessed the market and sold vegetables worth more than Rs 30,000. The fact that women came out actively for the first time to the markets was a defining step in the direction of not just economic empowerment but also in terms of their elevated social standing.

ORGANIC VILLAGE: SAWARJHODI

PRADAN initiated its intervention in Sawarjhodi village in 2008, through the formation of an SHG, and in the subsequent year intervened in agriculture. There are 47 households in the village from the adivasi community. Prior to PRADAN’s intervention, the average land-holding in the village was two acres and food sufficiency was only for seven to eight months. Paddy production was seven quintals per acre and vegetables were grown for the purpose of personal consumption only. In paddy cultivation, the community relied on organic

matter as well as chemical inputs from outside. Interestingly, the community relied on organic matter only in their homestead land where they grew vegetables. PRADAN introduced SRI in both paddy and vegetable cultivation. With these interventions, production in both paddy and vegetables went up remarkably. The community began accessing markets not only for getting agricultural input supply but also to sell their farm produce. Six vegetable entrepreneurs emerged during this phase of three years.

During this period, a transition began to take place regarding the way forward in sustainable agriculture—at both the community as well as the team levels. The discontent of the community with chemical farming, the rising prices of inputs, the fluctuating market prices, the health hazards when using pesticides and the lack of control of the community over the farming process—all reinforced the view that there is need for an alternative way. This alternative evolved from the age-old wisdom of the community, albeit in a more scientific and technical fashion. In cash crop vegetable cultivation, seed treatment using cow urine, single plant sowing, line-to-line sowing, regular weeding, soil treatment using organic *matkakhad* and FYM, pest management through *neemkada*, *agniastra* and *brahmastra*, were the standard procedures followed. Indigenous seeds were also promoted. Encouragingly, women in this village have acquired the skills of making vermi-compost, *matkakhad*, *agniastra* and *brahmastra* and this process has been extremely empowering for the women of the SHGs. They now identify themselves as farmers and equal partners in agricultural activity.

By the *kharif* season of 2012, the vegetable production in this village was completely through the organic method and the village coined a title for itself, Jaiwik Gram Sawarjhodi (Organic Village Sawarjhodi).

There has been a tremendous shift in the practices followed by the farmers in paddy cultivation as well. A brief comparative note between the practice followed before PRADAN's intervention and after PRADAN's integrated organic approach is outlined below.

- ♦ SRI and improved paddy practices now widely followed
- ♦ Paddy seed rate of 5 kg per acre from 50 kg per acre
- ♦ Four various types of paddy varieties are being cultivated for risk mitigation

- ♦ The use of DAP reduced from 40 kg per acre to 15 kg per acre and one quintal of vermi-compost and *Jeevamrita* input
- ♦ *Neemkada* and *agniastra* used extensively for pest management, shifting from chemical pesticides
- ♦ Paddy production of 13 quintals per acre, an increase from 7 quintals per acre
- ♦ Regular weeding

The changing farming pattern of nine farmers from Sawarjhodi, based on the farmers' FGD as in 2012 (kharif) is as below.

No.	Name of Participant	Farming Practice	Urea DAP	FYM (in Quintal)	Bio Extract	Land Holding (in Acres)	Land taken on Lease	SRI Paddy (in Acres)	Improved Paddy (in Acres)
1	Dwarka Uikey	Integrated	25 kg in two acres SRI	Vermi: 1.5 q	Yes	3	-	2	1
2	Santobai Parte	Integrated	DAP: 50 kg Urea: 50 kg in 3 acres SRI and Improved	FYM: 25 q		3	-	1	2
3	Maheswari Uikey	Integrated	DAP: 30 kg in 1.5 acres Improved	FYM 12 q	Yes	.5	1	-	1.5
4	Veenita Uikey	Integrated	DAP: 25 kg in 2 acres SRI and Improved	FYM 8 q		2	-	0.5	1.5
5	Pinki Uikey	Integrated	DAP: 25 kg Urea: 25 kg in 1.5 acres Improved	FYM 2 q	Yes	1.5	-	-	1.5

