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GUARANTEEING EMPLOYMENT, GUARANTEEING LIVELIHOOD: MGNREGA AND INRM Anisha George: Linking INRM with MGNREGS can prove to be a win-win option, with villagers building infrastructure on their lands are long term assets and being paid for their labour by the government. Anisha George is a student at National University of Singapore pursuing a Masters in Public Policy.	01
THE HAPPA: A REPLICABLE AND SUSTAINABLE MODEL Sebak Jana: Helping villagers create a sustainable small scale irrigation structure in the form of a happa has wide ranging and long term benefits on their lives and livelihoods, the author looks at sustainable small scale irrigation eperiment in the dry zones through a case study on the Happa (small tank) model in West Bengal. Sebak Jana is reader in economics in Vidyasagar University, West Bengal.	18
MIGRATION IN DARBHA BLOCK OF BASTAR DISTRICT (CHHATTISGARH): A STUDY Gaurav Kumar Agarwal: The author looks at the various factors that cause migration in the region. Gaurav Kumar Agarwal is an intern with Pradan based in Bastar.	30
DARE TO DREAM: KAMALA AND JAISEN SAKIA The willingness to take risks and experiment with innovative methods, with the backing and guidance of professionals, proves to be life-changing for the tribals of Koraput district and especially one family.	38

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Guaranteeing Employment, Guaranteeing Livelihood: MGNREGA and INRM

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Linking INRM with MGNREGS can prove to be a win-win option, with villagers building infrastructure on their lands are long term assets and being paid for their labour by the government.

MGNREGA (2005)

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA, 2005), is a landmark legislation in India's policy-making history. It marks the country's first substantial social security cover for the rural poor. This Act is particularly significant, in that it recognizes and establishes the Right to Work as fundamental to leading a life of dignity. This is in keeping with India's rights-based approach to development.

MGNREGA, 2005, legally mandates provision of work within 15 days to anyone who is willing to do unskilled manual labour on public works at a statutory minimum wage, subject to a limit of 100 days of work, per nuclear family, per year. The Act clearly articulates transparency safeguards, which include the maintenance of records (job cards recording entitlements, written demand for work, muster rolls, measurement books and asset registers) held in the custody of multiple stakeholders, issue of dated receipts, strict time-bound allocation of work and payment of wages, worksite information boards, village-level monitoring committees, regular block-, district-and state-level work inspections and social audits.

The Act has four main objectives, as articulated by NREGA Operational Guidelines 2008, issued by the Ministry of Rural Development:

- Provision of a secure social safety net for vulnerable groups, through demandbased, unskilled, wage employment.
- Contribution of durable assets for improved social and physical rural infrastructure, which address factors of chronic poverty—drought, deforestation and soil erosion.
- Empowerment of rural masses through edu-cation in a political rights-based language.

Strengthening grassroots democracy by employing people to act as vigilantes, and ensuring accountability and transparency in governance through the institution of social audit.

MGNREGA, in the current national policy context, is the flagship legislation of the incumbent United Progressive Alliance (UPA)-led central government.

MGNREGA, in the current national policy context, is the flagship legislation of the incumbent United Progressive Alliance (UPA)led central government. It seems that the Act is now a veritable political cash cow, with significant electoral gains for political parties. Where ever the Act has been implemented in its true spirit, the MGNREGS is transforming the geography and income-security status of villages and entire districts. Accordingly, the budgetary allocation to the programme has increased manifold over the years and is currently pegged at a whopping Rs 40,000 crores (400 billion) for the fiscal year 2011-12, making it the most ambitious and expensive development intervention of the national government. The sheer volume of resources (financial, human, administrative and environmental), engaged in the implementation of this Act makes it a significant agenda in public policy debate today in the country.

INTEGRATED NATURAL RESOURCE MANAGEMENT (INRM)

INRM evolved in response to several developments in the global agronomy, following growing demands on food production and the ecological unsustainability of prevalent technological and chemical solutions. It championed the cause of localized, grass-roots action research methods as opposed to the top-down, technocratic approach of international agricultural

institutes. The conditions that INRM opposed have and continue to be a stark reality of the agricultural sector in India and most other developing countries. Furthermore, the decline of small and marginal farming prospects, traditional organic

farming methods and the growing digital gap between urban and rural areas have had disastrous implications for the bulk of the Indian population that continues to be dependent on agriculture and agro-related occupations as their main source of livelihood.

One of the definations of INRM states it as 'a conscious process of incorporating the multiple aspects of natural resource use (be they bio-physical, socio-political or economic) into a system of sustainable management to meet the production goals of farmers and other direct users (food security, profitability, risk aversion) as well as the goals of the wider community (poverty alleviation, welfare of future generations, environmental conservation).' Simply put, it combines managing the use of natural resources along with their conservation and sustenance by augmenting social, physical, human, natural and financial capital. The INRM promotes the construction and educated, rational use of simple (and complex, where required) mud/stone/cement structures, depending on the topography, which aids land development and water harvesting towards sustainable livelihoods.

The potential benefits of an INRM-based the approach to land and water harvesting in predominantly rain-fed and mono-cropped Indian agriculture are enormous. INRM is a cost-effective way of arresting soil degradation, drought and famine, and improving productivity while ensuring ecological sustainability. In the face of pronounced climate change; these benefits cannot be underestimated in the short and/or the long run. However, a highly diversified topography would imply that each agro-climatic zone

INRM combines managing the use of natural resources along with their conservation and sustenance by augmenting social, physical, human, natural and financial capital

would require its own set of unique INRM technologies and models with further intrazonal variations. Moreover, a dedicated space for policy dialogue and sustained grassroots action is required, to realize the true potential of INRM by allowing for largescale activity.

During the decade 1980–90, India introduced watershed development in areas characterized by rain-fed agriculture and untouched by the gains of the Green Revolution. Much hype was created over the immense usefulness and relative simplicity of watersheds. An International Food Policy Research Institute study in 2002 of watershed projects in Maharashtra and Andhra Pradesh concluded that the hype, however, was premature and restricted to a few exceptional stories. The study found that high

levels of public participation, sound technical input, effective management by NGOs or an NGO-Government collabora-tion, and ensuring the sharing of net gains among all local residents were the keys to successful watershed projects. Nearly two decades after the introduction of watersheds, the need to see more significant results may draw us to pay more attention to the above lessons. While implementing INRM, which further builds on the watershed approach, we must, therefore, pay greater attention to the social capital in determining its success.



RELEVANCE OF INRM TO THE ACT

The MGNREGA is, fundamen-tally, a guarantee of employment in rural areas. Hence, the works necessarily have to be labour-intensive and non-skill specific. Accordingly, the Act bans INRM encourages creativity in the planning of works, relying significantly on common sense, indigenous knowledge and the collective aspirations of the residents.

any machine works and permits a whole range of earthen works, which meet the above requirements.

An employment guarantee such as this one was foreseen to potentially generate a huge response from the poor, the rural unemployed, the under-employed and the seasonally employed households. Thus, it was decided that all this labour must be directed towards the creation of productive structures that aid water harvesting, land development and rural connectivity. The eligibility criteria for determining permissible works under MGNREGA champion the cause of rural development through the advancement of rural livelihoods and infrastructure while addressing factors of poverty such as drought, deforestation and soil erosion.

Schedule I of the Act lists the permissible works under the following categories.

