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Inside

Revisiting Science's Social Contract

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Making an impassioned plea for marrying innovative approaches in the field, including SRI, in crop cultivation with scientific research by academia, the article looks at the prevalent resistance of the latter to practices on the ground and hopes for more openness and collaboration between theory and experience, and a re-working of the social contract between science and society

Citizen's Science

Adding innovation to India's Science and Technology policy would ideally have been an opportunity to democratize knowledge and be more open to sources of innovation from the margins, often outside formal science. However, there is little that is innovative about India's recent Science Technology and Innovation Policy (STIP 2013).

This article looks at an innovation in agriculture, System of Rice Intensification (SRI), which has spread rapidly among farmers in the last decade but has, so far, failed to evoke requisite interest from the agricultural establishment. SRI is an example of how the social contract between science and society is being re-worked and shaped for the people by several actors, in a manner that may be called 'citizen science', outside the state and the market. If Indian science is keen on ushering in a new paradigm, as STIP suggests, the establishment would do well to listen to and learn from such experiments.

The idea of a science with strong civil society origins finds increasing resonance in recent debates on science studies and innovation policy globally. India's STIP though remains caught in a time warp, presenting old thinking on science and society, and a weak understanding of how innovation is shaped in contemporary India and the world. Specifically, I refer to recent manifestoes on Science and Technology that have articulated the need for science policies to be more responsive to innovation and the implications of sustainability ideas for scientific futures—an imperative of diversity and plurality. These manifestoes also talk of distribution of innovation and cognitive justice of expressing the right of different forms of knowledge to co-exist.

The insights gained from SRI, on the possible reshaping of science and society in India, could help provide newer meaning to 'Knowledge Swaraj', a vision of self-rule, wherein scientists and citizens shape a 'post-academic science', more relevant to the climate-stressed times—a vision that enables scientists and society to rebuild scientific institutions that have become both unwieldy and unrepresentative. Developments on the margins are the new sites of innovation, with civil society acting through networks as important enablers of conversations and dialogues on knowledge and democracy.

The insights gained from SRI, on the possible reshaping of science and society in India, could help provide newer meaning to 'Knowledge Swaraj', a vision of self-rule, wherein scientists and citizens shape a 'post-academic science'

Bihar has been in the news for its agriculture, with several people visiting—from farmer groups in Afghanistan and Latin America to Nobel Laureates such as Joseph Stiglitz. An Indian farmer from Bihar breaking a world record in rice or potato production would have been considered impossible in the past. In February 2013, *The Guardian* 'broke' the news of 'India's Rice Revolution' about a Bihar farmer, Sumant Kumar, achieving this feat through a new innovation called SRI that many farmers across India have adapted from Madagascar, which allows for more production using fewer seeds, fertilizer, irrigation water and, often times, labour.

SRI 'UFOS'

The innovation involves a set of practices—transplanting young and single rice seedlings, widely apart, in un-flooded conditions, aerating the soil and increasing the proportion of organic matter in the fields. The SRI experiment challenges global research trends that continue to focus on varietal changes on miracle seeds, earlier through improvements of pure lines and the evolution of hybrids, and now increasingly through genetic engineering. Policies to extend the Green Revolution of Asia to Africa and India's eastern region are ambitiously drawn, even as farmers in the existing Green Revolution areas face acute environmental stress and declining yields due to poor soil fertility. Farmers need to spend more as the costs of agro-chemical inputs soar or the availability of irrigation water decreases.

After speaking to the farmers in Sumant Kumar's home district, Nalanda, Stiglitz remarked that the farmers were better than the scientists and called for their experience to be researched for wider replicability. *The Guardian* reopened an older debate and scientific controversy. Scientists at International Rice Research Institute (IRRI) had, in 2004, derisively dismissed SRI as 'UFOs' (unverified field observations) and not worthy of attention. Over the past decade, however, there has been some moderation in its stance, with IRRI now even hosting an SRI page. A closer look though reveals a deeper knowledge debate. The pictures hosted on the SRI page of the IRRI website mislead and refer to conventional rice fields and urge readers to see SRI as nothing but IRRI's own 'Best Management Practices (BMP)' and how collaboration with IRRI on their programmes could reduce the animosity about what SRI is.

As a leading producer of rice, with a strong research establishment, India's stake in the discussions on rice, one would think, would be high. An innovation in rice that seems, prima facie, to be climate smart, and has spread with modest investments across the world to over 50 countries, should merit serious attention. More so, because Indian farmers (over two

million of them in different states have tried SRI) have been at the forefront in adopting the system locally and have even been extending its ideas to other crops. Yet, these developments have met with a strange silence from the Indian establishment. It may be exercising prudence in avoiding the controversy over a super yield; however, strangely, the establishment has not even felt the need to examine the phenomenon, the science behind it and evaluate whether the technology has a future worth investing in.

Instead of being mute spectators, Indian rice researchers could use this as an opportunity to be active participants by not only verifying the claims but also carrying out knowledge dialogues between the two ways of growing rice—the SRI way and the IRRI, or the Green Revolution, way.

After all, *The Guardian* was only carrying a result reported earlier (July 2012) in *Agriculture Today,* one of India's premier agriculture monthlies. The authors of the article had an innovative collaboration of actors, not often seen in Indian agriculture. Along with the officials from India's Directorate of Rice Development in Patna and the Agriculture department's extension personnel involved in verifying the records were two outsiders: Anil Verma, from the civil society organization (CSO) PRADAN that piloted SRI (the potential for which was picked up by state's livelihood programme for up-scaling) in Bihar, and Norman Upoff, a political scientist from Cornell University, instrumental in taking SRI from Madagascar to the rest of the world.

The farmers' fields in Bihar have invited the attention of several actors. What is strange, though, is the absence of any statement from the scientific establishment on the issue or an expression of research interest in examining the phenomenon and possibly explaining the high yield. What was common among other farmers in the area who had high, if not super yields? How, if at all, and under what conditions could these be sustained? Would rice yields be significantly lower in a drought year through SRI, like the current one in Bihar, or would it offer better chances for farmers to adapt climate change?

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Over the years, SRI has given rise to interesting dialogues and conversations among actors, who normally would not meet. A non-governmental actor and CSO, World Wide Fund for Nature (WWF), which was keen to explore the water-saving potential of SRI, carried out evaluations on SRI with an agricultural university. WWF organized national symposiums on SRI (in 2005, 2007 and 2008 at the agricultural universities of Andhra Pradesh, Tripura and Tamil Nadu, respectively) to bring together researchers, extensionists, civil society actors, farmers and policy makers. The National Consortium on SRI (NCS), a loose network of actors, has built upon this to carry out policy dialogues with the Planning Commission and the Ministry of Agriculture on the science, policy and practice of SRI. Despite India's Directorate of Rice Research being involved in these symposiums and sharing their own assessments of the method, the Indian agricultural establishment has largely been reluctant to pursue research on SRI.

There is a déjà vu to this official silence that reflects knowledge hierarchies and rigidities. In 2012, an international, multi-

institutional initiative to improve productivity and livelihoods in the eastern region of India invoked a participatory rhetoric and invited ideas about ways to improve productivity. In their presentations, research institutions, both central and state, and leading civil society actors pointed to SRI as an important option for food security and productivity enhancement. However, in spite of the international contestations, the lead institution chose to ignore local voices and let its sister organization and partner, the IRRI, promote its own package of practices (PoP).

Within India's linear model of innovation, agricultural innovations outside the formal establishment are rarely accepted, unless validated for extension by scientists

SRI TO ITS OWN

Within India's linear model of innovation, agricultural innovations outside the formal establishment are rarely accepted, unless validated for extension by scientists. With the scientific establishment reluctant to do so, most state departments of agriculture have ignored SRI, even as other rural development departments have promoted SRI through women's Self Help Groups (SHGs) to improve small farmer agricultural livelihoods. Different regions of India have responded differently to SRI. There has been no interest in SRI in the Green Revolution areas such as Punjab and Haryana, even as the institutional arrangements have enabled its spread in Tamil Nadu and Tripura where the state departments of agriculture have backed the innovation. In most parts of rain-fed India—Bihar, Odisha, Andhra Pradesh, among others, SRI has spread through a complex combination of actors with civil society organizations (CSOs) working with farmers, extension departments of various ministries and researchers, in learning alliances to discuss and take the innovation further.

SELF RELIANCE IN SCIENCE—AN IMPOSSIBILITY

Indian science has had an uneasy relationship with the alternative vision of science and any form of dissent. The SRI phenomenon can be read at several levels. At one level, it is about the scientific controversy around rice, the nature of the arguments about what is good science, what does one value in research—super yields or greater choice for farmers and scientists? At another level, it is about the power of a kind of international science and the inability of India, despite its strong research establishment, to chart its own course in science and articulate an alternative vision. How does one see self-reliance in science that is increasingly globalized?

Indian scientists, especially from the public sector scientific institutions, are being encouraged to link up with multinational companies to enhance their industry interface, as the only way of becoming competitive and remaining a globally competitive scientific power. India's science policy is reduced to managing research and development (R&D) to remain among the top five. Encouraged by India's success in information technology, biotechnology, pharmaceuticals or the auto industry, and visions of India becoming a global R&D hub, India has become the site of innovation, with management experts seeing it as a centre of 'reverse', *jugaad* and 'frugal' innovations. Greater and faster integration with the rest of the world seems but natural.

The story of Bihar farmers and SRI in India should help us pause and reflect upon the question: Is there another way, or ways, of science? Would being more competitive help us solve our own and the world's problems,

wherein the rules of the game are being changed globally and locally because of climate change? We are living in an age where international reports involving several scientists, whether from the Inter governmental Panel on Climate Change (IPCC), the Millennium Ecosystem Assessment (MEA) or even the International Agricultural Assessment for Science, Technology and Development (IAASTD) are asking questions and thinking about a different science to deal with complex problems?

The SRI story shows that there are indeed diverse paths that could include a different, and even equal, engagement with peers in creating a new science; of involving groups other than scientists in discussions on science; of maintaining one's identity and yet benefitting from global developments by treating knowledge as commons.

The SRI story needs to be situated within these larger concerns—of a newer vision for science in a complex world, about the scientific questions relating to the emerging fields of knowledge that are multi-, inter- and trans-disciplinary. The SRI story shows that there are indeed diverse paths that could include a different, and even equal, engagement with peers in creating a new science; of involving groups other than scientists in discussions on science; of maintaining one's identity and yet benefitting from global developments by treating knowledge as commons. It raises questions about science-society relationship, about expertise and the reluctance to engage with society. It is also about the space for innovation outside the formal field of R&D. How are these concerns, ideas and opportunities reflected in India's new science policy document?

After a decade, the Indian scientific establishment released the much-awaited STIP in 2013, adding innovation to the earlier science and technology policies. Public policies in India, in the last decade, have seen many arms of the government moving towards wider consultative processes, social audits for better transparency and governance, and a rights-based approach. Unfortunately, STIP 2013 shows no change in thinking in the policy processes. The policies continue to be made by a few technocrats, with little consultation with the actors involved, and remain 'out of sync' with other sectors and aspects of public life. Analysts have criticized the document for its supply-side focus and for ignoring the non-R&D aspects of innovation, for the absence of a dialogue, a lack of a review or analysis, and a mistaken reliance on the private sector, for being high on rhetoric and poor on mechanisms for transforming existing institutions, to create an inclusive and sustainable vision for systemic innovation. Here, the focus is on the relationship between science and society and how this is seen in STIP 2013.

Despite the rhetoric of 'shaping the future of an aspiring India' and the talk of a 'new paradigm', STIP 2013 actually reiterates and reinforces a one-sided relationship between science and society—a vision that privileges the know-all technical expert, and relies on him/her to deliver goods and scientific temper to the citizen, who is seen as lacking knowledge and scientific temper. The last decade has seen new thinking and rich debates on the science-society relationship that STIP seems to have by-passed.

A 3D AGENDA FOR SCIENCE

A new social contract with science was articulated by M. Gibbons when he suggested a shift in the production of knowledge from a mode-1 system, in which problems could be solved within specialized disciplines

and there existed a linear relationship between theoretical development and practical problem-solving, to a mode-2 system, in which knowledge is trans-disciplinary and produced within the context of application. In mode-2, systems knowledge needed to be not just be 'reliable' but more 'socially robust'. Gibbons called for a rethinking of science's relationship with society that reflected this complexity and diversity, a blurring of professional identities, and the co-evolution of knowledge between the state and the market, with society 'speaking back' and transforming science. Gibbons also spoke of the need for constructing narratives of expertise and bringing together different 'knowledge dimensions'.

The governance of science, technology and innovation is not about centralized mindsets and bureaucracies but, as suggested by De la Mothe, more about inter-dependence, linkages, networks, partnerships, co-evolution and mutual adjustment

Governing science in the 21st century requires understanding the complexity of the scientific endeavour and its relationship with society. As has been pointed out by science studies scholars in Europe, it requires 'taking knowledge seriously'. A vibrant (European) knowledge society, they suggest, must be built on 'collective experimentation'. They call for distributed innovation that includes diversity, not just of actors, but also of new options, or pathways. Reinventing innovation requires reinventing the commons and the suggestion is that the policy makers might want to promote a diversity of innovation models. They are critical of the Lisbon agenda of setting targets for the R&D as an end in itself, even suggesting that such indicators or measures can be both 'irrelevant and misleading'.

National science policy documents often see the knowledge question in rather limited terms and are uncritical in their engagement with science and technology. In practice though, scientists and technologists, increasingly, realize the complexity of the enterprise, its uncertainty, risks and vulnerability. The governance of science, technology and innovation is not about centralized mindsets and bureaucracies but, as suggested by De la Mothe, more about inter dependence, linkages, networks, partnerships, co-evolution and mutual adjustment.

As the SRI story suggests, this challenge is more so in India, which has a larger diversity of actors involved in the scientific enterprise. Some of these actors, especially outside the formal R&D, bring plural and multiple knowledge systems that co-exist and share space with 'universal western science'. If STIP 2013 were about a new paradigm, it needed to have aimed at creating spaces for dialogues on knowledge. In the SRI case, an absence of such spaces for knowledge dialogues, has seen the emergence of newer civil society actors pushing for it, reflecting a need from below. STIP 2013 picks Gibbons's mode-2 agenda enthusiastically but sees it within the restricted frame of R&D management. Innovation though is much more than science and technology, and knowledge; it is about production and governance. In the absence of discussions and dialogues on how transformations, even in a restricted sense of knowledge management, take place and what it means for the everyday practice of science, STIP 2013 reveals a mode-1 mindset, despite the rhetoric of a mode-2 system.

The STEPS (Social Technological and Environmental Pathways to Sustainability) Centre at Sussex, England, has been carrying several manifesto dialogues based on their 'New Manifesto' for innovation, sustainability and development. They suggest a '3D Agenda'

as a framework for innovation that looks at the direction of innovation, a more equitable distribution of its costs, and the value of diversity in innovation approaches for sustainable development. The manifesto recommends the bringing together of natural and social scientists from different fields as well as recognizing the role of citizens in the co-design and co-production of knowledge. These rich discussions on the role of knowledge, its distribution and directions are not reflected in STIP 2013.