No.	Name of Participant	Farming Practice	Urea DAP	FYM (in Quintal)	Bio Extract	Land Holding (in Acres)	Land taken on Lease	SRI Paddy (in Acres)	Improved Paddy (in Acres)
6	Pritam Singh	Integrated	DAP: 60 kg in 4 acres Improved	FYM 15 q		4	-	-	4
7	Nokhsingh	Organic		FYM 10 q		1.5	-	1	.5
8	Gansingh Uikey	Integrated	DAP: 25 kg in 3 acres Improved	FYM 7 q		3		-	3
9	Dharam Singh Uikey	Integrated	Urea: 25 kg DAP: 100 kg Potash: 25 kg in 2 acres SRI and Improved	FYM 12 q		2		0.5	1.5

DWARKA BAI: A MODEL OF CHANGE AND HOPE

Dwarka Bai is a member of the Swarn Mahila Samiti, a SHG in Sawarjhodi village, Paraswada block, Balaghat district. Not only is she an active member of her SHG, she is also a vocal proponent of the organic revolution in her village. She has realized the importance of the role that sustainable farming can play in her life, in the well-being of the family and in the larger community of her village. She and her husband, Bharat Singh, own three acres of cultivable land. Since PRADAN's agriculture intervention in the village in 2009, she cultivates two acres of her land through the SRI method whereas, in one acre, she has adopted an improved paddy practice. In her homestead land of 30 decimals (0.3 acre), the family grows vegetables for personal

consumption and as a cash crop source. She has started selling vegetables at the local market in Paraswada. After flirting with inorganic practice in vegetable cultivation and an integrated practice in paddy in the first two years of intervention, she has now completely switched to the organic method in vegetable cultivation and integrated method with decreased chemical input in paddy. She treats the soil through sustainable agronomical and biological methods for enhanced soil fertility.

Her agriculture practices in 2012–13, as compared to previous years before the PRADAN intervention, are as follows:

- ◆ Paddy seed rate is 5 kg per acre from 50 kg per acre.

- ◆ Four types of paddy varieties are cultivated for risk mitigation.
- ◆ Reduced DAP usage from 40 kg per acre to 25 kg in two acres and 1.5 quintal vermi-compost usage
- ◆ Extensive use of *neemkada* and *agniastra* as a preventive measures for both paddy and vegetables
- ◆ Did not use chemical pesticides
- ◆ Paddy production of 40 quintals from three acres of land, 30 quintals from SRI of two acres and 10 quintals from one acre of improved paddy
- ◆ Both hybrid and indigenous seeds used in vegetable cultivation
- ◆ In homestead land for vegetable cultivation, vermi-compost usage of about 50 kg and *matkakhad* three times, micro-nutrients, pheromone trap (four in number) and growth regulating hormones (dhenzyme) worth Rs 50

The production details from the vegetable cultivation done in her homestead land of 30 decimals in 2012-13 are as below.

The success of Dwarka Bai as an organic farmer has been an inspiring experience not only for the team but also for the women of Sawarjhodi. Today she talks with confidence and pride about her identity as a farmer and how organic farming has empowered her. She is now a skilful farmer, who can talk about anything from soil management to pest management. With composure and poise she adds, "*Is sal hamne kuch bhi soda aur bazaar ka dava nai dala hai* (This year we have not used any chemical fertilizers and insecticides in vegetable cultivation)." She further adds that organic farming has reduced her dependency of buying expensive fertilizers and she no longer has to deal with the fear of using insecticides. Any visitor who comes to the Organic village of Sawarjhodi can experience her conspicuous aura, as she talks about the importance of organic farming, how it has helped shaped her identity as a farmer and why it should be adopted by everyone. Her eyes light up as she talks and one can sense the change and feel the hope!