- Water Resources: Conservation and harvesting of water resources; renovation and maintenance of traditional water bodies; micro and minor irrigation works; flood control and protection works.
- Afforestation: Tree plantations by the

Forestdepartment,inconvergencewiththeHorticulturedepartment,asmeasures of drought proofing.•LandLandDevelopment:Landlevellingandconstructionlevellingandconstructionearthenbundsonfarmlands.•RuralConnectivity:

• Rural Connectivity: Construction of all-weather earthen roads, including culverts and drains, where appropriate.

Require Maintenance: All the above assets created, to ensure durability.¹

All of the above works seek to strengthen the existing natural base of rural areas while enhancing productivity and encouraging a more efficient use of natural resources to improve livelihoods. This is in absolute tandem with the goals of INRM, which works on these with scientific insight and in an integrated manner so as not to lose the effectiveness of the works undertaken.

It has been repeatedly observed in MGNREGA schemes that administrative imagination is rather limited in permitting a diverse range of works. Sanctions are typically given for the construction of *kaccha* roads, sizeable ponds and irrigation wells. These are mostly ill-planned and inefficiently executed. Most structures are left incomplete due to lags in the measurement of work and subsequent wage payment. These structures do not get the requisite attention because they are economical in their budgetary outlays. The authorities show greater enthusiasm about the construction of

¹ Note that all of these works whereas mostly undertaken on public lands are also encouraged on private lands. However, a priority list of eligible beneficiaries stipulates taking up works on lands belonging to the Scheduled Castes/Scheduled Tribe households, beneficiaries of land reforms, Indira Awas Yojana (IAY), Below Poverty Line (BPL) families and lands of small/marginal farmers.

irrigation check dams and concrete road works, where both the contractors and the officers can indulge in some rent-seeking.

INRM encourages creativity in the planning of works, relying significantly on common sense, indigenous knowledge and the collective aspirations of the residents. This, at the same time, necessitates the congregation of the village for active planning, implementation and monitoring of the works. Thus, INRM streng-thens grass-roots democratic institutions, which ensure the success of MGNREGA schemes that rely heavily on the beneficiaries' vigilance and monitoring.

In several rural areas on the periphery of or within accessible proximity of urban areas, the wage rate under the MGNREGA is less than the market or city wage rate. Moreover, labour work on non-MGNREGS works is remunerated on a daily basis as opposed to the weekly/fortnightly payment schedule of MGNREGA, which is further routinely violated. However, under INRM, people are ready to settle for slightly lower wages due to the non-monetary benefits to farmland productivity, which bears an immediate effect on the foodsecurity of the households and their livelihood. Furthermore, increased participation on the works ensures collective monitoring of timely payments.

Most important, the MGNREGA is an employment guarantee for only 100 days in a year. This makes it strictly a safety net and does not help households reach livelihood security. Introducing INRM in MG NREGA would help households gain wage payment through 100 days of work plus economic value-addition of existing assets such as land and the collective natural resource assets in the community, helping them inch towards a more secure livelihood.

KANDHAMAL DISTRICT, ORISSA

The scenic Kandhamal district lies in a high altitude zone (300–1,100 m above sealevel) in the Eastern Ghats, characterized by interspreading, thickly forested hill ranges and narrow valley tracts (National Informatics Centre, NIC, 2010). Despite this rich natural resource base, Kandhamal is one of the least developed districts in Orissa and one of the poorest in the country.

Livelihoods

The existing sources of livelihood for the rural population here are agriculture, livestock rearing and forest produce. Agricultural practices, productivity and output are highly sub-optimal. Only nine per cent of the geographical area is cultivated. The net sown area is only 15 per cent, of which up-lands, medium lands and lowlands constitute roughly 82 per cent, 12 per cent and 6 per cent, respectively. Despite a low population density, the average sown area is 0.5 ha per family-that too of very poor quality. As per government records, the irrigation potential created is about 11 per cent of the net sown area. Low productivity, erratic rainfall and meagre landholdings force the tribal people to practice shifting cultivation in forests, to grow black gram, paddy, millet and pulses.

The share of income from the forest produce such as *mahua* (used to brew country liquor), *siali* leaves (used to make organic leaflet dining plates and bowls), *tendu* leaves (used to roll traditional cigarettes), firewood, charcoal, jackfruit and other seasonal fruits is quite significant. Most people rear livestock such as goats, pigs and poultry to meet the needs during an emergency but the herd sizes are always small due to the risk involved in case of an outbreak of disease. Besides subsistence crops during the *kharif* season, most people grow spices such as turmeric and ginger.

In December 2007 and August 2008. Kandhamal witnessed severe communal riots between the Hindu tribal and the Christian Dalit communities. Tensions continued for almost a year after the rioting was controlled late 2008. in However.

An integrated approach to natural resource management, focusing on the efficient management of soil, water and vegetation resources, is extremely important.

stability did not return to the affected areas until 2009, when riot victims were able to return to their villages and resume their daily life.

RELEVANCE OF THE COLLABORATION IN KANDHAMAL

Poverty and Agrarian Crisis

The people of Kandhamal are afflicted by abject poverty and lack of livelihood opportunities. Poor infrastructure, scarce husbandry of natural resources, low agricultural productivity, lack of access to credit and technology, and the poor health and literacy status of the families contribute to widespread poverty in the region. For the majority, land is the main resource, besides labour, and agriculture is the principal occupation. Because of the risk of crop failure due to moisture stress in the uplands and flash floods in the lowlands, agriculture does not attract adequate investments and the returns are low. The region has limited ground water and there is virtually no scope for large and medium irrigation projects due to the undulating nature of the terrain. The younger generation sees agriculture as less remunerative to than wage employment in towns and cities. The nutrient status and the productivity of the farmland, thus, are on the decline. Low productivity leads to poor husbandry, which further reduces pro-ductivity, resulting in wid-espread resource degradation and impoverishment of the people.

INRM provides multiple alternatives for harvesting the high water run-off in this region. These options have largely remained untapped and a very low percentage of the net sown area is irrigated. An integrated approach to natural resource

management (NRM), focusing on the efficient management of soil, water and vegetation resources, is extremely important. INRM would not only help to optimize and increase the productivity of land and water resources but also ensure household food security and eliminate mass poverty in the region. The techniques and measures used for rainwater harvesting and land husbandry are along the lines of the works proposed under MGNREGA. Such livelihoods assets creation combined with agriculture extension would eventually reduce the people's dependence on unskilled labour work.

Interventions in the natural environment, however, can take time to deliver the full-potential results. Thus, if INRM is implemented under MGNREGS, wage payments can cushion these time lags for beneficiaries while also providing funds to undertake INRM works on their lands. On an average, 150 to 200 person-days of emp-loyment can be generated for developing every hectare of such land; and opportunities in each village and can provide 100 days of employment to its residents for at least three to five years.

Livelihood Insecurity

Routine life in Kandhamal has been gravely disturbed due to the riots in 2008–09. Constant curfew led to inaccessibility to daily necessities such as food, fuel and fodder. Minority Christians were shunted out of their villages and had to live in refugee camps for close to a year whereas several tribal persons were wanted in criminal rioting cases and were absconding to avoid arrest. Uprooted from their natural residence, people faced acute food insecurity for a year or two. Immediate intervention was required in these areas to help the people recover and rebuild their lives and livelihood.