Contemporary India is witnessing several instances whereby citizens, to use Gibbons's phrase, have been 'speaking back to science' and the scientific establishment. The public engagement of scientists with citizen concerns continues to be weak in India, as seen in the inter-academy report on Bt brinjal in 2010 or the more recent discussions about the risk surrounding the establishment of nuclear reactors. Whereas the Right to Information (RTI) Act has opened up spaces for questioning, the response of the establishment has been to invoke the bogey of anti-development, as and when citizens have raised concerns. Sunita Narain echoes this well in her comments on the attitudes of the scientific establishment to climate change. "Worse, because of the nature of its institutions—which are closed to outsiders on the one hand, but subservient to officialdom on the other hand—it will not engage in any public discourse… Indian science, to respond to climate change, will have to get a little less male and perhaps even a little less old."

The Knowledge Swaraj manifesto seeks to open up possibilities in Indian science and traditions for new knowledge that is more socially robust. It goes beyond Indian policy debates on self-reliance to articulating self-rule, or swaraj, for the Indian people in science and technology

KNOWLEDGE SWARAJ

This insularity of the scientific establishment and its notions of expertise have been increasingly under question by citizens. What if citizens, rather than the scientific establishment, were to write a science and technology manifesto? A recent effort by a network of science studies scholars and engaged science activists brought out an Indian manifesto that offered a framework of plurality, sustainability and justice (similar to the Sussex 3D framework) for the future of Indian science and technology.

Using Gandhi's *Hind Swaraj* as an inspiration to think ahead, rather than look back at the past, the Knowledge Swaraj manifesto seeks to open up possibilities in Indian science and traditions for new knowledge that is more socially robust. It goes beyond Indian policy debates on self-reliance to articulating self-rule, or *swaraj,* for the Indian people in science and technology. The manifesto suggests that the counter-posing of experts versus lay people is neither useful nor relevant in understanding the current challenges. Societal challenges require expertise of different kinds and should be open to questioning the expertise of a missile scientist on building nuclear reactors. But beyond the idea of getting the right kind of technical expert, there is need to take the social dimensions of expertise more seriously. It argues that Indian science policy will be poorer if it does not recognize and re-install the citizen as an expert, as an inventor.

This idea of citizens or civil society being involved in science is not necessarily new. The physicist and science studies scholar, John Ziman, makes a case for including technically unqualified individuals as active, responsible

actors in the production of scientific knowledge as the context 'speaks through them'. They need to be included, along with scientific experts, in the groups that draft and review research programmes and project proposals. These 'non-experts', he believes, can not only open up or articulate the partisan interests motivating the research but also give the research process meaning in life-world terms.

Knowledge Swaraj argues for cognitive justice that recognizes the richness of multiple knowledge systems. India has had a rich history of social movements from the early part of the nationalist movement that have contributed significantly to a 'parliament of knowledges' for science. As Shiv Viswanathan points out, the idea of 'cognitive justice' goes beyond the concepts of voice or participation. It does not ask for mere expert representation but underlines an appeal by marginal and traditional societies, who believe that they have something to add to western science, to its ideas of complexity, time and sustainability.

The release of the recent Inter-governmental Panel on Climate Change (IPCC) report has reconfirmed the need for different growth strategies for sustainable development. Resource conservation and vulnerability reduction can turn out to be more important than productivity enhancement and resource exploitation. Sustainability science has emerged as a new field that is more problem-focused (rather than discipline-focused) that seeks to integrate and synthesize rather than merely analyze and break down. It calls the natural and social sciences to work together. Sustainability, Knowledge Swaraj suggests, offers newer frames for analysis and planning. The manifesto, however, suggests that there is need to go beyond the Harvard understanding of sustainability science, to open up questions on knowledge in subsistence systems, and re-assess and re-evaluate their contribution to planet health. The manifesto also suggests that taking forward the agenda of plurality, sustainability and justice requires a re-thinking of the science-society relations and mechanisms, to further trusteeship in science. A vibrant civil society and its contribution to science are important to this.

John Ziman in his latest book, *Science in Civil Society*, sees the scientific enterprise as in need of political correction, if science were to remain a moral enterprise. Techno-science, he suggests, has made data technicians of many scientists and mute spectators to the knowledge drama rather than producers of knowledge in the world. He does not invoke Gandhi, but re-thinks the future of 'post-academic science', suggesting that the academic scientist must endeavour to be independent of church and state, commerce and industry, political party and ethnic community. Put differently, his call is for the autonomy, or *swaraj*, of the scientist.

In this revival, Ziman argues for a greater role of human sciences and civil society. He sees civil society not just as one of the major 'sectors' of the post-modern social order, but also as one of the most important 'trading zones' between science and society. Civil society is a dynamic source of innovation, benefaction, criticism, protest, provider of ethical norms and other societal forces. The key to power in the post-modern 'knowledge society' is the research agenda. More than the conventional roles seen for civil society—as a social watch or an ethical compass—Ziman sees civil society playing a more influential role in framing research agendas and taking on the main responsibility for defining and representing the 'context of implementation'. This involves more than consultation over ethics of research or informed consent; it means having a hand in the formulation of research questions and protocols. It implies power to define problems that ought to be looked into, and to initiate

scientifically sound research on them.

An example of this is evident in SRI. A study collating the experiments from the field by CSOs on indigenous varieties of SRI from principles, was put together recently by NCS. These varieties lost out during the Green Revolution because their response to agro-chemical inputs was poor. A new research agenda has emerged with a favourable response to SRI principles, creating an opportunity to bring back nutrition, aroma, health and drought-resistance into the research agenda that traditional rice varieties were once known for. The initial favourable results indicate a need to incorporate greater diversity in testing and validating SRI, which if left to the rice establishment alone, is unlikely to be taken up because SRI is often seen by them as another way of pushing their, often costly, varieties due to its seed-saving potential. Validating the response of indigenous varieties across agro-ecological regions would require several field agronomists or investing in the hitherto unused research capacities of CSOs.

In a significant step, scientists at the Indian Agricultural Research Institute in collaboration with PRADAN, have initiated and coordinated on-station experiments on SRI at the Pusa campus to see 'if' and 'how' SRI and its extension in wheat works.

CITIZEN SCIENTISTS AND KNOWLEDGE COMMONS

Translating some of the ideas in Knowledge Swaraj or Ziman or IDS, or taking European knowledge society seriously would require a re-think on the role of civil society that is often relegated to the end of the innovation chain as extension agents, or worse sub-contractors of the state in remote and conflict-prone areas. Civil society involvement in science has taken several forms in the past. These include citizen juries and consensus conferences that have provided opportunities for citizens to have their say about science. However, the research formulation and execution capacities of civil society in science or their ability to promote 'citizen scientists furthering collective experimentation and in setting research agendas and protocols have not been explored. Together with mainstream science, these could create new knowledge commons.

India has witnessed several citizen scientists playing an important role in the freedom movement. Some were actively sought by Gandhi in his experiments on khadi and village industries. More recently, these citizen scientists have been at the forefront of people's science movements, creating institutions that have forged newer alliances between science and society. Some such as C.V. Seshadri and Amulya Reddy have gone beyond the earlier thinking on providing appropriate technology for India and the rural poor by articulating alternative visions for a sustainable future. Civil society has shown different ways of organizing science, of creating new knowledge commons. Science policy documents often miss out on these processes and experiments that emerge from the ground, from the fields and laboratories across India.

Not all is negative about Indian science nor is it right to posit mainstream science and civil society in opposition. What follows are some emerging possibilities from the field that indicate the scope for civil society-science interactions in SRI.

The SRI story in India had a curious twist to the innovation tale, again from the margins. In July 2013, a video on SRI in Meghalaya was released by the National Agricultural Innovation Project (NAIP) of the Indian

Council of Agricultural Research (ICAR) that spoke about the 'success story' in the Garo Hills of improving rice productivity through SRI. Whereas the film captured the technical aspects of SRI innovation rather well, it glossed over the social processes around the innovation, making it appear as though ICAR had taken the technology from Madagascar and made it a success in the Garo Hills through rigorous scientific work.

In a significant step, scientists at the Indian Agricultural Research Institute (IARI) in collaboration with PRADAN, have initiated and coordinated on-station experiments on SRI at the Pusa campus to see 'if' and 'how' SRI and its extension in wheat (SWI) works. Interestingly, the research protocols were decided in collaboration with civil society actors. There was cognitive justice in the experiment with a multi-disciplinary team of IARI scientists working together in the experiment that had the knowledge of a farmer (Sanjay) from Bihar, supplemented with inputs from PRADAN and the Peoples Science Institute (PSI).

In distant Alfred State University in New York, engineering students have recently chosen to work on a design for an up-land weeder for SRI, based on collaboration between SRI-Rice, the international network on SRI, and the SRI-Global, an NGO. The students came up with interesting designs and posted them on Facebook, inviting comments from SRI equipment users and manufacturers. If students, who have never seen a rice plant, could think about global problems, surely there is greater scope for such experiments in India's agricultural engineering programmes and the interactions with scores of CSOs in the region. There, indeed, is a case for civil society to augment its own research capacity in areas such as the hills of Uttarakhand, or in using SRI principles for wheat and other crops, where there has been little research by agricultural scientists. Taking the processes and protocols from IARI in Delhi out to different locations has the potential to create enormous new knowledge.

Preliminary analysis of the global research on SRI indicates that Indian researchers have been leaders in the field, contributing over a third of all papers that have emerged on SRI in the last decade. It required a network of CSOs, including social scientists, to point out to the scientific establishment that this was indeed an opportunity to emerge as a leader in the field. It might not be easy for mainstream science to accept this completely, but what the SRI story shows us is that there is indeed enormous scope for 'sustainability science' in India, if only the scientific establishment would promote diversity and collective experimentation and shape, to use the Rio+20 slogan, 'The future we want' (The Rio+20, a United Nations conference on sustainable development, took place in Rio de Janeiro; its focus was on achieving a sustainable future–the future we want).

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The references in this article are available at newsreach@pradan.net

Transforming Lives in Pattaithan

BIPIN BIHARI

Moving from a bleak, subsistence-level existence to realizing that their strength lies in unity and in letting go of caste divisions, the villagers of Pattaithan chose to work towards self-sufficiency and dignity, through the SHG and the* tola sabha, *by utilizing government funds available to them, leading to transformation of the entire village

"Ek din aisan howi jato bhaiya ki jilla se aadami dekhto au sikhto hamar gaon me aake! (One day, the district officials will come to our village to learn how to work)," said Sulochana Devi of Pattaithan village proudly. Her were words were immediately endorsed by Shakuntala Devi, who added, *"Ab to Bangal jabo na, murgi palwo, chas karwo aur gidada ke padhaabo likhaabo.* (I will not migrate to Bengal any more. I will rear poultry, grow crops and educate my child)." These declarations by the women in a *tola sabha* (hamlet-level committee meeting) acknowledged the significant change that had taken place in their lives and the confidence that they would be able to sustain it in the future.

The time I had invested in all the promotional activities for the SHG and for livelihoods had paid off and the villagers' unity and sustained efforts had definitely changed their lives and the village. I remember the meeting I had attended some three-and-a-half years back in Pattaithan. The village at that time had four SHGs, segregated on the basis of caste.

During an earlier village meeting, members from all the SHGs had gathered at one place. Very soon, the members belonging to the different communities began to argue and the meeting degenerated into mayhem. The people did not trust each other and held many grudges against each other. I listened to them silently and patiently for almost an hour and then tried to calm them. When they stopped to listen, I asked them, "Do you really believe in your heart that what you are saying is right and that this is what you want for your village?"

There was complete silence for a few minutes. About 40–50 village youths and male villagers had gathered at the meeting place and were listening to the discussion. One man from amongst them entered the discussion to justify caste-based inequality by invoking tradition and culture. To my utter surprise, a woman from the Mandal community, who had, a little earlier, been vehemently arguing, stood up and said, "No, we cannot say or do anything in the name of tradition or culture, which may hurt the feeling of others." She folded her hands and went straight to the *didis* (women) of the Santhal community and apologized for her earlier statements. Many other *didis* followed and suddenly the environment changed.

Some of the *dadas* (men) also did the same and there was loud applause from the whole group. The Santhal *didis* also responded very gracefully. After this outburst of emotions, they sat down to discuss the issues of their village.

BACKGROUND

Pattaithan is situated in Dumka Sadar block of Dumka district. The 70 households of the village are in two hamlets, known as the Santhal tola and the Ghatwal *tola*. The Santhal *tola* comprises 36 Santhal households and the Ghatwal *tola* has 25 Ghatwal households and nine Mandal households. The major source of livelihood in the village is rain-fed agriculture, and the landless families do shared farming and migrate for wage labour in the off-season.

Landholding among the Santhal families is better than among the Ghatwal families. Their average landholding is 7.9 acres whereas the Ghatwal families own an average of 6.5 acres per family. The nine Mandal families are landless and enter into farming lease contracts on the land of the Santhal families. All families, thus, are involved in agriculture on a medium scale.

Usually, marginal or landless farmers migrate to West Bengal during the paddy transplantation and harvesting seasons, where they earn Rs 80 and 2 kg of rice per day

Lack of irrigation facilities hampered people from venturing into irrigation-based cash crops. Low rainfall in 2009–10 resulted in the villagers failing to cultivate enough food for the year and laid bare the vulnerability of rain-fed agriculture. If the monsoon arrives on time, each family produces just enough paddy to meet food sufficiency for the year.

Usually, marginal or landless farmers migrate to West Bengal during the paddy transplantation and harvesting seasons, where they earn Rs 80 and 2 kg of rice per day. Sometimes, almost all the members of a family migrate to Bengal, leaving behind only pregnant women, nursing mothers and some old people. This made them even more vulnerable and dependent on each other for subsistence.

The villagers needed to have assured irrigation facilities in the village, to allow them to do farming on their lands every year. The landless families wanted livelihood options within their village that would involve little capital. In SHG meetings, they would often discuss these matters and would end up voicing their frustrations and that the government was not taking care of the rural poor.

STARTING AGAIN

In 2005–06, PRADAN introduced Arjuna tree (host plant used for tasar sericulture) plantations but it failed because the plants were all grazed. I was apprehensive about initiating any livelihood intervention and decided to share my anxiety with the villagers. The villagers admitted that they had not taken much care of the plants. They had

not understood the benefits of the Arjuna plantations for their livelihood or that it would improve the soil condition in the village. Only a few members of the SHG had planted Arjuna trees whereas the responsibility of taking care of the plants was with all the members of the SHG. Over time, the families that did not benefit (the families whose land was not under plantation) stopped showing interest in caring for the plantation.

The villagers believed that a group of landholding families was required to take care of the plantation which had to be, in turn, monitored by the SHG. This was not true. I realized that there was a lack of clarity about the activity and no proper systems had been developed, thereby leading to its failure.

Once again the SHG members, their husbands and I gathered for the livelihood planning meeting in the village. We discussed the possibilities with each and every family, and walked through the village to understand its topography. We walked through the fields of some families of a different *tola*, to understand the various resources, their quality and their pattern of use. I was completely exhausted but realized how useful the experience had been for me. I now had a better understanding of the village and its resources.