Name of Crop	Area in Decimals	Farming Practice	Production in Kilograms	Rate per Kilogram (Average)	Total Income (in Rupees)
Chilli	2	Organic	124	30	3,720
Barbati	5	Organic	164	24	3,984
Brinjal	5	Organic	216	15	3,240
Bitter Gourd	2	Organic	129	30	3,870
Bottle Gourd	3	Organic	125	20	2,500
Tomato	2	Organic	57	20	1,140
Semi (Beans)	3	Organic	150	40	6,000
Grand Total			965		24,454

Presented here is the yield comparison between the production in 2011–12 and 2012–13. In 2011–12, farmers used chemical practices whereas, in the following year, there was a complete shift to an organic practice. The idea of the comparison is to critically review the variance in production, if any, due to a complete shift to organic farming from the chemical and integrated process. The production data shows interesting results. The production per decimal is very similar (40 kg and 43 kg, respectively). But the per decimal income varies from Rs 640 in chemical (and integrated method) to Rs 800 in the purely organic method of production. The primary reason for this variation in profit is the recognition of a higher value of organic product at the market level and strategic marketing by the producers. In the markets that they accessed, they sat under a single organic banner (*Jaivik Khetti*). The vegetables are not only sold at a higher rate but there were hordes of customers in the stalls under the organic banner, leading to quick sales. In addition, there is the advantage of reduced input cost in organic farming and the community control on the process of vegetable production. Also interestingly, wherever indigenous seeds were used, the products got sold faster than any other vegetable in the market.

AGRONOMICAL PRACTICES ADOPTED BY THE TEAM

The Balaghat team has initiated a fourfold practice in agriculture in the area: SRI in paddy and vegetable cultivation, organic soil nutrition management, pest and disease control and indigenous seed promotion.

- A. **SRI:** Seed treatment, line-to-line sowing, regular weeding, etc., in all cultivation activity
- B. **Soil Nutrition Management:** In organic practice, the soil is treated as a living entity with high microbial activity. Deep ploughing and the application of FYM are

encouraged. Interventions such as the use of vermi-compost, improved composting, *Jeevamrita* and *Matkakhad* are taken up with the farmers. In vermi-composting, earthworms are used to decompose cow dung.

- ◆ In improved composting, a 10 ft by 10 ft by 4 ft structure is made. All forms of biomass such as dung, leaves, grass, etc., are used to fill it. Azectobactor, PSB and trichoderma are added to it. The top is then plastered using mud and the ingredients remain buried for three months after which they are completely decomposed and serve as an excellent bio-fertilizer.
- ◆ The process of making *Jeevamrita* is as follows.

No.	Particulars	Purpose of Components	Quantity
1.	Water	Base	200 litres
2.	Cowdung	Micronutrients	80 kg
3.	Urine	Pesticide value	4 litres
4.	Jaggery (<i>gur</i>)	Fermenting agent	1 kg
	Total <i>Jeevamrita</i>		285 litres

A cement water tank or barrel with a capacity of 300 litres has to be made. First, the water is poured into the tank. To this 80 kg of locally available cow dung and four litres of cow urine are added. After adding 1 kg of jaggery (*gur*), the solution is stirred and left to ferment for 12 days in the tank or barrel. The solution has to be stirred once a day. At the end of 12 days, *Jeevamrita* is ready for application. The 285 litres of *Jeevamrita* prepared this way is sufficient for one single application for an acre of land, irrespective of the crop.

♦ *Matkakhad* Preparation

No.	Particulars	Purpose of Components	Quantity
1.	Water	Base	5 litres
2.	Cowdung	Micronutrients	5 kg
3.	Cow urine	Pesticide value	5 litres
4.	Jaggery (<i>gur</i>)	Fermenting agent	0.25 kg
5.	Besan	Fermenting agent	0.25 kg
6.	<i>Neem</i> leaf	Pesticide value	1 kg
	Total <i>Matkakhad</i>		16.5 litres

This mixture is kept in an earthen pot (*matka*) for five to six days and stirred twice a day. It can then be used by mixing one part with four parts water in vegetable and paddy at intervals of a week. This mixture of 85 litres (16.5 litres of *Matkakhad* and 68 litres of water) is sufficient to be used in a five-decimal plot of vegetable once. For excellent growth of the plant, the mixture should be used five times. It can also be used as a spraying agent, which serves as both a growth agent and insecticide by mixing 50 ml of *matkakhad* with one litre water and spraying at an interval of 10–15 days and about seven to eight times per crop.