The smooth and proper implementation of INRM requires a strong technical support system. Either technical agencies from civil society needed to come forward to provide the expertise or the existing technical staff base of the administration needed to be expanded.

livelihood activities in the district. PRADAN was already doing INRM under watershed. Orissa Tribal Empowerment and Livelihoods Programme (OTELP) and Oxfam-funded projects in Kandhamal. Apart from this, it has been leading a widespread strong and network of Self-Help Groups (SHGs) in diverse livelihood strengthening initiatives such

MGNREGA was a ready reckoner because people only had to demand work and they would be provided it. However, the victims who had lost animals, houses and land in the rioting, had to incur great costs, to rebuild their lives. The cost of making their lands cultivable, left fallow for the period, could be borne under the MGNREGA budget and taken up in the scheme of INRM planning.

Technical Support

The smooth and proper implementation of INRM requires a strong technical support system. Either technical agencies from civil society needed to come forward to provide the expertise or the existing technical staff base of the administration needed to be expanded. However, expanding the official capacity would mean a lot of time for recruitment, training and then added vigilance. Given the substantial number of civil society organizations already involved in livelihoods-based work in Kandhamal, there was a ready base to tap into.

PRADAN, working in Kandhamal since 2000, was in a unique position to be able to lead this collaboration of INRM under MGNREGS for its long-standing engagement in other as improving the prevalent agricultural and horticultural practices, livestock rearing and development of rural enterprises. MGNREGS also provides access to larger funds for the expansion and popularization of INRM, both with the administration and the people. Thus, strong grass-roots networks and experience in social mobilization, capacity building and INRM activities made the PRADAN team in Kandhamal the most competent to demonstrate and introduce the possibilities of collaboration between INRM and MGNREGA.

CONCEPTUALIZATION OF THE PROGRAMME

PRADAN's engagement in using INRM with MGNREGA is founded on its firm belief in the need to bring INRM to the mainstream. The Kandhamal team had been in discussions with the district administration to pursue INRM under the MGNREGS, ever since its introduction in 2006. The resident teams even prepared an indicative INRM plan for two villages, namely, Madinat (Budrukia *Gram Panchayat*, Balliguda block) and Gunjigaon (Sirtiguda GP, K. Nuagaon block). However, these were not approved of by the district.

The then District Collector *Manish Verma*, showed keenness in INRM. He organized a

visit of the district departmental staff (departments of soil and water conservation, watershed and District Rural Development Authority) to a village in Mayurbhanj district in Orissa where PRADAN had done substantial INRM work. This

It was decided that 'INRM under MGNREGA' would be tested as a pilot project in select villages of some blocks in Kandhamal district.

was before the first incidents of rioting in December 2007. Following the exposure visit, Verma was keen to take up similar projects in other parts of the district. However, the second incidents of rioting occurred in August 2008 and Verma was transferred from the district. The new Collector. Krishan Kumar. focused all his efforts on fostering communal harmony and proposed shifting the introduction of INRM to the next year. Eight months into inter-community peace-building efforts, Kumar became interested in INRM. He began planning for it at the district level and suggested the inclusion of other NGOs apart from PRADAN to be part of the initiative. It was decided that 'INRM under MGNREGA' would be tested as a pilot project in select villages of some blocks in Kandhamal district. The Collector's efforts were strongly backed by the Special Administrator for Kandhamal Affairs, Madhusudan Padhi. It was primarily because of the initiative taken by these two enterprising bureaucrats that this programme took off.

A list of 300 villages was drawn up in seven blocks, namely Balliguda, Daringbadi, K. Nuagaon, Phiringia, Raikia, Tikabali and Tumudibandh, as pilot villages. PRADAN was selected as the nodal NGO and assigned to train and assist seven other partner NGOs (SWATI, PRADATA, JAGRUTI, Kalpavriksha, Seva Bharti, Council of Professional Social Workers and Samanwita) for proper implementation of the above programme. Each NGO was assigned app-roximately 30– 40 villages per block whereas PRADAN was allotted double the figure (approximately 60– 80). The NGOs were involved in orienting pilot villages about MGNREGA, collecting

baseline-data surveys and preparing microplans along with resident villagers. The NGOs were also to extend support to villages during the course of implementation of their plans. All the stakeholders, administration, civil society organizations and field staff were trained and given clear briefs on their respective roles and responsibilities in the scheme of things.

PRADAN had already demonstrated INRM work to the residents of two villages— Poilasahi and Gunjigaon in Barakhama GP, Balliguda block. The demonstrations were supported by the LWR (Lutheran World Reserves) in Poilasahi and Oxfam in Gunjigaon. PRADAN was also active in implementing OTELP in 33 villages of Balliguda block. Its engagement with INRM, its processes, constituent structures and their impact had been observed and appreciated, and because of the success, there was a general air of enthusiasm.

IMPLEMENTING INRM UNDER MGNREGA

The Basic Framework of the Pilot Projects In October 2009, at a meeting chaired by Madhusudan Padhi at Kandhamal district headquarters, a framework was decided upon to implement INRM under MGNREGS, with the assistance of NGOs.

PRADAN, Balliguda, was chosen as the nodal NGO for the pilot owing to its expertise and enterprise in encouraging the district to take

up INRM work. Seven more field NGOs were identified to provide assistance in the imple-mentation of the programme. The partner NGOs were identified on the basis of established grassroots networks in the district

Approximately 300 villages spanning six or seven blocks were identified as project areas for the implementation of the pilot. Approximately 300 villages spanning six or seven blocks were identified as project areas for the implementation of the pilot.

The field NGOs could identify project areas in two ways:

- a) Convergence model: INRM under MGNREGA would be taken up in areas where the field NGO was already implementing INRM-like activities under other programmes such as watershed, OTELP or the WADI² project under the NABARD in the district.
- b) Non-convergence model: The field NGO selects villages in nonwatershed/OTELP areas. However, the villages will primarily be in the areas where the NGO had had some presence for a while.

A baseline survey was decided upon, to enable the benchmarking progress of the INRM activity in project areas. The survey will be conducted at two levels:

- a) Village level: To collect the basic statistics pertaining to the prevalent asset holding, physical and social infrastructure, availability of basic utilities and agronomic activities.
- b) Household level: To capture the agricultural productivity, area under the second crop, horticulture crops, crop loans, incidence of *Podu*, involvement in fisheries and livestock rearing, migration status, participation under MGNREGS.

and previous livelihoods-related work experience. Each of these organizations was assigned a specific project area of 30–40 villages.

As the nodal NGO, PRADAN was assigned additional responsibilities for guiding the pilot. These included:

- a) Preparing a model INRM plan for a sample village.
- b) Training and capacity-building of the field staff and the implementing agencies. This included:
 - A one-day orientation programme for the implementing block and NGO staff.
 - A five-day training in INRM for the field staff and the Community Resource Persons (CRPs), to be held in batches.
- Providing continuous assistance to the field NGOs by deploying personnel to constantly supervise and monitor progress.
- Assisting Deferred Procedure Call– MGNREGS in monitoring, reviewing and evaluating INRM in the district.
- e) Undertaking any other work to strengthen the processes involved and achieve the desired objectives.

² WADI model funded by NABARD, supports tribal families with less than five acres of land, with one acre *wadi* (small orchard) for raising 60 fruit plants (such as mango/cashew/amla or any other remunerative fruit crop) suitable to the local area and 600 forestry plants on the boundary. The Wadi model of tribal development attempts to holistically address production, processing and marketing of the crop produce and other needs. Other development interventions in environment (soil conservation in the *wadis*, water resource and agriculture development, gender and health) are woven around the *wadi*.

Implementing Structure

Each project area is led by a Project Team, comprising the following.