The SHG members were very eager to show me their fields. Of around 300 acres of the village, 65 acres were hilly and under the government's possession. Another 55 acres had large stone boulders and less than a four inch depth of soil which was mostly sand. This land was in the foothills, and also in the government's possession. The villagers call it *khas*, or *parti*, land. Another 90 acres of uplands, locally called *tand*, or *dangal*, were under the villagers' possession but were of no great use other than for cattle grazing. This land was not considered for any cultivation other than timber or fruit tree plantation.

Around 70 acres of medium uplands and homestead land were considered cultivable only for the rain-fed *kharif* crops because there was no functional water body developed on it and, therefore, no irrigation was available. People were using this land mainly for maize and short duration paddy cultivation. Only 20 acres of lowlands in the village was available for cultivation to the villagers, who used the lands for long-duration paddy, with some wheat production in less than two acres of the area.

This land dries up very rapidly—within one month of the harvest of paddy in January or February. The only consistent source of irrigation is a perennial canal of water in the north-east part of the village. There was no concept of cash crops; vegetable farming was not done on a large scale, and very little of the area was used for oil and pulse crops.

Household-based surveys provided us the details of livestock and work-force available in the village. After these initial visits, we conducted a training programme on improved agriculture, which was appreciated by the community. The training for SRI paddy cultivation and *kharif* vegetable production proved really useful for the villagers. They responded well by participating in these activities on a trial basis in small holdings of land.

GRABBING THE OPPORTUNITY

In the meantime, a project from the National Co-operative Development Corporation (NCDC) began in Dumka, which was basically designed for marginal or landless farmers. The intervention was for developing entrepreneurs in poultry-rearing on a small scale. The landless families of Pattaithan were also informed about

this livelihood option. Eighteen families considered the option through their SHGs and, of these, 15 families finally opted for this livelihood activity. To develop a better understanding, we organized an exposure visit to Petarbar block of Bokaro district, where they discussed the pros and cons of poultry-rearing.

The villagers saw how women in other villages came together as co-operatives and conducted their business efficiently. This made a great impression on the visitors' minds. They realized that there was no unity among themselves in Pattaithan whereas the women of Petarbar conducted their business with the co-operation of each other.

The villagers saw how women in other villages came together as co-operatives and conducted their business efficiently. This made a great impression on the visitors' minds. They realized that there was no unity among themselves in Pattaithan whereas the women of Petarbar conducted their business with the co-operation of each other. They were overwhelmed by the unity and co-operation among the poultry grower *didis*, which they felt was missing in their own village. On their return home, they held a meeting and discussed not only the technology and management they had seen in Petarbar but also the co-operation among the rearers. Inspired by what they had seen, the villagers began to espouse and propagate unity.

The shed construction work began, supported by a series of trainings based on different aspects of the activity. Many difficulties arose along the way such as purchasing construction material and the search for masons; these were solved by the joint effort of the villagers. They decided to purchase material centrally and assigned different roles to the members, distributing the work among themselves so that many activities could be done simultaneously. These matters were discussed in the SHG, which played a supervisory role in the construction of sheds. The villagers chose a supervisor (a community service provider, CSP), who assisted them in the construction, in searching for masons and in the purchase of material. It was a great collective effort and 12 poultry sheds were made ready for rearing within two months.

In November 2010, Pattaithan village was selected for the implementation of the Special Swarnajayanti Gram Swarojgar Yojana (SGSY) project. The project included each and every family, regardless of their asset or resource base. PRADAN concentrated on developing a plan that would provide for or impact the livelihoods of each family positively.

First, the design and layout of the project were discussed with the villagers at a village meeting. The funds were to be routed through the *tola sabhas* and the plan was to be made on the basis of the Integrated Natural Resource Management (INRM) approach.

An exposure visit was organized—this time to the Salaiya watershed in Katoria block of Banka district, to understand land treatment and water harvesting. Discussions with the watershed committee members were held. These discussions were quite fruitful and the committee members shared with the visiting villagers how their agriculture had changed after the intervention.

On returning from the exposure visit, a meeting was held in the village to discuss the learning from it. The dates to make a plan and form a *tola sabha* were then decided. On the given day, the entire village met to do the resource mapping, and again we walked through the village to each and every patch of land and made a plan for every area. The *didis*

moved from one plot to another, discussing the merit of the land and its limitations for the purpose of agriculture. The plan for building the seepage tanks, narrow wells, broad wells, water storage structures (30x40 model and 5 % model), land-levelling, farm bunding and gully plugs emerged from visiting different plots.

TAKING CHARGE

Two separate *tola sabhas*—Rengech Hod *tola*

Plan for Pattaithan Village

No.	Main/Sub-Activity Heads	Unit	Plan	Type of land	Families Bene-fitted
1	Land and Water Conservation and Tree-based Activities				
a	30x40 land husbandry	Acre	20.6	Upland with 2 to 5% of slope	27
b	Fruit tree plantation	Acre	23.5	Upland with 2 to 5% of slope	27
c	Staggered trench	Acre	32.1	Upland with more than 5% slope	34
d	Land husbandry	Acre	13.0	Gentle slope and un-bunded lands	51
e	5% model of land treatment	Acre	29.8	Medium upland and flat upland	42
2	Micro-Irrigation Systems				
a	Irrigation systems based on narrow wells	Number	8	Medium upland and homestead land	46
b	Irrigation systems based on broad wells	Number	4	Medium low-land and low-land	41
c	Irrigation systems based on earthen dam	Number	1	In seepage line with firm sides	16
d	Micro lift-irrigation system	Number	1	From perennial source of water to homestead land	8
e	Seepage tank	Number	26	Medium low-land and low-land	26
3	Agriculture Sector Development				
a	Vermicompost	No. of pits	34	Homestead land	34
b	Improved Agri-horti cropping practices	Acre	45.7	Medium upland, medium low-land and homestead	69
c	Sorting-grading centre	Number	1	In residential area near tamarind tree	70
4	Livestock-based Enterprises				
a	Small-holder poultry unit	Number	18	Backyard homestead land	18
b	Goat-rearing unit	Number	10	Homestead land	10

sabha in Santhal *tola* and *Garib tola* sabha in Ghatwal *tola*—were formed, to supervize the work. A Project Execution Committee (PEC), comprising three SHG members and two male members from the SHG members' families, was formed to help with the technical measurements and the preparation of bills. All these meetings witnessed 100 per cent attendance of the families in the village.

During the work on the programme, the barriers of caste and class were broken. Their deep faith in the tola sabha, possibly, helped them overcome the gap of caste and class between them.

This unity, however, did not find favour with some local contractors and middle-men of the village. They began to instigate some families to take undue advantage from the programme. The local contractors spread canards that the PEC members would get a percentage of the funds. One family was told that once the structure was made on their land, it would be declared government land and the villagers would lose possession of it. Furious, this family brought up the matter in the *tola sabha*, declaring that the funds were being mis-utilized and that nothing would come of the plans. The villagers sorted out the matter in the *tola sabha* and convinced the family, explaining the process of the works and the fund flow mechanism. The use of the funds and the billing-voucher systems were displayed in a transparent manner. The family was reassured and their confidence in the process was restored.

In the early meetings of the *tola sabha*, work was prioritized taking into consideration the ridge-to-valley treatment as seen during the exposure visit. The villagers decided to work on the structures of 30x40, 5%, and land-levelling and bunding first and then construct irrigation structures such as seepage tanks and wells. They also considered seasonal variances during the planning of fruit tree plantation. The construction of land and water measures began with great enthusiasm, and the women and men of both the hamlets came together to dig the soil for the 5% models.

The PEC members got fully engaged in laying out the structure for the works for which they had been trained earlier. The villagers felt the need to have an educated person write their books of accounts such as the cash book and the bank books for their payment transactions. In the meantime, PEC members underwent training for measuring the structures and, accordingly, prepared their recommendations for the payment to labourers.

During the work on the programme, the barriers of caste and class were broken. Usually, the Ghatwals (Other Backward Community) considered themselves superior to the Santhals (Scheduled Tribes), and their women usually would not work with the Santhal women; in this instance, however, they came together. Their deep faith in the *tola sabha*, possibly, helped them overcome the gap of caste and class between them. In the *tola sabha* and the SHG meeting, it was decided that all the capable labourers of the village would work in two or three schemes at a time so that the structures could be completed before the monsoon.

During the month of April–May 2011, the release of funds was delayed by the District Rural Development Authority (DRDA), Dumka, the fund-routing agency. "How will we work on empty stomachs?" was the question on the minds of the villagers and they often discussed this in the *tola sabha* meetings.

They decided to borrow some money from their savings in their SHG. Taking into consideration the situation of those poor workers who would

need the funds the most, they judiciously used the borrowed amount. This inclusive approach, however, benefitted only a few families. Some of the families only had upland plots, on which the planning of horticulture and 30x40 model was done.

The village with no livelihood options is now attracting people from all over to give them mantras for successful horticulture practices

In the *tola sabha* meeting, therefore, the villagers discussed initiating horticulture work in the northern uplands of the village (about 8.33 ha of fallow land belonging to about 20 families). It was decided that work should be initiated on everyone's land because that would enhance their interest in carrying out the operations.

The work for the mango tree plantation started with pit digging, followed by the standard practices of plantation. At the end of August 2011, mango plantations on fallow lands were a physical reality, with less than three per cent mortality of plants. The success was celebrated by the whole village at a common feast, increasing the sense of belongingness amongst the villagers. They continued to work with motivation till March 2012 when it was decided that due to the delay in the release of funds by the DRDA, the routing of funds would be done by Jharkhand State Livelihood Promotion Society (JSLPS) directly to the *tola sabha* accounts.

REVISITING PLANS

This gave the villagers an opportunity to review their planning and implementation, to include all the families. They also realized that the decision to form two *tola sabhas* in two hamlets for ease in operations was not working because it did little but increase the paper work. They decided to merge the two *tola sabhas*, naming it the Rengech Hod *tola sabha.*

During the review of their plans, the villagers realized that the Mandal families could get a good harvest from their marginal landholdings by making just one earthen dam in the north-eastern part of the village. A problem they faced was that, with the increasing intensity of agriculture, the procuring of chemical fertilizers such as urea was proving to be very costly; in addition was the irregular availability of urea in the market. To address this, vermicompost production was included in the plan. They prepared the Detailed Progres Report (DPR) of the *tola sabha* anew and submitted it to the JSLPS in June 2012. The plan was sanctioned immediately and the implementation began with the same design and was supervized by the Village Level Committee (VLC), formed by merging both the *tola sabhas*.

The *gram sabha* was involved in the process because the convergence plans were submitted to it. The work of land and water was completed by March 2014 and the villagers are now engaged with greater intensity in agriculture, broiler farming and vermi production.

CHANGED SCENARIO

The impact evaluation report of the *tola sabha*, conducted by PRADAN for Pattaithan in 2013, reported: The village with no livelihood options is now attracting people from all over to give them mantras for successful horticulture practices. A region where the only source of irrigation was rain, now witnesses prepared fields of *rabi* and *kharif* crops all around, irrigated with wells and seepage tanks. The land and water treatment allows acres of uncultivated land to produce tonnes of rice, wheat and vegetables such as potato, tomato and chilli. The mango plantation, prepared over an area of 8.33 ha, was possible because

of the three wells which irrigated the area.

Harichand Rai from Ghatwal *tola* says, "My land was totally barren and cultivation was not possible due to the undulating terrain. After levelling and bunding, I can now use 1.8 acres of my land to cultivate rice and vegetables. Before this, I had to do labour work, migrate to Bengal, cut wood from the forest and sell it. I have now cleared my debt of Rs 10,000 to the *mahajan* (moneylender) and will never borrow money from him. I can earn as much as Rs 8,000 to 15,000 from the vegetables and be occupied full time. I spend most of my time in the field. Earlier, it was very difficult to eat even a single meal per day and now we can afford to buy clothes and go for better health services."

Another villager, Mandal Murmu, shares with tears in his eyes, "I had to mortgage some asset every year for food and my wife died because of a lack of medical attention. I was buried deep in debt to the lenders. Even though I had enough land, the lack of irrigation facilities and the undulating terrain made it impossible to cultivate it. But now I have enough cultivable land because it has been levelled and the irrigation sources provided from the 5% and the seepage tanks in my field. There is now enough water to irrigate crops in *rabi* and *kharif* seasons. I have now cleared all my debts and have come out of the trap of the *mahajan*. My daughter is married and I have distributed the land among my children."

Another *didi*, Sangita Devi said, "My field was barren and we had very little options for livelihood. We used to grow vegetables but it was not profitable due to the lack of irrigation. The crop was often damaged by pests. I had to get my daughter married but the burden of debt from the *mahajan* made it impossible to even think about it. After becoming a part of the SHG, attending various agri-horti training programmes, and with the construction of two seepage tanks and a well on my field, I have now cleared all my debts and got my daughter married. My boys work in the field and cultivate enough vegetables to have a profit of around Rs 10,000 per season. I have grown rice with the SRI technique and have greatly benefitted from our efforts in the *tola sabha*. I do not have to be at the mercy of the mahajan because I can now borrow money from the SHG to buy manure and seeds and, of course, in any emergency."

The stretches of green fields with vegetables, rice and wheat, cultivated with modern techniques, the seepage tanks, the mango plantations, the wells and dams have become evidence of success

These are only a few of the many stories emerging from the changing face of the village in the last one year. The stretches of green fields with vegetables, rice and wheat, cultivated with modern techniques, the seepage tanks, the mango plantations, the wells and dams have become evidence of success. The cohesiveness among the *didis* from both the hamlets has increased and they have now formed a new SHG, which includes the women of all three communities. Their response, when asked about this is, "If we can work together, enjoy together, why not form an SHG together?"

The previously active contractors acknowledge that women are better implementers of the development of resources of the village. The *didis*, who earlier quarrelled on small issues, are now going through proper processes of resolving issues. They are also proud that they have had an expenditure of nearly Rs 42 lakh but not a single rupee has been unaccounted for.

The construction of the 5% model and the seepage tanks, coupled with the adoption of the SRI technique, has almost doubled production. Families that had only six to nine months of food sufficiency now have food sufficiency round the year. This has had a major impact on families that had to migrate earlier to West Bengal, to supplement the deficit of their food. Their stability has increased and now they are trying to enhance their income locally. Poultry-rearing has also provided productive, year-round work for these families. This has positively affected the morale of the villagers.

The women gained the experience of handling money and the confidence of dealing with banks and conducting high-value transactions

People are now becoming more confident in their work and have many plans for use of their constructed assets such as seepage tanks and horticulture. When some SHG members were asked about their vision for the future, they replied that they would send their children for higher education to towns. Some of *didis* have invested in life insurance and they plan to insure other members of the family as well. Around 40 to 45 families have repaid their debts to moneylenders and have got their mortgaged land back. Their new aspirations are a life with good drinking water facility, electricity, mobile phones, colour TVs, motor bikes and contesting the *panchayat* elections.

The SHG has not yet implemented any scheme under MGNREGA; it has, however, helped the *tola sabha* to make and submit some of their schemes for wells and a large-sized pond to be constructed under MGNREGA. They have submitted their plans to the block office, to access MGNREGA funds.