C. Pest and Disease Control

- ♦ Seed treatment with trichoderma, cow urine
- ♦ Pheromone traps to reduce harmful insects
- ♦ *Neemkada* as a preventive pest spray

One Kilogram of neem leaves have to be boiled with 4 litres of water until the water evaporates, leaving the leaves and one litre water. The leaves are then removed and

one litre *neemkada* is added to 10 litres of water and can be used in a 10-decimal patch of vegetables. This should be used five times, beginning about 10 days after the transplantation and must be sprayed five to six times at an interval of 10–15 days.

In paddy of one acre, 90 litres of *neemkada* solution (9 litres of *neemkada* and 81 litres of water) is sprayed after 15 days of transplantation and three or four times more at an interval of 15 days each.

♦ *Agniastra* as pest control

No.	Particulars	Purpose of Components	Quantity
1.	Water	Base	10 litres
2.	<i>Neem</i> leaves	Pesticide value	1 kg
3.	<i>Dhatura</i> leaves	Pesticide value	1 kg
4.	<i>Besaram</i> leaves	Pesticide value	1 kg
5.	<i>Laltain</i> leaves	Pesticide value	1 kg
6.	Chilli	Pesticide value	0.5 kg
7.	Garlic	Pesticide value	0.5 kg
	Total <i>Agniastra</i>		15 litres

Agniastra is used when pests start appearing in the farm plot. For an acre of paddy, 90 litres of solution (5 litres of *agniastra* and 85 litres of water) are used. This is sprayed at an interval of 10–15 days, based on the presence of pests in the crops. In vegetable crops in an area of 10 decimals, a 10-litre solution is used (0.5 litre of *agniastra* and 9.5 litres of water) as a pest control measure. In some villages, extracts of *neem*, aloe vera, turmeric and *bel* leaves were also used as blast treatment.

♦ **Neem oil as a final control measure**

A 5 per cent solution of *neem* oil can be used as pest control in both paddy and vegetable cultivation. The quantity of the mixture is similar to that of *agniastra*.

THUMB RULE FOR PEST MANAGEMENT

Type	Purpose	Solution Percentage	Per Acre Need of Water Solution
<i>Neem-kada</i>	Preventive	10	90 litres
<i>Agnias-tra</i>	First line of attack on pests	5	90 litre
<i>Neem Oil</i>	Final line of pest attack	5	90 litre

D. Promoting Indigenous Seeds: Indigenous seeds of the area have high resistance to disease and are also capable of high yield. These are now being promoted actively across the villages. This has been very successful with vegetable crops. Various varieties of indigenous brinjal, chilli, beans, tomato, *barbati*, bottle gourd, etc., which were on the brink of extinction from the area are now recognized by the community and the larger market as a viable replacement for the hybrid variety. There is still a struggle as far as food crops are concerned because the local varieties have been more or less suppressed by the market variety. The team will continue to actively pursue and revive the local food crop seeds.

THE WAY FORWARD

The last few years have been an incredible learning curve for the Balaghat team. Organic agriculture has been promoted after many deliberations, at both the community as well as the team levels. In vegetable cultivation, the shift towards organic farming has been

complete. The next challenge is to replace hybrid seeds with high yield indigenous seeds, the process for which has been initiated. In another two years or so, it is expected that all vegetable cultivation will be by the indigenous organic method. Local food crops such as *kodo*, *kutki* and *maria* will continue to be promoted through the organic method and the community encouraged to practise line sowing. An integrated approach will be followed for paddy, and it will take a few years for a complete shift to organic paddy to take place. The team will also promote the indigenous high-yield variety in paddy, bring it back to the mainstream and make the community conscious of the importance of having the control of seeds in their hands. The team believes that the organic approach to farming is holistic and caters to the need of the community in this area and has a high level of acceptance among the people. This goal will be pursued with greater zeal in the coming period. The team is also exploring the possibility of organic farming being the means and the tool to reduce gender inequality, rampant at the community level and in the larger society.