Community Involvement

- a) Village Development Committees/ Farmers Clubs (VDC/FC) will be formed in every village (along the guidelines for forming VDCs under OTELP/NABARD schemes); these will take responsibility for the implementation of INRM in their own village. These would be registered under the Society Registration Act. A *Gram Sanjojak*, elected by the VDC and trained extensively by the partner NGO, will be the Secretary of the Committee. He will be the CRP to mobilize INRM activities, supervise worksite management and facilitate payments.
- b) Common Interest Groups (CIGs) will be formed of the beneficiaries with allied interests such as landless persons, who could lose out on the benefits of private land development activities. A CIG of such persons could be used to assist them in earning remuneration through pisciculture, processing and marketing of non-timber forest produce, etc. The President and the Secretary of the CIG are members of the VDC/FC.

Village Development Plan (VDP)

The NGOs in the field assist the VDC in preparing their respective VDPs, with the following details.

- a) A household-wise detail of the type and number of MGNREGS works to be taken up by the VDC.
- b) Details of bigger projects that could be taken up by the GPs/Line Departments.
- c) Village Horticulture Plan, indicating the land area and the number of households to be targeted for the NHM coverage.

- d) Afforestation plan, relevant to the needs of the community.
- e) Other requirements of the village, with respect to strengthening of education, infrastructure, connectivity, etc., in order of priority.
- f) Scope for pisciculture and livestock development.
- g) List of landless persons, requiring land for house construction and/or agriculture.
- Any other matter adjudged relevant by the VDC towards the goal of village development.

Execution of Works

- a) Village Level: Works under MGNREGS will be executed under the supervision of the VDC/FC. The work order will be issued in the name of the *Gram Sanjojak* (known in other states as the MGNREGS mate), who will act as the CRP and the Secretary of the VDC.
- Block Level: The Block Development b) Officer (BDO) will be the nodal officer for INRM in the corresponding block. He will be in charge of the coordination, supervision, monitoring and timely flow of funds. The procedures, as prescribed by the Department of Panchayati Raj, to facilitate the measurement of work and the release of payments to bank/postal accounts of job card holders under MGNREGS, will be applicable even in the collaboration with INRM and is to be followed by the BDO. The BDO will have to assign one Junior Engineer (JE) as an INRM-JE, for measuring and certifying the amount of work done.
- c) District Level: A number of personnel will be identified and trained at every level, to constitute a District Resource Group (DRG), which will help in the

implementation, review and monitoring of the project.

Flow of Funds

The CRP's remuneration will be decided as per government guidelines from time to time. Material

expenditure will be reimbursed to the *Gram Sanjojak* or the VDC, depending on who has borne the expenditure. Field NGOs may avail of assistance from NABARD to form FCs, to further institutionalize the MGNREGS processes, as agreed upon by NABARD.

Travel expenses of team leaders and supervisors of NGOs will be compensated out of the funds available under the administrative cost heads of MGNREGS. This will be limited to a maximum of three per cent of MGNREGS expenditure registered online under INRM by the partner NGO.

Review Standards

Clear targets to be achieved, under the collaboration of INRM and MGNREGS, were set out. Performance on each of these targets (including the partner NGOs) will be the standards by which the degree of success of the pilot would be assessed.

- a) Primary Targets
 - Registration of all rural households under MGNREGS by December 2009.
 - Issuance of job cards to all registered house-holds.
 - Facilitation of open-ing of bank/ postal account for all the registered house-holds by December 2009.
 - Social mobilization for achieving at least 65 per cent of the potential under MGNREGS for 2009–10 for project villages (that is, 65 per cent

Kandhamal's topography is such that it has no midlands—just up-lands and lowlands and, therefore, the natural resource treatment has to be from ridge to valley. of job cards completing 100 days).

• Capacity building of all CRPs in project areas by 20th November 2009. b)Secondary Targets

• Increase in area under the second crop.

Improvement in water level.

- Development of horticulture on the Wadi model.
- Increase in forest coverage.
- Reduction in migration.
- Increase in absorption of crop loans.

Coordination and Review

The following institutional mechanisms were developed at the block and district levels to co-ordinate, supervise and monitor various activities under the INRM project.

- a) Block level: Fortnightly block MGNREGS Review Meeting (BNRM), to be held on fixed days (alternate Tuesdays) for co-ordinating and monitoring various matters related to INRM.
- b) District level: Regular meetings to be held with the BDOs, partner NGOs and other staff, to ensure close coordination and monitoring of the project activities.

PREPARATION AND IMPLEMENTATION

PRADAN's Objective and Approach

PRADAN Balliguda embarked on this project with the idea of expanding its current base of INRM work in Kandhamal, using the extensive reach and resources of MGNREGS, with the possibility of further convergence with other agencies and programmes. The primary objective of the project was to help families, dependent on wage employment, demand for and access their entitlements under the MGNREGA, and work towards generating sustainable livelihoods from their own resources. Thus, target families in the project area can not only access employment but also acquire productive assets (ponds/ tanks, productive lands, plantations and wells) under Prevalent SHGs, with their strong orientation to thinking about livelihoods through previous training and experience, saw the MGNREGA as a perfect opportunity to align some of their plans and activities with.

MGNREGA and enhance their livelihoods through improved agriculture, in convergence with other government programmes such as Rashtriya Krishi Vikas Yojana, and National Food Security Mission.

Kandhamal's topography is such that it has no midlands—just up-lands and lowlands and, therefore, the natural resource treatment has to be from ridge to valley. Second, in keeping with the categorized prioritization of the private land development in MGNREGA, it was decided to take up works on the lands of the poorest in every pilot village. PRADAN also sought to use its large women's SHG network base to mobilize support for the pilot and accelerate the shift in livelihood base from forest to land-based (agriculture) and, in particular, to settled cultivation.

Orientation of all Stake-holders

A total of 32 exposure visits were organized for nearly 1,670 admini-strative officials, elected represen-tatives and civil society members, to make them appreciate the relevance of such activities to the community and the scope of replicating them under MGNREGS. Besides, workshops were also organized at the district and block levels, to develop a common understanding among different actors on the promotion of these activities under MGNREGS. About 250 participants took part in eight workshops. Participants included BDOs, AEs, JEs, VLWs, GRSs, GSs, PRI members and NGO staff. They were educated about suitable schemes and structures that could be taken up in INRM under MGNREGA.

Identification of Project Areas The DRDA identified eligible

partner NGOs and corresponding project areas. PRADAN placed its demand of preferential places to work in (namely, K. Nuagaon, Balliguda and Tumudibandh blocks) and these were agreed to and sanctioned for the pilots. Meetings with block authorities and the NGO partners and, subsequently, with the DRDA and the block at the district level were conducted to decide on the NGOs and the villages that would be allocated to them. The completion of this process then paved the way for training, planning and implementation of the pilot.

PRADAN identified 66 villages in three blocks (31 villages in K. Nuagaon, 13 in Tumudibandh and 22 in Balliguda) for INRM planning and implementation under MGNREGA. Given its choice of the non-convergence model, the guiding consideration was to select villages where no other projects of land/water development/ watershed had been taken up. The villages were also characterized by a high incidence of poverty, significant tribal population and low awareness about government schemes. Agriculture was the primary source of livelihood in these villages, followed by daily wage labour after the monsoons.

Baseline Data Collection

Selected residents of the pilot villages collected the baseline data of individual families in different village-level meetings.