MY TAKEAWAYS

Many land and water works are in progress, and today I feel proud to say that my role and engagement in the processes have reduced; I am hopeful that soon the day will come when I will no more be needed to influence their planning, proposal making and implementation. What I have personally got out of the whole journey are some invaluable experiences that will help me throughout my life in the development sector.

I have realized that the collectives have tremendous strength, to carry out the operations of any project for their members. The determination shown by the SHG members in the functioning of the *tola sabha,* in planning and in the implementation of the schemes is commendable. SHGs, initially, played a crucial role in launching the *tola sabha* as a platform for the villagers, and later the *tola sabha* made itself relevant in the village.

The women gained the experience of handling money and the confidence of dealing with banks and conducting high-value transactions.

The patch-wise treatment of plots in contiguity has changed the ecology of the area. After the rainy season, many new water springs are arising at different places in the lower lands. The water level in the wells has risen significantly and the fields that were drying as early as in the month of October now retain moisture even after January. So, my faith in the success of INRM techniques has been reinforced.

However, the question of investment per family or per hectare is still a dilemma to my mind. An expenditure of around Rs 60,000 per family was required to bring about this level of change in the village whereas the project guidelines of the SGSY restrict the amount to only Rs 21,000 per family. Fortunately, this *tola sabha* was selected for intensive implementation of the project and, therefore, received so much investment, but there are many other villages like Pattaithan that have no government support. Projects such as the Special SGSY can only be used to create examples for other villages but for actual and uniform investment, we need to focus on the programmes under MGNREGA and generate awareness amongst the community to access these.

What inspires me the most is how the villagers rose above personal differences and worked together to develop better prospects for themselves.

What inspires me the most is how the villagers rose above personal differences and worked together to develop better prospects for themselves. Every time they were in trouble or were stuck, they sat and talked with each other, approached other stakeholders, built upon their learnings and came up with better alternatives. Every year, the plan was revised and updated, with the changed requirements of the field, and it became better every time. The rotation of the signatories and the PEC members at regular intervals helped disseminate knowledge among more villagers. Now, they support other villages to develop their livelihood plans. They feel proud when they talk about their struggles and how they overcame them.

Dial C for Change: Alternative Narrative on Transformation

SUDHIRENDAR SHARMA

Organizing the poor into saving groups, enhancing the productive potential of natural resources and creating a cluster of diverse production centres have been the broad framework for transformation in the lives of the poor in Gumla district

FIRST WORD

For many, the poor are considered passive recipients of change—the idea being to pull them out of poverty by creating exogenous opportunities that they can cling on to. Whereas the poor don't resist the plans made for them, they often have very little faith that the plans will work, or work as well as claimed. As a consequence, they not only underestimate the claims that such plans make but also procrastinate before becoming involved with them. Rightly so, as such plans rarely transform their lives. Because context-specific change has not been suitably defined, age-old misfortunes have yet to be transformed. The path to future prosperity has yet to be paved.

For over six decades, the state-driven processes of rural emancipation have attempted to bring about development and, yet, the number of poor has only multiplied and poverty in its diverse manifestations has deepened. The trouble is that the state continues to persist with its distinct ways and the schemes rolled out to transform the lives of poor people, with the intent of development, remain trapped within the convenience of time, scope, space and even policy.

However, there is a difference in Gumla, Jharkhand, a rain-fed district that is predominantly tribal, where non-state actors have partnered with the state, to create 'nudges' tailored to suit local ecological conditions. The undulating terrain, the dusty landscapes and the dilapidated households have, for once, been witness to actual change. The economic success is evident but the crux of the story lies in the manner in which the convergence between the state and the non-state, the formal and informal institutions, and business and civil society has been engineered to script an 'alternative narrative' of social transformation.

The conventional narrative mode is often linear, using a set of cause-effect features to communicate the story. It represents a limited point of view, which is not only obvious but often predictable. The alternative narrative, on the other hand, deviates from the obvious because it locates the story in a broader context, pulls out inferences that go beyond cause-effect linearity and paints a picture that has depth and dimension.

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The narrative that follows is an attempt to understand the currents of transformation that have permeated the region and how these have been engineered into society, which has become a proactive partner in it. Consequently, it seems the world of the poor is no longer a land of missed opportunities. The poor now have the power of transforming their own lives and that of others—silently and diligently. The alternative narrative is an attempt at decoding the method in this process—some of it explicit and much of it implicit. The good news is that when something like this happens, it may only need one push, a committed generation, to sustain and facilitate the process of transformation.

THE STORY

There are many stories that add up to the creation of an alternate narrative. We see the story of transformation when we tread across some of the 216 villages and knock at some of the 18,966 households in as many as six blocks in the district. These numbers constitute 22 per cent of the villages and 12 per cent of the households in a total of 12 blocks in the district, a significant number. The change is being brought about by a small but committed team working under the aegis of PRADAN—which has created many innovative avenues of engagement in some of the poorest households in the country.

Scene 1: Prized Animals

What has hockey got to do with poverty? Seemingly, both have dribbled into the lives of the people in Gumla district. The playing eleven in the national women's hockey team comprises women from this district. Pratima Kindo's (SHG member) knowledge of the game might be limited but she does know that in local hockey competitions, the winning trophy is most often a 'goat'. For her, rearing goats supplements her family income. Of the 30 households in Sijang-Ambatoli village, as many as 21 households are now rearing goats.

Maintaining a herd of 30 animals costs around Rs 1,500 each year, and the expected return, once the litter cycle is set in motion, is at least ten times the recurring expenditure. A set of animals and a goat-pen have been subsidized under the Tribal Welfare Prototype Scheme, Jharkhand. The challenge before the participating households has been to maintain a healthy progeny and a viable herd for their own benefit under the expert guidance and supervision of a para-vet. Overall, approximately 566 families are engaged in goat-keeping and the number is steadily growing. Not only have the families been gainfully engaged in goat-rearing, they have also become effective managers of a live herd.

There was need for substantial groundwork before the people accepted goat-keeping as a livelihood option. It has been dealt with in great detail, and its social relevance and economic viability have been mapped as well. The tribal ecosystem is conducive for rearing goats; the

settlements in the backdrop of the forested areas provide the necessary feed for the herd. Most of the households clearly see their herd through the economic lens but there is more to it which they find hard to articulate. Does it offer insurance against medical emergencies? Pratima Kindo does consider animals as a kind of insurance cover against economic exigencies for the entire family, without having to pay a premium, however. No wonder then that the goat-pen has not only become an integral part of the household but is also looked after closely by all the members of a family.

Although difficult to establish, could it be possible that villagers drew their 'skills' and 'endurance' to survive against odds in goat-rearing from the traditional game of hockey?

However, the conventional narrative emerging from Scene 1 (on goats) is undoubtedly of economic security, achieved through the adoption of an activity that was made risk-free by the programme team that had carefully re-introduced livestock into the tribal landscape. Because the households have been trained in goat-keeping with the assurance of para-vet services at hand, the risk-free venture, suited to their socio-cultural ecosystem, has found favour with the poor.

Formal insurance of any kind is a rarity among the poor although health insurance and insurance against bad weather have been their standard concerns. Insurance is unlike most transactions that the poor are used to. They find it hard to comprehend that they have to pay for something they may never make use of. However, goat-keeping provides them an indirect insurance cover, for which they need not pay a premium but they do become eligible for monthly rewards.

A livelihood opportunity that cross-subsidizes an insurance cover is the take-home from this venture. Given the economic uncertainties that the poor are consistently exposed to and the impending climate change, there seems to be a case for using public funds to create livelihood opportunities because that may act as hedge funds to cover risks and exigencies. Federating goat-keepers could further strengthen collective insurance for them.

Scene 2: Back to One's Land

Budesar Singh seems to have lost track of the number of years he has been a migrant labour, travelling to far-off places in search of work to ensure the survival of his family. The memories of insalubrious living conditions haunt him as much as do the daily risk of losing his belongings. Bringing home savings from work was at an enormous risk of leading an insecure life in the hustle-bustle of crowded cities, considering there was always the danger that the money that he saved from his work could be stolen at any point.

All that has changed because Singh is now one among several farmers in Baranda Toli (a village with 150 households), who cultivate vegetables for commercial purposes. They have managed to ensure, with support, a secure and permanent water source, and his small patch of 15 decimals blooms at least twice a year, yielding more than what he would have saved from the construction and wage work he was engaged in. Cultivating vegetables for the market, however, is not enough unless a forward linkage is set up for bargaining a suitable price.

Supply-chain linkages depend on the volume of material that can be made available to the market upon demand. Without doubt, the process of developing such a chain has looked at the supply-demand conundrum to the advantage of the local people. Not only has the system been well laid out, the capacity of the

local youth to act as a link to the market has been orchestrated. Leveraging resources from the local administration to back up the support by developing a 'sorting centre' has contributed to setting up a sustainable supply chain.

Government resources are rarely used to create small land-based businesses; therefore, it is much easier for the poor to move out to the city. However, if a market could be brought to their doorstep, land-based enterprises could use the opportunity and continue to work in their traditional vocation (farming). Although it is common knowledge that farmers are giving up farming to seek more sustainable means of livelihood, it is indeed heartening to note that now migrants are returning home because they see an opportunity for a better future in Gumla.

The vicious cycle of poverty can be broken by engaging with the market for economic optimization of local natural resources. New lucrative opportunities such as vegetable cultivation can be created.

Two points are clear. First, the vicious cycle of poverty can be broken by engaging with the market for economic optimization of local natural resources. New lucrative opportunities such as vegetable cultivation can be created. Second, the development of a value chain binds people to a new set of ground rules, which provide individual gains and, at the same time, create a community of practitioners working towards the greater common good.

There are, of course, questions that arise. Is this a temporary transition or is there more to the story that is currently being scripted? There are two perspectives from which this transition can be viewed. The first is techno-economic in nature, wherein the local capacity has been raised to leverage the market for establishing a land-based enterprise. This is the conventional narrative, which is linear and wherein the indicators of success lie in the 'numbers'–of people engaged, of material marketed and of profit made. The narrative assumes that the economic incentive will propel the cause-effect relationship to persist over time.

If economics had been the only incentive, migration could have been as lucrative as farming, if not more! This leads us to the second perspective that relates to the cultural underpinning of the economic transformation. Whereas it is often considered that development is essentially an economic idea, in reality cultural undercurrents play a critical role in social acceptance of change. This is more evident in a tribal region than elsewhere. It is the cultural belongingness to land that plays a crucial role.

Stretching the argument further, it is also a fact that the social strength of the tribals rests on a loosely organized egalitarian existence with a strong belief in ecological principles. This is seemingly more evident in Gumla than elsewhere, where a sense of collective survival has percolated horizontally across the society. The realization that culture has a strong bearing on 'development' has only begun to unfold and is still not totally understood. The work by the programme team has inadvertently leveraged the cultural context to its advantage. This is indeed a subject for detailed study, beyond the purview of this article.

Scene 3: Sustaining change

"We celebrate as we deliberate," said a woman in the monthly meeting of the Federation. Each woman represents her respective Cluster. The women are dressed for the occasion, in off-white saris with maroon borders. The mood is upbeat and the environment vibrant; they discuss issues related to maintaining accounts

and developing viable plans for their Clusters. In a democratic set-up, the Federation exudes the power of numbers and the strength for change.

There are 1,063 functional Self-Help Groups (SHGs) promoted by PRADAN in the district; these have been grouped into 61 Clusters. Ten such Clusters constitute a Federation. In each of the Federations, the accounting system is perfected to the last digit by computer *munshis*, who have been appointed to manage the accounts, which provide a real picture of the financial health of the groups. This financial clarity has empowered women's groups to negotiate with the government for mobilizing public funds.

The realization that culture has a strong bearing on 'development' has only begun to unfold and is still not totally understood. The work by the programme team has inadvertently leveraged the cultural context to its advantage

Clusters and Federations are sustained on the funds collected through a membership fee by the groups, which provides services in return. From addressing social issues such as the curse of liquor consumption to the administrative streamlining of the Public Distribution System, the Federations continue to re-invent themselves to stay relevant. Acting as pressure groups, the Federations have become the front-office for the social transformation sweeping the district.

How far the SHG-Federation inter-dependence will last is a million dollar question. Much will depend on how these women-led institutions position themselves between state and non-state institutions and how involved they become in the on-going economic activities in the region. Without a doubt, leadership is as critical as the drive to reinvent the Federations as an 'agency' for change.

Over the years, for many 'development agencies', organizing women into SHGs has become a convenient entry point for initiating development activities in rural areas. Whereas it has worked in a majority of the places, at several locations this neo-institutional mechanism is literally on the verge of collapse. Leadership has undoubtedly been one factor; the absence of an enterprise model of sustaining such groups is another.

As one delves further into the socio-psychology of these Federations, it becomes apparent that a bit of hope and some reassurance have been powerful incentives for groups to stay together. The sense of security that these Federations provide acts as a glue for two reasons: one, it creates a sense that the future holds promise and, two, it lowers the stress level of the community because it provides an umbrella of protection over their heads. The connectedness of the collective to such Federations is determined by the kind of goals that have been set and how far the goalposts are from its members. It helps if every member is motivated and is inspired to aspire for change.

Scene 4: Sweet Taste of Success

A sage was once challenged by a king, "Tell me, how do you describe 'truth'?" The story goes that the sage handed a mango to the king and said, "Only by eating it, will you know the truth of its taste." Unlike the sage who could not describe its taste, Shivshankar Oraon knows the flavour of his mangoes. For Shivshankar, however, the truth is that his life has been distinctly flavoured, ever since he harvested his first crop of mangoes three years ago.

Shivshankar has been joined by 900 other households in four of the 12 blocks in the

district, in harvesting the fruits of their labour and patience. Shifting from cultivating coarse grain to planting fruit trees in his erstwhile barren plot has dramatically transformed his life—and he has moved on from being a menial daily wager to a proud orchard owner.

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Raising a mango orchard is not very complex but nurturing saplings for first three years during the non-fruiting period can be very frustrating, especially when the farmer is extremely poor. The solution to this was to introduce inter-cropping with vegetables while waiting for the mango trees to bloom. Vegetable production yielded Rs 25,000 each calendar year. The number of mango growers has now gone up to 50 households in Kuraag village because of the cushion provided by vegetable cultivation.

Overall, some 557 ha of land are under mango cultivation in Gumla district, producing no less than 500 tonnes of mangoes worth over Rs 1.2 crores during one season. What went into the making of this mango district? Funds were not raised from traditional donors but resources were mobilized from various schemes of the government, to spur the sweet revolution. Under the Integrated Tribal Development Programme, the Micro Economic Social Organization (MESO) offered Rs 29,500 per acre on an experimental basis, which was used for creating irrigation infrastructure such as wells. With the vegetables and mango farming combination becoming economically viable, tribal farmers as well as government officials are upbeat about the success of the initiative.

The experiment with mango orchards points to the ingeniousness of the programme team to create location-specific options for people to choose from. Selecting *Amrapali* as the mango variety for the area may have been a technical choice but dovetailing it with a cropping package was a conscious decision. This was a carefully thought-out strategy to engage marginal land-holders in agronomic practices that would offer a win-win scenario for the smooth adoption of mango as a valuable crop. Mangoes have not let the poor down; instead, these have helped usher in economic prosperity, resulting in many families moving to the town to avail of better education facilities for their children.