The coming years are a critical phase for the Balaghat team as it explores the various dynamics of organic farming. Will it lead to a more equitable society? Will it empower the women of the community? Will the newly acquired skills raise the status of women in the community? Will it lead to further change? Or will it only add to their drudgery? Can it be replicated throughout the area and in other areas? Is it an impulsive and short-lived zeal of the community? Or will it have long-term acceptance?

These are the areas that need to be explored and the team plans to sincerely put all its efforts to discover the impact of various facets of this intervention. The Balaghat team has the conviction that the empowerment of women will lead to empowerment of the community, and that the community control of agriculture led by women will lead to their true empowerment. Power to the Community, Power to the Farmer!

Reflections: My Journey as a Development Professional

DR. MINAKSHI DASTIDAR (SAHOO)

Tracing her journey from her roots to the present, the author reconnects with her deep desire 'to make a difference' to the lives of people and reaffirms her decision to work to help the underprivileged rural poor

Around 800 million people live in the villages of India; therefore, any account of India is incomplete without a reference to rural India. I have experienced rustic lifestyles closely during my childhood as well as professional life; hence, I have gathered, what I consider, invaluable experience of rural India. I often ask myself, have I in any way made a difference to the lives of the underprivileged and deprived people? Maybe yes and maybe no.

Everybody embarks upon this journey called life, full of ups and downs, happiness and sorrow, gains and losses. This trip may be exhilarating, exhausting and challenging in equal measure. Will the wealth that I am accumulating assure me happiness? Is the exercise of earning money beyond a point meaningful and purposeful? In spite of the vicissitudes of life, I would like to take out a moment from my life to think of helping out those who are oppressed and downtrodden. I closed my eyes and went down memory lane to the time when I graduated from Assam Agricultural University with a degree in Veterinary Science in 2002.

After clearing a tough selection process, I was selected to join as an apprentice in PRADAN, an organization devoted to shape the future of rural India. On the one hand, I was thrilled that I got the job, leaving behind many of my classmates; on the other hand, I was afraid of working in a naxalite-infested tribal village and staying more than a thousand kilometres away from North Lakhimpur district of Assam, which is my home town. Setting aside all my apprehensions and anxieties, I proceeded to a nondescript place in Barhi subdivision in Hazaribag district of Jharkhand.

As part of the year-long Apprenticeship Programme, under the guidance of a trained Field Guide, I went for my 'Village Stay' to a picturesque, tribal village, to experience and participate in rural life. The training format used the age-old technique of 'observation' and 'learning by doing'. I saw people

Any account of India is incomplete without a reference to rural India... I often ask myself, have I in any way made a difference to the lives of the underprivileged and deprived people

leading very primitive lives in small hamlets beside the jungle. They led isolated lives, cut off from modern civilization. I tried to introduce the women to the habit of saving through self-help groups (SHGs) and also modern practices, but they were very resistant to change. The process was very slow and, many a times, I lost hope and wanted to give up. But my mentor in PRADAN helped me to regain my lost confidence and guided me on how to achieve my goal. I took almost one year to understand the process—that phase of my life was most memorable. My experiences ranging from doing the daily chores of cooking, visiting paddy fields and vegetable gardens, collecting wood and water—to remember a few—were enriching.

I also visited the local weekly *haat* (market), where all the villagers come together to purchase essential items and sell off their surplus. These *haats* are the economy centres of the villages and the lifeline of the economy. The social aspects of weekly *haats* are equally important for villagers and are interwoven delicately, to form the fabric of village life. The primitive system of exchange of goods, or the barter system, was still prevalent in those markets. All types of goods are sold, including food products, cattle, clothes and accessories, and ornaments. The market place is also famous for *handia* and *mahua*—the country liquor consumed by tribal folks.

I went through a systematic learning process, which included fieldwork, foundation courses and home visit. The year-long programme, in

the company of compassionate team-mates, is so well structured that I rarely felt I was away from my family and friends. I completed the programme successfully and graduated to become an Executive. I worked in PRADAN, and through its egalitarian learning environment, nurtured the skills essential for a

thorough development professional. Before I knew it, I had built a solid foundation. After spending almost three years in PRADAN, I left to join SEWA, Gujarat, and subsequently Deepak Foundation, Vadodara, and JK Trust Gram Vikas Yojana of the Singhanian Group.