They had been trained to collect information by using a format, jointly developed by PRADAN and the district. Triangulation of information was done through crosschecking the group's views and the block-level data.

Awareness Generation

One of the critical gaps in the implementation of MGNREGA in Kandhamal was the beneficiaries' lack of awareness about the Act's entitlements. Thus, a number of exposure visits, training, meetings and awareness campaigns were organized, using different tools such as the 'MGNREGA Rath', posters, booklets and pamphlets, and skits. Moreover, awareness generation about MGNREGA has been established as a continuous agenda in SHG cluster meetings.

SHG Involvement

Prevalent SHGs, with their strong orientation to thinking about livelihoods through previous training and experience, saw the MGNREGA as a perfect opportunity to align some of their plans and activities with. They began to take a keen interest in helping their members recognize and access their rights under MGNREGA, by ensuring asset creation plans for individual members and demanding their timely execution. Families left out of this fold were subsequently organized into SHGs and informed about MGNREGA and the project. SHGs formed by other actors in these villages were also taken on board, to implement the project. The SHGs are also federated at the panchayat level as clusters, for further sustainability of their efforts. Around 150 SHGs exist in the project villages, of which 20 are newly formed.

The CSPs and the CRPs work together to help the villagers understand the provisions of MGNREGA, register and demand employment, develop plans, demand their execution and implement them.

CSPs and CRPs

CRPs and Community Service Providers (CSPs) play an important role in inspiring the villagers to act. They were selected by the villagers because of their prior experience, comprehension of people's needs, skills and their degree of co-operation.

Their training included both classroom and field lessons. They were paid at the rate of Rs 100 per day, as and when engaged.

In addition, one villager per 100 households is engaged as the *Gram Sanjojak* by the block, to execute the works, supervise worksites, conduct measurement of works, maintain muster rolls and assist in payment of wages. They receive a day's wage of Rs 103 for every 25 labour-days generated. They were trained by both—the PRADAN staff as well as the block officials. The CSPs and the CRPs work together to help the villagers understand the provisions of MGNREGA, register and demand employment, develop plans, demand their execution and implement them.

Village Development Plans (VDP)

VDPs were developed in 48 villages covering 2,560 households, based on household needs and existing livelihood resources. The CSPs and the CRPs along with PRADAN professionals helped the households in developing these plans. The planning exercises were conducted over four to five days in the following manner:

- Concept seeding: Intensive orientation of the villagers so that they may build an appreciation of the:
 - Importance and potential of the natural resources.

- Impact of the natural resources on the lives and livelihood of the people.
- b) **Resource mapping:** Plotting of diff-erent land types, water bodies, ridgelines, drainage line and the direction of water flow

The SHG is the basic unit of mobilization in the rightseducation under MGNREGA. Regular and continuous orientation of SHG members about their rights under the MGNREGA has helped members claim their entitlements.

on a revenue map of the village.

- c) **Ownership mapping:** Recording the pattern of land ownership in the village, which would help identify lands that are mostly owned by poor families. This involves two steps:
 - Wealth ranking exercise
 - Collection of ownership data and present land use
- d) Problem identification: Analysing and delineating the problems for each patch of land. This was required for generating alternative options to overcome the problems of the respective patches and, thereby, enhance productivity.
- e) **Patch-wise plan development:** Finalizing plans for each patch of land in consultation with the owners.
- f) Household-level plan finalization: The plans were then consoli-dated to ensure plans for every household. Common plans were made for landless families.
- g) Budget finalization: Standard cost estimates were prepared for each activity deman-ded by the people and approval was taken for these from the district administration. So village-wise budgets were made, taking into account the approved unit costs.
- h) **Committee formation:** In each village, a committee of village representatives

was formed to pursue the issue of work orders, execution and timely wage payment, with support from CSPs.

Demand and Execution of Works

After the submission by the VDP, the VDC has to wait until the administrative and

technical sanctions for the plans come through the concerned agency. Plans up to a total worth of five lakhs are sanctioned by the GP; up to 10 lakhs by the block and up to 20 lakhs by the district administration. A plan passed by the GP cannot be rejected by the district because it is a people's plan. Once the VDP is sanctioned, the villagers can place demands for work as and when they need it or in the decided timeline for taking up the construction of various INRM structures, as specified in the MGNREGS plan.

Once the plans are approved, an elected Gram Sanjojak receives the work order on behalf of the village and opens the corresponding worksite. He is in-charge of maintaining the records of work, completed by the workers, measuring them, entering them in the muster roll (MR) and measurement book (MB) and submitting them in time to the GP's office to facilitate payments. The work of the Gram Sanjojak is scrutinized by all the workers and a vigilance committee, compris-ing the villagers. The measurements of the Gram Sanjojak are verified every week/fortnight by the JE, to guard against irregularities. Payments have to be made within 15 days of receiving the MR. Payments are made to bank/postal accounts of the workers, to ensure transparency and accountability.



space for intervention under

MGNREGA.

Formation of Vigilance Committees

The *pallisabha* (also known as the *gram sabha* in other parts of India) forms a vigilance committee and selects the members for it. Its composition is generally kept to within 20 members. In

small hamlets, the entire population is a part of the committee. The committee approves weekly/fortnightly plans of work to be taken up in the stated priorities of ridge-to-valley development and the poorest first consideration. Its functions are to keep vigil on the MR entries, measurement of work by the Gram Sanjojak, as well as sorting out the payment issues at the village level. It is also called in for trouble-shooting, for example, to resolve the task incompatibilities with minimum wage rate payment compulsions and solving the odd cases of workers completing more than 100 days of work. The vigilance committee seeks to understand the reason for such anomalies and accordingly deals with them.

Helping Members Access Rights under MGNREGA: The SHG is the basic unit of mobilization in the rights-education under MGNREGA. Regular and continuous orientation of SHG members about their rights under the MGNREGA has helped members claim their entitlements. Plans are studied and the SHGs and clusters regularly review the execution of their plans. The SHG members approach the GP and the block office, to demand job cards, work orders and payments, as and when required.

CONVERGENCE

INRM activities under MGNREGA were also converged with the Line Departments of horticulture, forest, soil and water conservation, and agriculture. It was decided that no convergence would be taken up either by the DRDA or at the block level. All convergence planning and implementation would take place in direct liaison with the concerned Line Department.

INRM lays emphasis on the optimum utilization of available resources. Hence, for the proper utilization of assets and to create sustainable livelihood options, convergence planning was restricted to the district level.

Horticulture—Mango, Banana Plantations

In the case of horticulture, plans were prepared by the villagers following the identification of suitable areas and detailed discussions in the VDC. These plans were forwarded to the horticulture department, which then inspected the area, studied the plan submitted and passed the sanctions, once approved. Usually, plantations of fruit crops are sanctioned as they help, in soil retention and providing an additional income through the sale of fruit. The Junior Horticulture Officer looks after the MRs. measurement of work and payments in these works. He is assisted by the Gram Sanjojak . Additionally, an Udyaan Sathi (local person), trained by the horticulture department, helps the workers and the GS understand the finer details of maintaining plantations. Labour payment is done by the DRDA under MGNREGA. Currently, there is an agreement between the horticulture department and the district to not sanction more than 40 trees per family because of the man-days it eats up in the individual employment limit of each worker.