This raises a compelling question: where does this newfound (relative) prosperity lead to? Some econometric studies do suggest that as the poor move to another level of economic engagement, they usually exit the previous vocation after they find a firm footing through it. In addition to this being an obvious implication of any developmental intervention, it nevertheless demonstrates the effectiveness of the programme and its rightful ownership by the target population. Such change has a progressive fallout because it creates space for the next batch of the impoverished community to move up the ladder. An econometric analysis can help determine the true impact of this development intervention.

THE MESSAGE

The menu of interventions may have been conventional but the scenarios it generates stretch beyond the cause-effect paradigm. Organizing the poor into saving groups, enhancing the productive potential of natural resources and creating a cluster of diverse production centres have been the broad framework of change in the district. However, it could not be anticipated that the menu of interventions would lead to a sub-menu,

wherein a social safety net, sustained income and food security emerge as unintended outcomes. Put them all together and it paints a comprehensive picture of change.

The fact that the approach has worked and worked effectively, leads to an obvious query: what have been the driving principles of change that development practitioners can take home from Gumla?

The fact that the approach has worked and worked effectively, leads to an obvious query: what have been the driving principles of change that development practitioners can take home from Gumla? Even if all the ingredients are available, making a perfect dish needs more than the right mix of all that has been on offer! Similarly, putting the menu of interventions on the ground may not necessarily yield the desired outcome. The following factors seem to have worked, in isolation as well as in combination, to trigger change.

Menu of Choices

In offering a diverse but locally relevant menu of interventions for the poor, the programme has not scaled down expectations but has instead focused on the core competencies of people and backed it with technical support. Given that growth requires both manpower as well as brainpower, the menu of choices has made the best use of both in creating a spark. Unlike other impoverished groups, tribals embody a culture of collective survival, which helped spread the spark across society.

The diversity of options has also increased the probability of acceptance. Because the poor often lack critical pieces of information and have rarely been given the power to make decisions, the choice of options empowers them to view themselves in a 'game-changer' role. Often, poverty manifestation does not allow the poor to perceive 'change' even if it exists all around unless they are themselves made to believe, through hands-on experience, that change is indeed possible. This not only leads to increased ownership of development interventions but also an innate desire to make these work as well.

Institutional Synergy

Rather than raise projects to make investments in development options, PRADAN has partnered with the district administration in leveraging resources from various anti-poverty schemes of the state. Unlike time-bound projects, such an approach helps continue strengthening, consolidating and expanding the outreach on a programme-to-programme basis. Notable in this approach has been the fact that rather than engaging the tribals into alternative livelihoods programmes such as food for work, the focus of engagement has been land-based.

The success of the initiative has significant lessons for future planners. If a one-time investment of around Rs 2 crores can generate Rs 20 crores on an annual basis, there is enormous potential of turning things around in rural areas. However, it must not be construed that the same approach can be replicated easily in every area. It would need an intermediary organization, whose members can touch the ground running, to convert the undercurrents into signals of activities for engagement with the poor. It would warrant a suitable mix of techno-managerial skills, along with an appreciation of local traditions and cultures, for designing programmes that pull the poor out of poverty. Else, food and employment insecurity will continue to cripple the economy for all times to come.

Through initiatives such as those introduced by PRADAN, there emerges a scope for

improving the functioning of formal and informal institutions. The PRADAN team created conditions for synergy between disparate institutions which, coupled with technological innovation, allowed a supply chain with forward-backward linkage to develop where it was non-existent.

Poverty, in its diverse manifestations, leads to an intolerable waste of talent. It is now being widely accepted that poverty is not just a lack of money, it is not having the capability to realize one's full potential as a human being

Capability Push

Poverty, in its diverse manifestations, leads to an intolerable waste of talent. It is now being widely accepted that poverty is not just a lack of money, it is not having the capability to realize one's full potential as a human being.

Capability as a means of progress has been central to all cultures. Economic growth as a normative concept, on the other hand, undermines capabilities and, hence, human dignity. In Gumla, it is the people who matter ultimately; profits are only a means to improving human lives. Through various interventions, communities have been encouraged to live full and creative lives because the focus has been on improving their lives. In an era of perpetual inequity, it has been demonstrated that the idea of development works well when it is focused on the lives of the individuals and the way they actually live because in the final analysis that alone has to change.

Capabilities of the community across villages have been given a push; from amongst the poor have emerged para-vets, orchard owners, innovative farmers, willing entrepreneurs, market mediators and leaders. Those who were earlier bunched together as 'poor' have now been ascribed distinct capabilities! This is indeed the crux of the alternative narrative where economic transformation has been used as a means to enhance human capabilities and, indeed, human dignity and pride. Wherever economic transformation is assumed as the final goal, change can only be temporary.

In the final analysis, the project team created a 'menu of choices' through which it leveraged 'institutional synergy' to build the 'capacity' of the local people. It created congenial conditions for change through:

- a multi-talented team, driven by distributive leadership
- a sense of 'agency' for transforming the community
- an approach, based on the principle of trusteeship

Social transformation, thus, has been an interplay between several factors, some known and many unknown, in building an 'alternative narrative'.

LAST WORD

We are largely incapable of predicting where growth will happen, and we don't understand very well why things suddenly ignite. Neither can we guarantee that our actions will lead to the reduction or eradication of poverty. Because poverty has been with us for many thousands of years, it is unlikely that it will be removed easily. In no way, should it mean that efforts to address the causes of poverty be slowed down. On the contrary, each step needs to lead to another, and we need to move forward with optimism, assimilating the learning from our experiences.

It may not be easy to escape from poverty, but some well-targeted guidance can sometimes lead to dramatic outcomes. Many studies

have shown the growth linkages between agriculture and the wider economy. It has been estimated that on average, in Asia, every $1 increase in agriculture income adds $0.80 in additional farm income. This theoretical possibility has indeed been turned into a reality in Gumla although there is need to capture the finer details.

The 'alternate narrative' is based on evidence of change, apparent and perceived as well as physical and economic. There is more to it than what we see. The stories do add up but getting a coherent and logical script from these stories remains difficult. Each of the stories provides compelling evidence that communities have rallied around to convert their misfortunes into prosperity. It may still be early days, yet the trends clearly show what people have been able to achieve, dispelling the entrenched notion that the poor are doomed to failure because of their poverty.

Although we may not have the magic wand to eradicate poverty, it could, however, be safely said that there are context-specific realistic solutions at hand

Although we may not have the magic wand to eradicate poverty, it could, however, be safely said that there are context-specific realistic solutions at hand. The experiments in Gumla have demonstrated possibilities, small as well as big. Since the situation has started to change, the improvement itself is influencing the beliefs and behaviour of the people. This is reason enough for this cycle to be set in motion and, for as long as the external factors remain favourable, the cycle must remain in motion.

Baiga Tribes: An Uneasy Journey

CHANDAN SARMA

Extremely poor, untouched by education or development, the Baigas not only live a hand-to-mouth existence, but also experience a deep sense of alienation from the larger mainstream society

BAIGAS: AN INTRODUCTION

The Baigas are semi-nomadic tribes that reside in the jungles and its fringes around the Madhya Pradesh (MP) and Chhattisgarh border in central India. They belong to the Primitive Tribal Groups (PTGs); the politically correct term, however, that has been used in recent times is Particularly Vulnerable Tribal Groups (PVTGs)—one of the 75 remaining vulnerable tribes in India. The Baigas speak in the *dehati* (local) language, having long lost their original language. The British first came in touch with this tribe in Dindori district, where the Baigas were found living in dense jungles and inhospitable terrain, far away from 'civilized' human contact. Their journey from a reclusive tribe inside the forest to living on the fringes of villages in the last 200-odd years has been a story of great loss and apathy.

One visit to the village or any Baiga hamlet, gives a clear indication of why the community has been placed under the PVTG category. Extremely poor, untouched by education or development, the Baigas not only live a hand-to-mouth existence, but also experience a deep sense of alienation from the larger mainstream society. Part of the alienation is due to the loss of the old way of life. When first discovered by the British, and subsequently heavily reported by the anthropologist Verrier Elwin (who wrote a poignantly beautiful anthropological book called *Baiga*), the Baigas were living in the forests and had very little interaction with the world outside.

Ploughing the earth was prohibited in their tradition—being equated with ploughing the breast of one's own mother. So, in the olden days, along with hunting and gathering, *bewar* (slash and burn) was extensively practised. Elwin notes that a similar belief prevailed in one of the Native Indian tribes of Northern America, where ploughing was prohibited in the community. Also of interest is the fact that a recent study by the Anthropological Survey of India concluded that the Baigas share genetic similarities with the aborigines of Australia.

The Baigas are divided into sub-castes—the Binjhwars (Gond Baigas), the Bharotiyas, the Nahads (Langotias or Narotiyas), Rai Bhaina and Kadh Bhaina. Of the sub-castes (tribes), the ones found on the MP-Chattishgarh border areas are the Nahads (Narotiyas), the Bharotiyas and the Binjhwars. Whereas the Bharotiyas and the Binjhwars are usually small landholders, the Nahads are semi-nomadic. In Mandla and Dindori districts as well as in Birsa and Baihar blocks, the Bharotiyas have a significant presence. The Binjhwars are scattered across the Paraswada, Baihar and Birsa blocks and are quite similar to the Scheduled Caste (SC) Gonds in their way of life.

Culturally rich with unique dance forms and colourful clothes, the Bharotiyas are often showcased in front of teary-eyed, awestruck foreign tourists at the various resorts of the Kanha National Park

The third in the category are the Nahad Baigas (Narotiyas or Langotias). *Langotia* literally translates to 'one with a loin cloth' and has often been used in the past in a derogatory sense. As the name indicates, the Langotias are not only the poorest of the three sub-categories, particularly with respect to culture and identity, but are actually those who have not been able to align themselves, even remotely, with the so-called mainstream society. Again, it is very difficult to ascertain their numbers, owing to the confusion in the different sections amongst the Baigas and also due to the tendency of the surveys to club them as *adivasis* or in Hindu categories.

Culturally rich with unique dance forms and *colourful* clothes, the *Bharotiyas* are often showcased in front of teary-eyed, awestruck foreign tourists at the various resorts of the Kanha National Park. The Binjhwars have more or less been assimilated into the rest of the Gond tribal ways in the area and identify themselves more with the larger Gond community than the Baigas. As mentioned earlier, the last category, the Nahads, are semi-nomadic and live in villages inside forests or on the fringes of Gond villages, bordering the forest. More than half their life is spent inside the forest, with bamboo and associated products being their main source of livelihoods. Neither culturally rich nor perceived as 'settled' like their other Baiga brethren, the Nahads are completely alienated from the mainstream, withdrawing from the larger society. They live in total seclusion inside the jungles and interact with the larger community only on market days or when they go to ration shops. The Bharotiyas, also called the Bharatiyas, now live in well-connected villages in Mandla and Dindori districts and in many villages of the Baihar and Birsa *tehsils* in Balaghat district.

Many government schemes have been drawn up for the Baiga community, some of them, unfortunately, have no utility to the community. For example, Sundar, a young man in Kukda village of Paraswada block, received a sewing machine as part of a government scheme. For a community that is extremely austere as far as clothes are concerned, a sewing machine as a source of additional livelihood is meaningless. The Collector of Balaghat had once remarked that if all the money spent on the Baigas had been directly transferred to the community, most families would have been *lakhpatis* (millionaires) by now.

Dwelling on the money spent per capita, however, might just be missing the larger point. The Baigas, despite their hand-to-mouth existence, earn income comparable to the Gonds from their bamboo and basket-making. Again, the idea is not to compare the earning power of two very economically poor tribes

but to understand the relative deprivation, despite their greater earning power and higher allocations through government schemes.

The Baigas are usually looked down upon by the socially more powerful Gonds in the area. Alcoholism is widespread, and polygamy, though not widespread, is prevalent. In several villages, it is not uncommon to find one man with two or three wives. Baiga legends have several references to the larger Gond society with the powerful *Bhagwan*, or God, creating the first Baiga as the elder brother and the first Gond as the younger. The tales refer to the elder brother being allowed to choose what he wants to do; he decides to let the younger one do the farming whereas he chose to live in the forest on fruits and plants. Ironically now, the Gonds control the farming lands and the forest guards control the jungles

In Balaghat district, whereas the Narotiyas (Nahads) are largely landless, the Bharotiyas and the Binjhwars are marginalized farmers with about half to one acre of landholding. In Dindori district, 50 per cent of the Baigas are landholders whereas, in Mandla district, the percentage of the landless is higher.

Today, the Nahad Baigas depend heavily on the forests for their survival. They sell bamboo from the forest or make baskets with it for sale. They are very skillful in the art of bamboo craft. Some of them collect honey. Many have eventually picked up the plough and now engage in farming. However, their semi-nomadic way of life, along with the lack of farmlands, makes farming an untenable affair. The Bharotiyas, in the interior tracks of Baihar and Birsa of Balaghat district, are dependent on wage employment to supplement their paltry income resources from crops and on the largesse of government schemes such as the public distribution system (PDS). Most of them practice broadcasting methods in agriculture and grow minor millets such as *kodo* and *kutki*. In Mandla and Dindori districts, they are either small landowners or are landless, and face issues similar to landless families. Excessive drinking is a way of life in the Baiga household. A Baiga settlement in any village is the most inaccessible place, with no roads leading to it and no electricity.

DEMOGRAPHY

The population of the Baigas as per Census 1981 was 2,48,949. However, this could be an inaccurate demographic picture because the Baigas are sometimes clubbed in the Census as *adivasis*, or caste Hindus. The sex ratio is high when compared to the average in India, at over 990 females per 1,000 males.

The State Planning Commission Data, MP, lists the villages with presence of the Baiga population into two categories, namely, the interior/remote and the connected. The table below gives the details of the categories in the three districts of MP—Balaghat, Mandla and Dindori—as categorized by the state government.

Unlike many families in rural India, the Baigas prefer nuclear families to joint ones. Children marry early and move out of the household. Field experience shows that the normal size of even nuclear families is six to seven. A large percentage of the people do not survive until old age although it is not uncommon to find an old Baiga couple (called *dokra* and *dokri*) living on their own in some corner of the village. The number of families per village is about 25. As a community, the Baigas are quite spread out; unlike other communities that stay together to form a village majority in terms of numbers, the Baigas are a minority in most of the villages they reside in. Also, going into the details of the list of villages of the Planning Commission, one finds that there is a mis-match among the

Name of the District	Category of Village	No. of Blocks/ *Tehsils* in which the Categorized Villages Fall	Total Villages Covered	Total Families	Total Population
Balaghat	Interior	3	179	3,841	17,146
	Connected		33	901	3,580
Mandla	Interior	9	235	6,976	29,808
	Connected		48	2,057	7,799
Dindori	Interior	7	209	5,289	23,842
	Connected		284	6,056	26,412
	Total		**988**	**25,120**	**1,08,587**

given populations. For example, Tikaria village in Paraswada block has nine Baiga families whereas only one is listed in the Census. In Madanpur village, on the other hand, there is one Baiga family whereas the list mentions three. So, it is quite a herculean task to draw a correct demographic picture of the community.