Life after PRADAN was not as exciting professionally because my work was limited and bound within the prepared framework of the organization and there were not much interaction with the ultimate beneficiaries of all such programmes. There was very little freedom at the work space and no scope for value addition because acceptance within the organization was not very forthcoming.

When I joined IFFCO Kisan Sanchar Limited (IKSL) in July 2012, it seemed, life had come full circle. I am able to reconnect with the next generation of rural India. I am witness to the changes brought about by development projects (governmental and non-governmental) as well as to their challenges. I observe the difficulties and opportunities of livelihoods in rural India, and explore various government interventions, in areas such as housing, infrastructure, health, and education in villages, meet various stakeholders of these schemes and learn about the challenges in these schemes.

The mission of IKSL is to empower farmers and people living in rural India with pertinent and high-quality information and services, through affordable communication networks, in a sustainable manner. Telecommunications

is growing rapidly and has the potential to transform the Indian rural landscape. In recent years, it has demonstrated its potential by playing a vital role in contributing to the empowerment of people living in villages. One of the best tools, telecommunications can be used to disseminate information. Moreover, this is scalable and can be implemented successfully, with fewer resources.

I worked in PRADAN, and through its egalitarian learning environment, nurtured the skills essential for a thorough development professional. Before I knew it, I had built a solid foundation

The Indian Farmers Fertiliser Cooperative Limited (IFFCO), Bharti Airtel and Star Global Resources Ltd. formed the joint venture IFFCO Kisan Sanchar Ltd. (IKSL). Airtel has extended its network backbone to IKSL and also provides a sustainable income generating business opportunity to cooperative societies. The SIM card in mobile phones is also used as a medium to transfer information and knowledge, thereby empowering people living in villages. Such relevant and pertinent information is being provided by IKSL as a Value Added Service (VAS). At present, about 13 lakh active farmers are benefitting from IKSL's VAS.

I am working with IKSL as Consultant (Content Development) in the Gujarat team. My role as a content provider is to prepare messages and ensure that these are delivered within the stipulated time-frame. Further, a panel of eminent scientists at the corporate office monitors the quality of messages. We deliver free voice messages every day on areas of interest to rural subscribers and have a dedicated helpline for query resolution by experts. We also have a call-back facility, to hear voice messages again. We conduct mobile quizzes and phone-in programmes, seeking expert advice.

When preparing content, we keep in mind the farmer's socio-economic background, learning needs, priorities and opportunities as well as the economic barriers for adoption of technology. The beauty of this idea lies in the fact that these messages really help in spreading awareness of technology at the grass-roots level, by explaining facts and situations to the farmers in a language and context they understand.

That a series of messages can help transform the lives of rural people is perhaps difficult to believe. However, messages related to improved crop practices, weather forecast, mandi rates, etc., have helped farmers increase their farm production and income; prior to this, most of the farmers had little or no access to updates on such aspects.

Time has changed the rural landscape. To bring about further change, we need to enhance the knowledge base of people. Awareness leads to Action. I am lucky to be part of this movement for transforming rural India. There is much that modern science and technology can do to realize the vision of increasing rural employment opportunity, infrastructure, health and education. By building the capacities of rural people and supporting them, we hope to lay the foundation for enduring transformational change. Now when I wake up in the morning, it seems a long-cherished dream has come true. If things are not going according to plan, there is always an alternative that can be crafted. The wheels of change have been set in motion. Going forward, I hope to continue helping the needy and the underprivileged by imparting knowledge, to develop a healthy and ecofriendly landscape for them.



The farmers have applied their experiential knowledge to minimize risks by growing more than two or three common vegetable crops instead of one single crop. They have displayed mature analytical skills and understanding of the demand and supply by choosing mainstream common crops such as tomato, brinjal, cauliflower, cabbage, okra, chilli, cucumber and gourd.

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.

NewsReach is published by the National Resource Centre for Rural Livelihoods, housed in the PRADAN Research and Resource Centre.

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