Agriculture

There are several concurrent agro-schemes of the Government of India that seek to attain

food security of the country. Through these schemes, the government plans to increase the productivity of primary food crops such as pulses, rice and wheat. However, the corresponding agronomic practices these crops require for their upkeep are mostly management-oriented. They involve management of soil INRM planning process under MGNREGA allowed villagers to decide the order and the time-frame of works, and allowed the possibility of taking up ridge to valley works and of prioritising works on the lands of the poorest.

health and its moisture retention capacity, water resources and timeliness of interculture. Over and above this, these efforts need to be substantiated with proper land and water resource management, which can be provided through INRM works. Thus, the agriculture depart-ment is now planning to take up work in INRM villages. The necessary pre-requisites for advanced farming are already available in these villages. The department does not conduct its works on small landholdings and, hence, the villagers need to come together and allow works collectively on their lands. INRM villages provide the right environment in this respect. The unity of the villages (achieved through planning and monitoring of schemes through the VDC and the Vigilance Committee) makes them eligible beneficiaries of the programmes.

Soil and Water Conservation

The Soil and Water Conservation department conducts its programmes only in the villages where INRM is being conducted in convergence with watershed schemes by some partner NGOs. Watershed schemes only have a life of seven years. Thus, the limited funding and lifespan of the scheme automatically creates the space for intervention under MGNREGA. Labour payment for these works is covered under MGNREGA. It typically takes up structures such as farm ponds (eight different models), contour bunds, etc.

TECHNICAL INTERVENTIONS AND INNOVATIONS

Implementing INRM under MGNREGA, in two or three hundred villages for a pilot project, is in itself a

significant innovation in the Act's brief history. Enabling a smooth collaboration, however, required further innovations suitable to INRM within the Act's regulatory framework without violating its core.

VDP

Active participation of workers in planning brings a sense of ownership of the schemes undertaken. Thus, the process of congregating at the village and drafting plans was given special importance in generating awareness and consensus on the project. This paved the way for the creation and strengthening of the VDCs, providing villagers the opportunity to draft their own development vision aided by the technical expertise of NGOs. In the standard planning process of the MGNREGA, the lack of participation and collective interest by the villagers, results in the local elite usurping the schemes in their own favour. Even with collective effort, the lack of supporting expertise may result in ill-planned and thus ineffective schemes getting incorporated.

Another departure from the standard MGNREGS planning was that, under INRM, plans were made regardless of financial considerations. The total budget of all the schemes suggested was to be divided by the number of job card-holders and their maximum potential of 100 days per worker.

Finally, the plan was to be submitted to the block, and depending on the time-frame required to complete the drafted plan, the budget would be sanctioned for a period from one up to three years.

Single Work Order

A single work order is to be issued for the whole village instead of for individual families. This is not usually the practice. After the plan is submitted, technical blueprints, and budgets are prepared for the schemes and following the demand of work by any villager(s), a particular scheme is sanctioned. This results in sanctioning of schemes, in the wrong time-frame. INRM planning process under MGNREGA allowed villagers to decide the order and the time-frame of works, and allowed the possibility of taking up ridge to valley works and of prioritising works on the lands of the poorest.

Technical Outlay Alterations

Unlike standard INRM works, MGNREGA

would only allow for smaller structures because plans were sanctioned on private lands, which were mostly small landholdings. Thus, there were several alterations in the technical blueprints drawn for INRM structures, for instance, building pits in more than five per cent of the land in very small land-holdings. SWATI (one of the partner NGOs) worked with gravity flow irrigation with INRM for the first time in Barepanga village, Taladankia GP, Phiringia block, with support from Sir Jamshedji Tata Trust.

Forest Rights Act (FRA) Land Development

Newly acquired lands under the Forest Rights Act were a boost to the livelihood of many poor households. However, making them cultivable was an expensive task. This was taken up under the pilot project and land development activities such as levelling land and creating *bunds* around farms were taken up on these lands.

The Happa: A Replicable and Sustainable Model

SEBAK JANA

Helping villagers create a sustainable small scale irrigation structure in the form of a happa has wide ranging and long term benefits on their lives and livelihoods.

Fifty per cent of the people in India are dependent on agriculture for their livelihood. A majority of them are the rural poor and marginal farmers, without any assured food security. Their dependence on the rains to irrigate the land greatly jeopardizes their crops and their food security. The *happa* experiment was launched to provide them with assured irrigation. The *happa*, or small tank, model is part of Integrated Natural Resource Management (INRM), which focuses on both water and soil management.

The Government of India (GoI), under its flagship programme for employment generation, the MGNREGS, is funding the construction of *happas*—mud-excavated small water harvesting structures—of an average size of $50 \times 45 \times 12$ ft in a command area of about 0.6–0.75 acres. Introduced as an experiment in some dry zones, the *happa* is being excavated on the private land of farmers so that they can irrigate their agricultural land. The construction of the *happa* is paid for by the government but it is subsequently managed by the farmers and all operational expenditure for maintaining it is incurred by them. This model has seen some success in the dry zones. A village in Bankura district, a dry zone of West Bengal, has been selected for the case study. There is a geographical concentration of backwardness and poverty in this area that has led to a continuous degradation of natural resources.

INTRODUCTION

The Indian economy is an agrarian economy, even though the share of agriculture in the GDP is about 20 per cent. More than 50 per cent of the people in India are dependent on agriculture for their livelihood and the country faces the daunting challenge of providing food security to its people. Rain-fed areas in the country account for 60 per cent of the cultivated area and these areas are home to a majority of the rural poor and the marginal farmers. Repeated droughts and erratic rainfall continue to have an impact on the livelihood of the rural people, particularly those who live in the dry zones, because irrigation facilities are poor. In most states, households that have access to irrigation have only about half the poverty incidence as compared to households that have irrigated land. The impact of the existence of irrigation facilities can be seen among the tribal households as well. Irrigation in India is divided into four categories—canal irrigation, river lift irrigation, tube well irrigation and tank (water harvesting structure) irrigation.

Objectives of the Study

The main objectives of the study are:

- To judge the economic viability of the project, using standard Cost Benefit Analysis tools.
- ii) To assess the ecological and social impact of the project.
- iii) To identify the benefits accrued from the project.

Repeated droughts and erratic rainfall continue to have an impact on the livelihood of the rural people, particularly those who live in the dry zones because irrigation facilities are poor. iv) To assess the scope of upscaling the project as well as to identify the problem areas of up-scaling.

Our analysis reveals that a small irrigation programme like the construction of *happas* has made a strong impact on the livelihoods of rural people. The

impact on the environment includes the conservation of soil and moisture of the watershed area. The economic benefits include an incremental production of paddy and vegetable crops. The success and upscaling of the programme depend on the systems of planning, application, execution,



monitoring and fund-flow adopted from here on. Based on the Cultivable Command Area (CCA), irrigation in India divided into three is categories-major (CCA above 10,000 ha), medium (CCA between 2,000 and 10,000 ha) and minor (below 2,000 ha). In 1951, when the planning process began in India, there was an emphasis on major irrigation, in the

MGNREGS is a government programme, which aims at enhancing livelihood security by providing at least 100 days of guaranteed employment in a financial year to every household whose adult members volunteer to do unskilled manual work.

form of construction of dams and barrages. After that, India has increasingly been dependent on groundwater for irrigation. Groundwater, at present, provides water to 60 per cent of the net irrigated area in India. On the other hand, the area irrigated by tanks has fallen from 18 per cent in the 1950s to only about 4 per cent at present. The proportion of critical districts for over exploitation of groundwater has increased from 9 to 31 per cent during the period of 1995-2004 (GOI, 2010). The Fourth Assessment Report of IPCC has projected a rise in temperature in the Indian region by 0.5 per cent by 2020 that may affect agricultural production. The irrigation sector may also be affected by climate change, with the predicted increased variability in precipitation.