BAIGA–SOCIAL AND CULTURAL LIFE

Bada Deo, who is believed to reside on the *Sajja* tree, is the highest deity of the Baigas. Women from the community are prohibited from going anywhere near the *Sajja* tree. Mara Deo is the god of the Baigas and resides outside the houses and is prayed to secretly by the men. Not all families can worship Mara Deo. He is a God handed over as patrimony from father to son. He is widely believed and worshipped by the Baigas to bring wealth and prosperity into their households from the richer families in the village and is worshipped before the *kharif* season.

Holi and Diwali are also now uniformly celebrated. Raksha Bandhan, which was rarely celebrated, even a decade ago, is now an important festival with most families celebrating it. Pola is the harvest festival. The day after Pola is the Narbod festival. On this day, the traditional knowledge of herbs and medicines of the forest is passed on from the older generation to the younger one. Local liquor called *mahua* is offered to *Dharti Mata* (Mother Earth) on this day. The root of a shrub called *bhaisa tard* is eaten on this day—it is believed to give strength and vitality. Legend has it that in the olden days a buffalo was tied to this root and even with all its brute strength, it was not able to uproot it.

Among both the Nahads and the Bharotiyas, *mahua* is an integral part of a marriage ceremony. The groom's family has to bring three tins (about 40 litres) of liquor to the bride's house; the guests move around in circles blessing the couple and proceed to drink liquor. The couple then travel around the village praying to all the gods and goddesses. Most marriages take place between people from nearby villages and polygamy is not uncommon. In villages where the Baigas live in close proximity with other communities, *sindoor* is widely used by the married woman.

In villages where socialization with other communities has taken place, women wear the regular sari; in interior villages, a smaller

version of the sari, called the *sola haath*, which literally translates to 16 hand lengths, is worn. Men wear anything from pants and shirts to *dhotis*, depending on their interaction with the larger community in the area. Young children generally roam about half-naked. Tattoos are common among the middle and older generation, particularly in the Bharotiyas. Usually decorated in ornament form, tattoos are a symbol of love of the parents for the girl child, for they cannot afford to give her expensive real ornaments.

Unlike in the past, the Bharotiyas and the Narotiyas today marry each other without much social taboo. However, marriage between the Binjhwars or the Gonds is not an accepted social norm.

The surnames of the Baigas are similar to the Gonds in the area—such as Tekam and Uikey. Many men add Singh and the women Bai to their name.

Kukda Village Paraswada Block

There are ten development blocks in Balaghat district and the Baiga community is primarily found in the Birsa, Baihar and Paraswada blocks. Whereas in Birsa and Baihar they form quite a significant chunk of the population, in Paraswada, they are a minority community. They form about two to three per cent of the population in Paraswada, which has a population of about 97,000. In villages of the Paraswada block, the Baiga households usually live on the fringes of the village bordering the forests. Typically, the area occupied by the Baiga families is called the Baiga *tola* and about 8–10 families live in a clutter of small one-room houses.

In the forest village (*van gram*) of Kukda in Fatehpur *panchayat*, there are 35 households belonging to the Baigas, four belong to the Gond Scheduled Tribes and three families belong to the Yadav community. The forest department has issued a *patta* for about 20 families in the village. Kukda village is at a distance of 13 km from Paraswada block and is surrounded by a thick forest. At a distance of about 5 km from Kukda lies the village of Chinni (about 6 km from the block). A drive through the undulating earthen road from Chinni takes one to Kukda.

Alternative Approach to Mobilization: Community Based Theatre

My first brush with the Baiga community was by chance. Community Based Theatre (CBT) had been initiated in Kukda around the end of November 2011. The idea was to provide a platform for the community to discuss their issues in the village and then present them creatively, not only in their village but also in other places such as the block and the district. It was an idealistic expectation that we (with the support of external trainers) would train the people of this village to raise awareness through skits and role plays. It was an attempt to reach out to the poorest of the poor and the entire team was present in several of the initial meetings and interactions in Kukda. The response of the community was one of profound reluctance initially, followed by bouts of extreme enthusiasm and eagerness, and finally mild indifference to the process. In the five months that we were actively involved in the village, there was one common factor in all the meetings that were usually held at night: most people would turn up drunk, invariably leading to a fight. During the day, a majority of the people would be in the jungle working, either bamboo-cutting or basket-making.

By the end of December, the night meetings were held fairly regularly in Kukda with a great deal of focus on village solidarity. Even people from the Gond and the Yadav families began

to come regularly. In December, about ten meetings were held. In the first three meetings, most Baigas arrived drunk, leading to much chaos and little discussion. In the next four or so meetings, the attendance was low although there were volunteers responsible for calling people to the meetings. In the next three meetings, however, most people turned up sober. Needless to say, we had to use methods ranging from coaxing, motivational talk to even mild threats of never coming to the village to persuade the community to participate in the meetings. We were a team of three (Amreesh, the external resource person from Koraput in Odisha, Yogesh, one of our community mobilizers and myself). Together with the volunteers, we would visit the villagers' homes in the evening, telling everyone that the meeting was going to start at 7 p.m. A fire would be lit in three places near the school and all the people would sit around the fire. The hardest to mobilize were the families who lived some 3 km inside the jungle, near the stream. For the last three meetings we insisted that each family was represented at the meeting and no one came drunk to the meeting, or else the meeting would not take place. Our persistence finally bore fruit and by the last week of December, we had three consecutive meetings in which the villagers were not only sober but also every family was represented.

The Baigas live in one-room mud houses—in no way adequate—that leak or collapse during the monsoons. Winter brings with it the additional challenge of the cold

In these three meetings, Amreesh shared with the villagers the idea behind the CBT and how they could actually get together and resolve issues of their village. After several rounds of sub-group discussions, fights, arguments and even three impromptu skits, the families reached a consensus on the issues they wanted to work on. First and foremost was the issue of housing. The Baigas live in one-room mud houses—in no way adequate—that leak or collapse during the monsoons. Winter brings with it the additional challenge of the cold. A log of wood is burnt the entire night and people sleep huddled around it. A thin sack on the ground forms the mattress. Once, a representative from the bank collected Rs 500 each from about 20 families with the promise of providing houses under the Indira Awas Yojana. He left a booklet and some papers with them. The booklet was in Japanese! Which is why the villagers' foremost demand was housing for the community.

Once it was decided that the village, as a whole, would fight for their housing rights, it was time to visit the block. More than half the village walked with Amreesh from Kukda to the block. I joined them half way through this march. Two RTIs were filed: one demanding information on the amount spent by the government on Kukda in the last financial year and the other demanding the plan of the *panchayat* for Kukda for the next few years. The people came singing the song they had learnt from Amreesh over the course of several meetings:

"Chhodengay nahin, Chup baithengay nahin, Apna adhikar paanay kay liye."

The *panchayat* representatives were livid. But our interaction in Kukda continued in other ways. Some NREGS work had also started after filing the RTIs. But it was now time to raise the issue of housing at the block level. It was agreed that on 24 February 2012, we would walk to the block and file an application on the possibility of building houses in Kukda under the government schemes.

Two days before the event, Yogesh and I went to every household, telling them about the

coming event. On the morning of the 24th, I was to reach the village at 7 a.m. and we would all then march to the block with our demand for the village. It was agreed that no one would drink before we completed our work. However, when I reached the village that morning, people had already started drinking. Many families had already left for the jungle to cut bamboo. Finally, 12 of them gathered near the school premises where I was waiting. Nearly half of them were in an inebriated condition. The morning sun was beating down on us. By the time, we reached the block, 13 km away, all of them had sobered down. They sang heartily and raised slogans for about ten minutes in front of the BDO and an audience of officials and curious passersby.

After the meeting with the BDO, 25 houses were sanctioned under the Indira Awas Yojana (IAY). The unknown representative of the bank came and returned the money he took from the families. Work started in the month of August amidst a general sense of relief in the community, and they began to believe in the process. A Service Provider (SP) from the Baiga community in Kukda was selected; however, he left in a month's time.

Agriculture Intervention in Kukda

Meanwhile, the monsoons came and the agricultural intervention also started. Vegetable cultivation with 25 families and the SRI with eight families were initiated. We realized that there was a problem of cattle grazing in Chinni village. During the paddy period, the *charahas* (herdsmen) would drive their entire cattle from Chinni to the jungles surrounding Kukda. Some cattle would be left behind in the forests. These would then wreak havoc at night, when the Baiga families would mostly be sleeping or drunk. During the day as well, once the families left for the forest, the stray cattle would break the bamboo fencing and destroy the crops. The families largely managed to save their vegetable cultivation (some even selling it) whereas the paddy was mostly lost to grazing. The success of vegetable cultivation that year was very encouraging for the community. There was scope for further agriculture intervention and scaling-up if the issue of grazing could be resolved.

In the subsequent summer, the issue of grazing was taken up with the *panchayat*, the BDO. A meeting was arranged between the IAS officer and one of the poorest ethnic groups in India. It lasted for more than three hours, with the officer patiently listening to all the issues raised by the community and assuring the community that prompt action would be taken to ensure fencing or other alternative means of protection of the crops. He also assured them that he would visit their village as soon as some ground work took place.

Our resource person came for two more visits for the CBT process. It was also his first experience working with a PVTG community in MP. Despite the three visits and stay, theatre as a platform of change could not be realized in Kukda. However, in the process, our interaction and understanding of the community increased greatly and there has been a conscious effort to include the Baiga community of the area in the various processes of the Federation. Building on our understanding, agriculture intervention was also initiated with the Baigas living in fringe areas of other villages, albeit only with moderate success.

The rains came a little early for *kharif* in 2013. There was unprecedented rainfall. Some minor officials visited the village assuring them of quick action. The IAS officer was transferred. Rain damaged some of the vegetable crops whereas the rest was eaten up by the cattle.

Nearly 90 per cent of the paddy was grazed. The community refused to touch the remaining paddy.

My own interaction with the community in Kukda has gradually lessened, partly due to the overall failure to save the paddy from grazing and also due to my engagement in other work. The families are, however, keen to continue agriculture as another basket of activity in their portfolio along with bamboo-related activities. A sense of helplessness, though, is creeping in at the inability to save their crops, particularly for a community where agriculture is not a way of life. There is also the fear that if they stop growing crops in the farmlands, the forest department would take away their lands. The success of the demand for housing has been a rallying point for the community, but a more concentrated effort is needed to bring about some meaningful change.

The Baigas are aware of their special category and that multiple schemes have been initiated for them. There is massive resentment that most of these benefits are siphoned away

The Baiga Community and SHG Institutions

The SHG as an institution of savings and credit, of solidarity and, at the same time, as a platform for livelihood intervention has been moderately successful with the Bharotiyas and the Gond Baigas. The Nahads, on the other hand, have been largely left out of the process. Being landless, they depend on the forest for a considerable part of the year and, during the lean phases, migrate to cities or away from villages in search of labour. The migration usually starts from November–December and goes on till March. The people return to the village before the Holi festival. Several SHGs, with predominantly Baiga population, have become defunct in Paraswada block. In Kukda village, eight members of one SHG permanently migrated to other villages. Similarly, in Dendua, Arandiya, Nata, Garari and other villages of the Paraswada block in Balaghat, periodic migrations as well as widespread alcoholism, leading to extensive fights, have been the reason for the closure of the SHGs.

The situation is similar in Baihar and Birsa blocks of Paraswada district. In Dindori district, the SHG as an institution with the Baiga community has been reasonably successful whereas in Mandla district, it has only met with partial success.

The World View of the Baigas

The Baigas are aware of their special category and that multiple schemes have been initiated for them. There is massive resentment that most of these benefits are siphoned away. The Baiga students Ashram in Paraswada has less than 15 per cent Baiga children. The forest guard is usually rude to them. The benefits of IAY are made use of by the well-off instead of the needy Baigas. Building access roads to their hamlets, housing and electricity are the three main demands of the community from the government, which have not been met. Multiple NGOs have given them momentary hope of redemption but have not delivered on their promises, leading to an enormous trust deficit of the community with the wider world.

The community is also very skeptical of people, who take photographs of them because they are a special tribe, and make money out of their photographs. They are aware that they have been given a raw deal by all other communities.

THE WAY AHEAD

There are several Baiga hamlets/ *tolas* in Paraswada block and each hamlet more or less suffers from the same fate. Take the case of Dendua village. There are ten Baiga families living on the fringes of the village with about 18 small children. Only one of them goes to an *anganwadi* kendra, or school. There is no electrification or road connectivity. The 12 Baiga families in Bagholi village live nearly half a kilometre away from the main village. There is no electricity in the village and no road to reach the hamlet. Similarly, the 16-odd landless families in Tikaria migrate completely to nearby cities for many months and, in Arandiya and Jalgaon, the families live in hutments with no electricity or connectivity. In Baihar and Birsa blocks of Balaghat also, many Baiga villages neither have electricity nor roads connecting them. In Kandai and Navhi panchayats in Baihar, which has a predominant Baiga population, power connectivity is negligible and the roads are dilapidated.

There are some positive stories of assimilation, wherein the authorities have taken active steps in the area. In the Baiga hamlet of Tattighat village in Paraswada, there are roads and electricity, and the teacher visits the home of the child if he or she skips school even for a single day.

There are some positive stories of assimilation, wherein the authorities have taken active steps in the area. In the Baiga hamlet of Tattighat village in Paraswada, there are roads and electricity, and the teacher visits the home of the child if he or she skips school even for a single day. All the children from the 14-odd families in this hamlet go to school. They have also received patta for their land. Their portfolio of livelihood includes basket-making, agriculture and honey collection from the forest. Also, Baihar Nari Utthan is an organization focused on working with the Baigas in the three blocks of Baihar, Birsa and Paraswada. They have managed to get Community Forest Rights (CFR) for seven villages and Individual Forest Rights (IFR) for 85-odd families in six villages.

Overall, the state in which the Baigas live today is abysmal. There are no clear-cut solutions to rehabilitate one of the most economically and socially poor ethnic groups in the world; particularly in the case of the Paraswada block, where most belong to the semi-nomadic landless Narotiyas category and are an extremely thin minority, living on the fringes of villages.

A concentrated case-by-case, village-wise effort could be one of the ways out. For example, road connectivity and electrification is nil in all the hamlets of the Baigas. This needs to be immediately changed. It is assumed that the members of the Baiga community are drunk most of the time, are used to living in abject conditions and no amount of social inclusion will do them good. It is very hard to change social attitudes and behaviour but what was done in the Baiga hamlet of Tattighat, can also be replicated across the area. Some years back, a moderately successful land distribution programme was initiated with the Baigas. However, the land given to them was far away from the village and many were not even aware which land was allotted to them. Land rights for the community would be a step in the right direction.

Finally, there is the complex issue of social alienation. Whereas the number of Baigas is steadily on the rise, the very lifeline of the community, that is, their culture, dignity and social survival is endangered with widespread alcohol abuse which they indulge in to cope

with the deep chasm of the dichotomy of their world and the mainstream. The freestyle living of the Baigas where alcoholism, migration and polygamy are a way of life are, in some ways, a direct confrontation of our perceived social values of a regulated and regimented way of life. The struggle will be a long-drawn one, and the education of the children of the community, sustainable livelihoods for the families and the availability of basic facilities such as roads and electricity will go a long way to address the alienation of the community.