Considering this backdrop, it becomes urgent to explore the possibilities of sustainable forms irrigation-through of the construction/renovation of tanks, check dams, etc. The importance of tank irrigation in the country has been well documented. Participatory Irrigation Management and Rehabilitation of tanks became a part of the strategy in India from 1995 onwards. The case for sustainable irrigation was strengthened with the introduction of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) in India in 2005. MGNREGS is а government programme, which aims at enhancing livelihood security by providing at least 100 days of guaranteed employment in a financial year to every whose household adult members volunteer to do unskilled manual work. MGNREGS works include

water conservation, water harvesting, renovation of traditional water bodies, and which, if effectively implemented, will promote sustainable irrigation.

INRM planning is very essential for chalking out effective interventions in rural poverty alleviation by enhancing agricultural income. This includes the formation of village-level associations, baseline data collection, resource mapping and ownership mapping. The main components of the INRM strategy includes harvesting rainwater and using it judiciously, conserving soil, meeting the livelihood needs of people through planting trees, growing crops, rearing animals and transferring resources to the next generation, safe and enriched.

SMALL IRRIGATION TECHNOLOGY: HAPPA

Water is a central issue for development in the rain-fed dry zones of the country; rainwater harvesting, therefore, can play a very vital role in the conservation of our water resources. However, tank irrigation structures in India are not well managed, and experiments with the formation of a water users' association have not been satisfactory at all in West Bengal. In the last few years, some innovative experiments have been introduced in different parts of India in the irrigation sector. One such experiment is the *happa* in West Bengal. Small tanks are being excavated on the private lands of the farmers; they can irrigate their own agricultural land with the water from these tanks. The farmers are responsible for managing and maintaining Biradihi is spread over 289.9 ha and has 106 households with a population of 600. It is in the baid land, that is, medium upland, and agriculture is the main source of income in the village.

the tanks. A happa does not have any cement work or stone revetment. The sides of a happa are stepped with a slope of 1:1, such that both livestock and humans can access the water easily. A *happa* is constructed by the side of an agricultural field; its average length is 45 ft, breadth is 50 ft and depth 12 ft. The total earth extraction of a *happa* of this size is 17,360 cu ft, and requires 299 man-days to make. With the existing MGNREGS wage rate of Rs 100/day, the average construction cost for the above specifications would be about Rs 29,900. The average command area of a happa is about 0.6 acres. The model is also called the 5% model because it occupies that much area of the agricultural plot of the farmer. The construction cost of the *happa* is currently being financed by MGNREGS, and all the operational expenditure for maintaining the happa is incurred by the farmers. This model has become successful in some dry zones of West Bengal. There are two major cropping seasons in India, the kharif and the rabi. During the *kharif* season (July-October), agricultural activity takes place both in rainfed and the irrigated areas. In the rabi season (October-June), agricultural activity takes place only in the irrigated areas. The *kharif* crop includes *aman* paddy, maize and pulses whereas the *rabi* crop includes wheat, barley and oilseeds. The con-struction of water harvesting structures such as the *happa* has created a strong impact on the livelihoods of

farmers through the generation of additional income in the dry areas because they are able to:

- (i) Provide life saving irrigation to the paddy crop during the *kharif* season.
- (ii) Grow vegetables around the *bunds* of the happas.

In most of the dry zones, the cropping intensity is very poor and an extra crop would have a perceptible impact on the standard of living of the farmers.

STUDY AREA

The area under study is Biradihi village in Musiaraha gram panchayat (GP), Hirbandh block, western Bankura district, West Bengal. The survey was conducted in 2010. In the Human Development Report of Bankura district, Hirbandh has been ranked the last of 22 blocks in the district. About 54 per cent of the households in the block live below the poverty line. There is a concentration of backwardness in these regions of the district. Only 30 per cent of the agricultural land in the block is irrigated (Government of West Bengal, 2007). The per capita annual food grain availability in the block is 230 kg whereas the requirement is 365 kg. The backwardness can be explained through the lack of access to natural resources such as water.

There are three land types in these districts:

- i) Fallow uplands (called *tarh* land): These are at the top of the terrain with very thin topsoil and very low water-holding capacity.
- Medium uplands (called baid land): The soils are sandy and sandy loam, and

shallow with low organic matter and low moisture holding capacity.

iii) Lowlands (called kanali/sol land): These lands are loamier than baid and are the most advantageously located, in terms of water availability, with additional water from

All the households say that water is a great problem in the area and water scarcity has become more acute in recent years. Any livelihood development strategy in the dry zones must focus on water as the central issue.

seepage from the upper catchment. In the region, about 50-60 per cent of the land is medium upland, 20-30 per cent is upland and 30 per cent is lowland. The water holding capacity of the barren upland is very low. The *tarh* and baid lands possess inferior soil and low moisture and, therefore, require irrigation. Paddy cultivation is classified season-wise into three types-Aus, Aman and Boro. Aman is the main paddy grown in the *kharif* season and it flowers in September. In case of a dry spell, the production of paddy in medium upland is badly affected. The conservation of moisture in the soil is very important. Biradihi is spread over 289.9 ha and has 106 households with a population of 600. It is in the baid land, that is, medium upland, and agriculture is the main source of income in the village. According to government records, the land-use pattern of the village is: forest-115.3 ha, cultivable waste-54.6 ha, not available for cultivation—48.7 ha, irrigated land—20 ha, unirrigated land-61.20 ha (GOI, 2001). A major part of the agricultural land is not irrigated as per records. There is not even a tube well in the village currently. The only source of irrigation is a *jorh* (a water harvesting

canal that is the common property of the village). The region is hotter than the other regions in West Bengal. The temperature gradient reaches about 45° C in summer and the average annual rainfall in the region is about 1,400 mm per annum but there is a huge run-off because of the terrain and the rocky soil. Irrigation in this area can be greatly

enhanced if this run-off is systematically tapped.

HOUSEHOLD CHARACTERISTICS

Twenty households were randomly selected from the sample village that has a *happa*. The households selected have the following characteristics:

The average family size is 5.5 and the percentage of male members is 55 per cent. The average educational class attained by the head of the household is 3.25 and 42 per cent of the sample members (excluding children) is illiterate.

Caste: Eighteen households are from the Scheduled Caste (SC) category and two households are from the Scheduled Tribe (ST) category. All the households belong to backward castes.

Poverty: Thirteen households fall in the Below Poverty Line (BPL) category. The poverty line in India is a monthly per capita expenditure of Rs 356.30 for the rural sector.

Occupation pattern: Only two families have members who are employed in the service sector. The average employment generated per family is calculated as 485 man-days, including family labour employed for own agricultural land. The average employment patterns are: agriculture—74 per cent, non-agriculture—5 per cent, service—8 per cent, employed under MGNREGS—14 per cent.

There are 19 households that possess MGNREGS job cards. The average employment PRADAN acts as the project facilitating agency, working on two fronts—orienting the villagers about water conservation and providing the technical support in implementing the project. by the households. The crop failed in 2010 because of poor rainfall. The number of households that use sources of irrigation other than the *happa* (mainly *jorh*) are 14. *Aman* paddy is usually grown from June to November and vegetables are grown from July to November. In the other seasons, limited

through MGNREGS per family per year is 59. The dependency burden (the percentage of people below the age of 18 years and above 24 years) of the households is 45 per cent.