On-Farm Productive Water Development and Management: Greening the Central Rift Valley of Ethiopia

AMENTI AND MADHABANANDA RAY

Bringing hope of food security, health and well-being to 'Hungry Ethiopia', the partnership between iDE in Ethiopia and Kabil from India has begun the process of transformation of small-holder families, showing them the way to self-sufficiency and growth by harnessing rainwater, introducing new techniques of cultivating crops and hand-holding them through all their challenges

Ayo Gaguro of Dodicha *kebele* (village) becomes very emotional as she tells her story. "I was married at the age of 12 and now I am a 40-year-old widow with five sons and three daughters. I have seen this village go through very hard times. On the one hand, our village suffered from severe water scarcity (we had to walk 5 km to fetch drinking water); and, on the other, our agriculture field would get washed away during the rains. The bunds around the fields would break due to the heavy rains and the high speed of the sudden run-off water, and, later, the same field would suffer from moisture stress. The hill in the eastern side of the *kebele* causes the havoc.

We were the most marginalized lot in this *kebele*. There was a time, the year before the intervention, when I had to sow corn-seed three times because every time it got washed away. Finally, when I sowed *teff* seeds (a millet grown in Ethiopia and used as staple food) for the fourth time, I managed to get 50 kg of grain. Facing such food shortage was common but, in that particular year, it was severe. I coped by selling our ox for 4,000 *Birr* (1 Ethiopian *Birr* = 0.52 US$). That was not sufficient; therefore, I was forced to sell my four goats. After six months, I had no other option but to withdraw two of my sons from school and send them for daily wage labour in the investor farm, for less than the normal wage.

I was struggling against hopeless conditions. It was at that time that iDE officials and some Indian people came to visit our farm land. This was the first-ever visit by any outsider to our area. They consulted us, visited our fields and the surrounding areas, and enquired if we would be willing to participate in an effort to reduce the threat of run-off water from the hill. We were in complete doubt about what could be done because we had always lived with this problem. We agreed, albeit with some fears in our minds.

They visited us frequently, training us on various aspects of rainwater collection and agriculture. Surprised by the success of the methods they demonstrated, we slowly began to trust them. Inspired by them, we dug the 54-metre well on our own and we overcame our apprehensions. Even so, only 43 farmers among the poorest willingly joined hands with the iDE and the Indians to plan and implement various measures such as land-levelling, excavation of soil bunds in the individual fields, application of fertilizers and use of improved seeds.

I had produced nothing on my plot of land earlier; this year, however, I excavated soil bunds around it at 20 m gaps and have solved the run-off problem completely. These interventions in my field have led to a yield of 30 quintals of corn, for the first time, bringing a smile to the faces of all my family members

When it rained this year, we realized that our area had undergone a transformation from being non-productive to productive!

I had produced nothing on my plot of land earlier; this year, however, I excavated soil bunds around it at 20 m gaps and have solved the run-off problem completely. These interventions in my field have led to a yield of 30 quintals of corn, for the first time, bringing a smile to the faces of all my family members. In fact, I had no place in my small home to keep such large quantities of corn. I would like to thank iDE, which recently provided me a new barn, made of aluminum, where I have stored a quintal of surplus corn (after estimated home consumption and loan repayment) as my own cereal bank.

This year, I also sowed improved maize seed once on half a hectare of land, on credit basis, facilitated by iDE. I planted grafted mango and papaya as well as fodder for the animals on the embankment of the soil bunds. Many of us started small kitchen gardens and were able to provide our families with fresh vegetables. I have now achieved self-sufficiency in food grain and I am thinking of purchasing an ox, to replace the one which I had sold to cope with my family's food deficiency.

I am no longer alone. I, along with all the women from 43 families, have formed a group. We support each other and are recovering from what we had lost due to our poverty. We save small amounts of money at regular intervals in the group, to use during the agricultural season. We need not be dependent on outsiders. We have started a new life with a lot of hope. Now, the others of my *kebele* are seeking the help of iDE to become like us."

In another *kebele,* Gulenta, there was no water body at all. People had to travel 5 km to fetch extremely muddy water for drinking, as well as for other domestic purposes. Rain-fed corn of a traditional variety, which had no nutritional value, was the only agricultural crop cultivated, and the production of that too was extremely uncertain. In spite of having access to about an acre of such land, food sufficiency was a distant dream. Except rainwater, there was no other viable source of water and access to it was identified as the greatest challenge by the community.

Abu Tona of Gulenta spoke of his experience, "It was a dream for all of us to have our own pond in our field. Now iDE and the Indians have taught us how to do that. We have excavated it on our own without any monetary support, used the water to save our corn crop during spells of drought, and cultivated vegetables such as kale, tomato, chili and onion. Corn is now a sure crop. I have produced surplus corn from the same piece of land. Until last year, only a few of us could afford to buy and

consume vegetables; but just within one year, we are not only consuming vegetables at home but also selling them in the market and earning cash! After using the vegetables for home consumption, I have earned 4,000 *Birr* by selling the surplus in the market."

He continued, "Long back, our government officials tried to promote mango cultivation in the area, but we were totally unaware of the cultivation method. Now, iDE and our Indian friends, have not only supplied the saplings, they are with us to help us learn the cultivation methods. We have learned new techniques such as deep-pit-planting, the application of fertilizers and manure, and more efficient irrigation. Seeing our ponds and fields, others in our *kebele* are trying to connect with iDE for support."

The On-Farm Productive Water Development & Management (OPWDM) pilot project is funded by the Syngenta Foundation for Sustainable Agriculture (SFSA) and implemented by iDE, Ethiopia, in partnership with Kabil (an Indian NGO of development professionals, with a rich experience in addressing similar challenges), to contribute to enhanced stability and resilience of agriculture-based rural livelihoods of poor, small-holder households. Together, these organizations promote community managed, in-situ water harvesting technologies, and soil and water conservation, and raise awareness about alternative livelihoods and green economy in the targeted *kebeles* of Dodicha and Halaku Gulenta Boke of Adami Tul Jiddo Kombolcha *woreda* (district), Oromia Regional State.

Ethiopia is a country of contrasts; the highland region of Ethiopia, which produces surplus food every year, is called 'Productive Ethiopia' whereas the semi-arid zone of the Central Rift Valley and the arid zone of the pastoral area face chronic food insecurity and are known as 'Hungry Ethiopia'

THE COUNTRY

Ethiopia is a country of contrasts; the highland region of Ethiopia, which produces surplus food every year, is called 'Productive Ethiopia' whereas the semi-arid zone of the Central Rift Valley (CRV) and the arid zone of the pastoral area face chronic food insecurity and are known as 'Hungry Ethiopia'. The pilot project was introduced in the semi-arid zone of CRV, where most of the farmers are rural small-holders. The zone with scanty (around 600 mm) annual rainfall does not have any mechanism to store or manage run-off. Thus, there is currently not enough water to meet household needs (people travel long distances on donkey-carts or on foot to fetch potable water for household chores). The use of water for irrigation, thus, is a distant dream. Precipitation in the rainy season (June until October) is the only source of water to grow crops. There is frequent crop failure due to dry spells within the rainy season. The World Bank estimates that hydrological variability currently costs the economy over one-third of its growth potential and has led to a 25 per cent increase in poverty rates.

iDE, Ethiopia, has been working in this region for a long time, but it was only when iDE became aware of the people-led Integrated Natural Resource Management (INRM) in one of the semi-arid zones of Central India that they were struck by the similarities of the developmental challenges between the CRV area and India. Inspired by the Indian innovations and seeing how these had transformed the lives of the small-holders, iDE sought the support of Kabil, to introduce similar practices in Ethiopia. A pilot project

on INRM-based livelihoods for small rain-fed farmers of CRV was conceived as a co-operation between these two organizations. In its initial phase, the project covered 65 households (520 household members). The project was of one year duration, starting January 2013.

The broad goal of the project was to set up a replicable model on water availability and farm-based livelihoods, using Indian innovations in community-led INRM for the semi-arid CRV zone in Ethiopia. The project was funded by SFSA, with contributions from iDE. The SFSA fund has been used for training, exposure, farmers' group formation, and soil and water conservation structures. iDE contributed to the man-power (salary and travel) and other logistics required for implementation, as well as with the costs of supervision and administration.

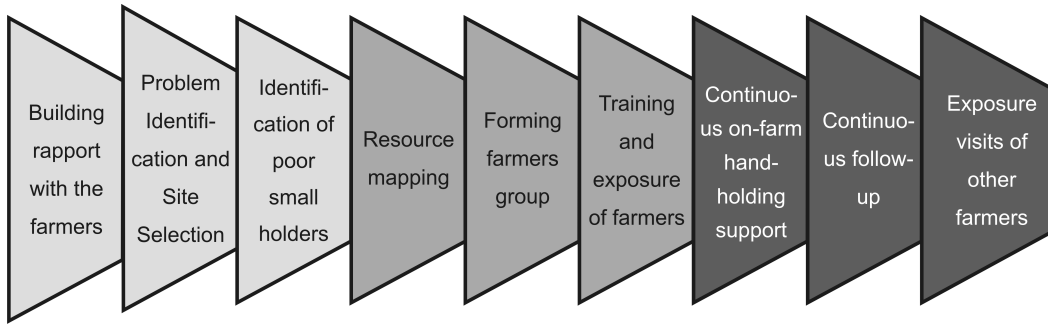
The focus of the project was to revitalize the relationship among the Institutions (I), the people (P) and the natural resources (R), to set off a growth spiral. Here, 'people' refer to the community of small, rain-fed farmers of rural CRV; 'institutions' include all the institutions–the people's own, public and private; and 'resources' include natural endowments–land, water, vegetation and human (labour). Growth includes the increase in productivity of land and water through the participation of the community all through, the capacity building of the community, the customization of various techniques for rainwater harvesting, the in-situ soil moisture conservation, the introduction of improved agriculture practices particularly in staple food crops, vegetables and agro-forestry, the organization of the community and establishing linkages.

THE ACHIEVEMENTS OF THE PROJECT

For the first time, 46 farmers levelled (terraced) their land and dug contour trenches by contributing labour for around 100 person days per farmer. Half a hectare of land of each farmer was treated. Rainwater was conserved through the terracing, and the trenching increased field moisture. This intervention helped farmers take up high-yielding corn for cultivation; in addition, it opened up the possibility of a second crop such as gram or linseed, which was unprecedented.

Twenty-three other farmers dug field tanks of 143 cu m capacity each and terraced their land. These farmers contributed almost 100 person days of labour. Rainwater was harvested in tanks and, for the first time, it was used to grow vegetables such as onion, tomato, chilli and Ethiopian kale in around 1,000 sq m area by each of the 23 farmers.

Figure 1: Key Implementation Processes



All of them have planted fruit trees such as grafted mango and avocado. About ten training programmes (on-field and off-field) were conducted on land treatment, soil and water conservation, rainwater harvesting, techniques for cultivating crops such as corn, vegetables and mango.

The farmers now have more technical knowledge, for example, the de-siltation of contour trenches and ponds is currently being done by the farmers themselves. They have also started making make-shift tents in the farmland, to protect their crops, which they were not doing earlier. These farmers are now ready to teach others the new initiatives. And more farmers are now digging ponds, having seen the results of the pilot farmers.

The intervention has also helped in the transformation of food insecure families to food secure families. The average corn productivity increased from 11.8 q/ha to 52.4 q/ha (344 per cent of the baseline) in Dodicha and from 12 q/ha to 34.4 q/ha (187 per cent of the baseline) in Gulenta, from a sample of 40 per cent of the population. All the participating farmers have produced surplus food grain.

For the first time, vegetables such as onion, tomato, chilli and Ethiopian kale were grown in around 0.1–0.15 acre area per farmer. Each farmer earned an additional USD 450 during their most stressed period of the year from sale of vegetables and surplus corn in the local market. The people have now started consuming the fresh vegetables produced in their own fields. After the age-old subsistence rain-fed farming they had been following, farmers are now looking at their lands as productive assets.

WAY FORWARD

The success of the present project enhanced confidence about the viability of the idea of bringing in customized Indian experiences (of INRM and sustainable agriculture) to Ethiopia. The size of the pilot, that is, the number of beneficiaries (65 families in two *kebeles*) is too

OUTCOMES OF THE PROJECT

1. Shift in agricultural practices
   - Farmers shifted from the traditional method of farming to improved agriculture
   - Farmers experienced the advantage of improved agriculture—improved seeds, fertilizers and different cultural practices
2. Enhanced capability of the farmers
   - Farmers learned experientially about the cultivation of vegetables, fruit trees
   - Farmers learned experientially about soil conservation and water harvesting
3. Creation of a pool of community resource persons
   - At least 20 per cent of the farmers are confident enough to help teach fellow farmers
   - Farmer-to-farmer expansion is possible now
4. Attracted the attention of the mainstream
   - Local *woreda* farmers used the farmers' fields during exposure visits of other farmers.
5. Successful demonstration of Indian innovations in INRM and sustainable agriculture for small-holder farmers

small for developing a model. Besides, because the whole activity is rainfall dependent, the experience of one year is not sufficient to consider it a replicable model. It has to be repeated for at least three consecutive years with regular fine-tuning in the same place, with the same scale, to be considered replicable. Thus, the same is required to be repeated with all the small-holders of these two *sub-kebeles* (by bringing in now-willing farmers, estimated at around 400) for the next three years. Finally, the cost of this year's pilot has been heavily subsidized by the iDE, and only 69 per cent of the budget has been utilized; thus, the current expense should not be considered as the unit cost of the intervention. The challenge is to mobilize the full cost on developing a replicable model over the next three years.

Community Service Providers: Social Capital of the Community

TARAK NATH AND MADHVESH

Having lived through the same micro- and macro-adversities of a community and having successfully dealt with hardship, CSPs, who understand the local dialect and share the same culture, have a better understanding of the voice of the poor, enjoy a better level of trust and have greater psycho-social linkages with the people

Bhuvneshwar Singh of Charkatand village in Poraiyahat block of Godda district is well-known in the area. There was a time when he was just one among the millions of migrant workers, who was compelled to break the geographical barriers and step out in search of greener pastures. This 40-year-old, 8th class-pass farmer, from one of the most underdeveloped districts of an impoverished state, is a marginal agriculture farmer in a family of seven, comprising his wife, four daughters and a son.

When his father died in 1984, he had to drop out of school and start working at the tender age of 12. His sole asset of 1.5 acres of rain-fed land left him despondent. To supplement his income, he went to the nearby district town of Banka, in the bordering state of Bihar, and tried working with a village doctor. Unable to make a decent living with his earnings, he migrated farther to Delhi and began to work as casual labour. However, the harshness of the metropolitan lifestyle compelled him to return to his village.

In 2009, he attended an SHG Cluster meeting in his village out of curiosity and was deeply influenced by the process, the content, the approach and the larger objectives of SHGs. Pleased with his interest, the Cluster members selected him as the Community Service Provider (CSP) for the area. He was sent for training programmes related to community based organizations (CBOs), especially SHGs, Clusters and the agriculture promotion in the area.

Devoting himself to the cause of social mobilization and livelihoods promotion, Bhuvneshwar Singh received training from PRADAN and, in turn, conducted various training programmes in agriculture, horticulture, measurement and calculation of land and water structures to SHGs and Clusters. Leading from the front, he began following strong agriculture input management practices on his 1.5 acres of land. Starting his interventions in the *kharif* season in 2009 with SRI paddy, he bagged the first prize in SRI Paddy in 2012 under the NABARD SRI project. Soon, he became famous, and joined the league of progressive farmers. He undertook various crop demonstrations in selected vegetables and *rabi* intervention with chili. The community has great trust and confidence in his abilities and has appointed him the accountant for the Special SGSY project work, to handle accounts worth Rs 24 lakhs, in his village.

Demonstrating with lived experience, trying out new technologies with steadfast commitment and influencing others have been the hallmark of his work ethic. His year-round involvement includes nurturing and providing support to 219 SHG members, and arranging livelihoods training and follow-up with 153 families. He supports the group by standardizing the accounts, reminding the group members about loan and interest repayment on time and helping them access various entitlements, for example, the mid-day meal for children, etc. He provides livelihood services ranging from paddy to cash crops cultivation to horticulture intervention, and facilitates the *tola sabha* in creating land and water infrastructure mandated under the Special SGSY project.

Demonstrating with lived experience, trying out new technologies with steadfast commitment and influencing others have been the hallmark of his work ethic

Due to his relentless services, around 70 per cent of the SHG members in this Cluster have moved from single cropping to double cropping and are now experiencing increased productivity in both food grain and cash crops. In 2013, summer cash crops such as water melon have created ripple effects in the surrounding villages. For instance, Charkatand village is steadily progressing to the three-cropping system. Coupled with infrastructure creation for better water management, it is expected that agriculture will become a meaningful engagement in the future. The selection of land and conducting seed-to-seed treatment, introducing improved practices in nursery raising, transplantation, and weed and disease management are the critical areas of his engagement. Communities are recognizing his services and demanding more intensive support from him. To reach all the families with such intensity may require another CSP in the Cluster.

He receives an average remuneration of approximately Rs 2,650 per month for working with around 150 livelihood families. The estimated average income of families from cash-crop cultivation—a combination of crops such as radish, brinjal, bitter gourd, bottle gourd and water melon—is in the range of Rs 5,000–15,000.

The above story is only one of the many transformations being brought about by around 100 such barefoot, frontline social warriors, or CSPs, who are meaningfully engaged in changing the lives of the poor.

Numerous rural development programmes and schemes have been introduced in the country, which, although beautifully designed, have failed miserably in attaining the intended objectives. The terms such as 'reaching the last person', 'last mile delivery' and 'inclusive growth' are usually just platitudes. In fact, such schemes have failed at the last node of the development cycle, that is, when delivering the services to the 'last person'. Issues of ability, willingness, empathy, engagement, understanding and resources affect the quality of service delivery.

This is the stage at which the CSP becomes very important. She/he has a connect with the recipients of the service and, therefore, plays a decisive role in ensuring the effectiveness of the programme.

The project, therefore, realized the need to build a strong network of CSPs, who are selected by the community from among themselves. These workers are more likely to establish strong chords with the local community as compared to external facilitators. CSPs are selected and hosted by the target community and, hence, are more accountable

to the community. CSPs have a key role to play in the existing area of work of PRADAN.

Community Service Providers are easily available and accessible to the community and are able to engage with the local youth and harness their energy for the betterment of society

BACKGROUND

The concept of a CSP was seeded in the PRADAN Godda team in 2000 with the onset of the *tasar* activity. After half a decade, in 2005–06, the team began broadening its livelihoods portfolio and smaller interventions in *kharif* agriculture. CSPs were deeply involved in diversifying as well as scaling-up of livelihoods by engaging with the community for livelihoods planning, crop identification, water budgeting and planning. During the years that followed, CSPs worked on improving the quality of SHGs, ensuring the increase in household-level food security through improvement in *kharif* production. Productivity enhancement and crop stabilization remained central to its work.

However, soon after the Special SGSY project commenced in 2009, the focus shifted to the promotion of the integrated natural resource-based multiple livelihood activities. Community mobilization became focus of CSPs, leading to enhancement in skills, knowledge and communication as well as engagement with people.

THE NEED FOR CSP

CSPs are skilled men and women, who understand the local dialect and language, share the same culture and have experienced similar ordeals in overcoming poverty and destitution. They understand the community and have a strong belief in the innate potential of the people. Having lived through the same micro- and macro-adversities and having successfully dealt with hardship, they have the requisite empathy to support others. These men and women have a better understanding of the voice of the poor, enjoy a better level of trust and have greater psycho-social linkages with the people.

CSPs are easily available and accessible to the community and are able to engage with the local youth and harness their energy for the betterment of society. From the programme perspective, the presence of CSPs ensures cost effective and reliable extension services.

SELECTION OF CSPs

The selection of CSPs and Community Resource Persons (CRPs) is the responsibility of the community with which they work. PRADAN's role is limited to facilitation during the selection process. CSPs are based in SHGs and Clusters (comprising 10 to 15 women SHGs with 150–200 families). These CSPs are identified and selected by the community after which PRADAN equips them with the desired set of skills and knowledge, to fulfill the specific tasks required of them. Their skills and knowledge get further refined and enhanced over time, through a series of theoretical and practical training programmes and exposure visits.

GROOMING PROCESS OF CSPs

PRADAN, Godda, engaged in the grooming process of the local youth intensively and eventually built a long-lasting social capital for the area. In the initial stage, PRADAN professionals held orientation programmes for CSPs on select activities such as agriculture, horticulture, poultry and *tasar*; interacted with them; and monitored their engagement and progress through various appraisal programmes, field visits and observations,

PRADAN, Godda, engaged in the grooming process of the local youth intensively and eventually built a long-lasting social capital for the area

in addition to holding regular fortnightly reviews and monitoring training programmes at the block level. Specific modules have been designed around the technical and social dimensions of related activities. Some important training programmes conducted for CSPs are as follows:

Theme: Social Mobilization

- Orientation on the formation and functioning of institutions of the poor—SHGs, Clusters and Federation
- Training of Trainers (ToT) on SHG promotion, facilitation and communication skills, and motivational training
- On-the-job training by attaching CSPs with PRADAN professionals, to observe the various stages of SHG promotion and nurturing. Further, they are involved in credit appraisal and bank linkage programmes for SHGs
- Gender sensitization and issues related to patriarchy, power dynamics and solutions, to address the need of women and men in society
- Holistic village development through in-house training programmes. As a result, CSPs strengthen the village development committees and facilitate meetings by bringing up people's agenda even in non-Special SGSY intervention villages.

Theme: Livelihoods Augmentation

- ToT on the basics of agriculture (soil types, moisture, nutrients in soil, etc.), integrated disease and pest management
- Intense year-long, in-house and on-field training, focusing on *kharif*, *rabi* and summer crops, and agriculture planning
- Training in agriculture input management, to ensure quality and timely supply
- Exposure trips to various organizations, agricultural institutions (such as the Krishi Vikas Kendra) and PRADAN's other intervention areas for first-hand technical orientation on various aspects of agricultural operation, poultry rearing, horticulture, goat rearing activity, etc.
- ToT on livelihoods planning for the various seasons of land-holding
- In-house training on broiler farming under the umbrella of producer institution regarding technical, social, book-keeping, MIS and marketing aspects.

The above training programmes, meetings and exposure visits have resulted in significant technical skill enhancement of CSPs, which, in the process, has created new livelihood opportunities and vision for the community as well as for CSPs.

ROLE/ENGAGEMENT OF CSPs

CSPs are engaged in many transactional tasks. At present, the nearly 100 CSPs/CRPs in the Godda team are engaged round the year in promoting SHGs, Clusters, Federations, Producers Institutes and other agricultural and allied livelihoods promotion activities. Moreover, some resource persons are also involved in organizing training programmes, conducting livelihood planning, undertaking various tasks in tasar cultivation and providing technical support in horticulture and micro-enterprise promotion. They provide every essential service at the doorstep.

CSPs are involved in several programmes:

- Organizing community meetings for SHG promotion and nurturing, etc.

- Book-keeping and MIS flow of CBOs
- Bank account opening and credit linkage of SHGs
- INRM-based land and water structure layout and measurement
- Account and bills settlements of the respective *tola sabha*
- Data collection and format filling, as required
- Arrangement of the raw inputs of agriculture operation
- Organizing training programmes and exposure visits for various activities
- Resolving village-level issues
- Acting as a conduit between PRADAN and other community institutions.

CSPs, who do transformational work, are engaged in the following:

- Conducting theoretical and practical training programmes on the technical aspects of livelihoods promotions (agriculture, broiler farming, *tasar* rearing and grainage, goat rearing, vermi-compost, etc.).
- Acting as resource persons during the exposure visits of outsiders to the area.
- Sensitizing and mobilizing local stakeholders such as PRIs, banks and block line departments.

CHALLENGES AND LEARNING

Each social and economic intervention requires its own set of specialized skills and functional attributes. Hence, different sets of CSPs are required for activities such as social mobilization, pre- and post-cocoon operations, agriculture, horticulture, poultry and goat rearing. For example, in *tasar*, both for the pre- and post-cocoon operations, CSPs with different skill sets are required. In poultry rearing activity, CSPs act as para-vets and hence should be technically well-equipped to handle issues regarding production as well as the social aspects. To promote CBOs, CSPs need good articulation, communication and problem-solving skills. Moreover, s/he should have adequate knowledge in book-keeping and record maintenance. Similarly, for agriculture and horticulture promotion, CSPs should be technically proficient. Some people who are good at community mobilization processes and functions but not so proficient in agriculture activity are engaged accordingly. However, due to the paucity of resource persons at the community level, these people too are considered fit for agriculture and have been appropriately trained. Finding educated and willing persons with a spirit of volunteerism is a difficult task. Further, creating these CSPs is highly process-driven and thus resource and time consuming. Moreover, for the CSPs to sustain beyond the confines of projects, the community should be able to fully pay for the services, which till date seems a distant dream.

IMPACT

Impact in Social Mobilization

Through this intensive special project, about 350 SHGs (about 5,000 families) have been promoted. Without such a local pool, it would have been too difficult to reach out to 5,000 poor families within such a short time span. Their key involvement in the different stages of SHGs, Clusters and Federation building, will ensure further strengthening of such institutions and help them sustain on their own.

Impact on Agriculture

Farmers from the SHGs are directly benefitted by the improved agriculture practices. The CSPs contribute immensely to spreading the

best practices through meetings, training programmes, crop demonstrations, experience sharing and exposure. With this, the input suppliers get the latest information and are experiencing increased sales and improved incomes. CSPs help farmers select the right variety of seeds and fertilizers after taking into consideration the soil and other agronomical conditions. At present, there are more than 5,500 satisfied farmers are making regular use of the agronomical services of CSPs.

Tarachandra Singh

Tarachandra Singh is one such youth from the Durgapur hamlet of Chunakothi village in Pathargama block. After completing his matriculation, he began maintaining SHG accounts and attending the awareness training programmes in the village. Impressed by his commitment and work, the Cluster engaged him as a CSP in 2008. He began to contribute to the promotion and strengthening of CBOs and later got involved in agricultural promotion. After the Special SGSY work started in 2009–10 in his village, he was able to reach out with improved agriculture operations to 165 families and promoted about 32 SHGs in the *panchayat*-level Cluster.

He facilitated the implementation of INRM-based activities worth Rs 42 lakhs within a two-year time span. Several water structures in the area now have ensured round-the-year agri-operations. The development of 10 ha of mango orchard on barren land, 42 in-situ seepage tanks, 7 ha of water availing source through farm ponds, 4 ha of land husbandry, 2 dug-wells for perennial source of water, 11 vermi-compost tanks, 36 small-holder poultry shed construction, one sorting and grading centre, and one cold storage construction have made him a people's hero and a community mobilizer-cum-agriculture consultant in the district. The above livelihood endowments will probably fetch an additional annual income of Rs 8,000–15,000 per family per annum within two seasons. He now enjoys a high level of trust, respect and admiration of the villagers. He is also the preferred community level trainer and facilitator.

Impact on other livelihoods

There are about 250 small-holder poultry farmers, who are getting rigorous help from poultry CSPs whereas 200 Particularly Vulnerable Tribal Groups (PVTG) and families belonging to the Scheduled Tribes (STs) are dependent on goat rearing with the regular help of CSPs cum para-vets. In the *tola sabha*–a hamlet-level community institution of both men and women, promoted during the implementation of the Special SGSY project–CSPs are providing support in organizing training programmes, maintaining accounts, settling bills, building the vision building, etc., making possible without any hesitation, thereby, the hassle-free implementation of high-budget projects.

COMMUNITY PERCEPTION OF CSPs

Due to the regular visits and interaction with the community, the *panchayat*, the banks and the line departments, CSPs have been successful in building their own identity and image in the area. They are now treated as practitioners and specialists in a particular domain. The basic values displayed by CSPs are:

- Being punctual during community related meetings
- Having an unflinching belief in truth and honesty even in the face of adversity
- Raising a voice against inauthentic subjects and corruption matters

CSP PRAMILA DEVI

Pramila Devi is a calm and composed person from the Pasai SHG Cluster of Poraiyahat block. As a CSP, she specializes in SHG promotion, bank credit linkages and conflict resolution. Her family of six other members, including her husband, three daughters and two sons, make its living from 120 decimals of cultivable farm lands in which they use improved agriculture practices. She joined the SHG in 1996 and shortly thereafter went on to look after three SHGs in her village. She led her group members to resolve a very old land dispute in her village. Under the Special SGSY programme, she promoted another five SHGs and facilitated the establishment of a paddy husking mill for regular income, to sustain the SHG. She purchased a four wheeler (TATA Magic) with a loan from the SHG. She is a popular trainer in the area and has been facilitating the organization of block-level SHG *mahadhiveshans*. Under the Special SGSY programme, she has supported the community in the implementation of the project work in her village in the INRM structure creation. So far, she has promoted as many as 32 SHGs, covering 465 households.

- Having high respect for the community
- Exhibiting a strong work ethic in their verbal communication, time management and adherence to commitment
- Delivering even under pressure

The community has developed trust and belief in the skills and services of the CSPs. It does not hesitate to seek the help of CSPs even on day-to-day issues, including personal matters. Around 12 CSPs have now been elected in PRIs as *mukhias* or ward members, or are working as government extension workers such as *angandwadi sevikas/sahayikas* and health *sahayikas.* Leveraging on their experience, dedication and outreach, even government institutions and line departments are hiring their services for imparting training and conducting surveys.

Farmers get trained in improved agriculture practices in Dhamtari, Chattisgarh

Capabilities of the community across villages have been given a push; from amongst the poor have emerged para-vets,orchard owners, innovative farmers, willing entrepreneurs, market mediators and leaders. Those who were earlier bunched together as 'poor' have now been ascribed distinct capabilities.

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

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