The number of households with different assets is as follows: mobile phone—5, TV—2, cows—13, pumping machine—11.

The average agricultural landholding is calculated as 0.88 acres per family, of which the irrigated land from the *happa* is 0.35 acres.

Only nine households reportedly belong to an SHG. The group formation under the SGSY scheme does not seem to be effective in this area. Rural indebtedness in the area is high. Of the 20 households selected, 15 have taken loans from moneylenders. The average loan taken per family is Rs 7,250.

The average expenditure per month per family has been calculated at Rs 4,377. The allocation of expenditure on major items on an average has been as follows: rice—31 per cent, pulses—4 per cent, spices—14 per cent, fish and meat—8 per cent, fruit—2 per cent, medicine—13 per cent, education—21 per cent, clothes—6 per cent, others—2 per cent. The average water level is 39.5 ft in the summer season and 8.75 ft. in the rainy season. Aman paddy is the main crop grown

amounts of potato, wheat and mustard are grown mainly because of the lack of irrigation facilities. Vegetables need to be irrigated the most number of times during cultivation (10– 15); Aman paddy is irrigated three to five times and wheat three to four times.

All the households say that water is a great problem in the area and water scarcity has become more acute in recent years.

STRATEGY FOR IMPLEMENTATION

Any livelihood development strategy in the dry zones must focus on water as the central issue. The methods that have been considered at the core of the strategy are insitu conservation of soil and water along with checking the surface run-off; harvesting of rainwater on the surface; economizing the use of groundwater; rejuvenating sub-surface water; and planning livelihoods through a participatory approach at the village/hamlet level (based on micro watershed-level flow). There is also an urgent need to promote livelihoods in these areas by working with government departments, to strengthen the farming system support services and influencing local governments to invest in INRM-based livelihood activities for directly addressing poverty.

Under a new initiative of the Planning Commission, PRADAN, an NGO, has been

selected as one of the technical resource agencies, to facilitate district-level planning in Purulia and Bankura districts of West Bengal. PRADAN promotes livelihoods in the backward regions. The implementing agency is the block-level local body, the *panchayat samiti*.

The changes in the irrigated area have had a positive impact on rural livelihoods, particularly in the regions where the opportunities for alternative livelihoods are very little.

PRADAN acts as the project facilitating agency, working on two fronts—orienting the villagers about water conservation and providing the technical support in implementing the project.

PRADAN has adopted various strategies for addressing poverty. One such strategy is to organize the village women into small SHGs, help them plan livelihoods, and approach the local body, administration and banks for funds and loans for the implementation of livelihood programmes. The cost of this support is provided through the project management cost as allotted in the project.

PRADAN works very closely with *panchayati raj* institutions (PRI) at the *panchayat* level. Panchayati Raj is a system of governance in which the *gram panchayats* are the basic units of administration. In Bankura, as in other places in West Bengal, the PRI plays a key developmental role. It has three levels: the village (*panchayat*), the block (*panchayat samiti*) and the district (*zilla parishad*). The gram sansad (GS), or village council, comprising one or two villages, is the lowest level at which villagelevel plans are made. The elected members from the GS constitute the gram

panchayat (GP). These elected representatives, or GP members, are accountable for the preparation and implementation of the Annual Plan for the entire GP area (comprising 12–15 villages). PRIs have funds from of the MGNREGS, to finance the largely labour-intensive activities, leading to INRM.

A village-level INRM includes the following steps:

- i) Social mobilization and vision.
- ii) Delineating the ridge line and drainage.
- iii) Mapping the resource.
- iv) Mapping the land ownership in each area.
- (v) Ranking wealth.
- vi) Preparing the land-use map.
- vii) Mapping problems and generating options for remedial measures.
- viii) Checking whether all families are adequately addressed.
- ix) Prioritizing and preparing the action

Table 1: Average Productivity (Tonnes/hector) Before and After Construction of Happa

Crops	Before Construction Productivity	After Construction Productivity	Incremental Productivity		
Aus Paddy	4.00	4.45	0.44		
Aman Paddy	3.58	4.58	1.00		
Potato	6.67	7.46	0.79		
Wheat	-	2.04	-		
Vegetable	6.34	8.46	2.12		
Muslard	-	0.86	-		
Source: Own Estimation from the Primary Data					

plan.

x) Preparing the proposal.

The steps followed are:

a) Mobilizing the community and grooming a pool of Local Resource Persons (LRPs) by training them to implement the INRM plan. LRPs are selected by the Gram Unnayan Committee. The process of the happa construction has also led to institutional development, in terms of greater participation of the poor and marginalized farmers in village affairs, improvement in the relationship between different stakeholders.

- b) The LRPs prepare a village-level INRM plan, involving all the households, and collect the application forms for the happa.
- c) The LRPs place the plan in the GS meeting/Village Development Council (VDC). The plan is sent to the GP, with the recommendations of the GS/VDC.
- d) The GP issues a work order to the LRP after getting a sanction from the block. The LRPs supervize the work and prepare the muster rolls of the workers; the payment is made to the workers with the advice of the *Nirman Sahayak*. In most areas, the SHGs are involved in implementing the pro-gramme. In the

study area, this was not the case because the SHGs are not strong.

IMPACT OF THE HAPPA IRRIGATION EXPERIMENT

The environmental and the economic impact of having a *happa* in the region is reported to be very encouraging. The changes in the irrigated area have had a positive impact on rural

livelihoods, particularly in the regions where the opportunities for alternative livelihoods are very little. The economic benefits of the programme in the study area include:

- All the households surveyed reported that the yield and cropping intensity of the land had increased because of the construction of the *happas*. Farmers were able to irrigate their land and save the paddy crop during the *kharif* season, resulting in an improvement in the yield. The yield of Aman paddy increased from 3.5 tonnes to 4.5 tonnes per acre in a poor rainfall year.
- Farmers were able to grow vegetables around the bunds of the *happas* and

	Before C	Before Construction		After Contruction	
Crops	Total Area (Acre)	Nos. of Family	Total Area (Acre)	Nos. of Family	Incremental Total Area
Aus	1.16	04	0.25	02	-0.91
Aman	10.97	13	7.84	08	-3.14
Potato	0.69	06	0.92	07	0.23
Wheat	0.00	00	0.25	02	0.25
Vegaetable	3.22	09	8.31	19	5.09
Mustard	0.00	00	0.63	03	0.63
Others	0.33	01	0.00	00	-0.33
Total	16.37		18.19		1.82
Source: Estimation Based on Primary Survery					

Table 2: Cropping Pattern: Before and after construction of happa for the aggregate sample households

diversify their cropping pattern. In spite of the drought year, the cropping intensity improved from 93 per cent to 102 per cent for the sample farmers.

In addition, there is an opportunity to earn wages during the

Initially the farmers' interest was very low; the success of the happas, however, has acted as an inspiration to other farmers to construct happas on their land.

construction of the *happa*. The construction of one *happa* generates about 300 man-days of labour.

- The involvement of the local people in the planning and imple-mentation of the programme has led to a feeling of ownership of the programme.
- Of the 20 households surveyed, 13 households used the happa for growing fish. The annual average income per *happa* from fisheries is Rs 1,152.
- The value of the land in the village has increased because of the irrigation facilities provided by the *happa*. The price of the irrigated land is Rs 1,25,250 per acre and the price of unirrigated land is Rs 87,450.
- The *happa*s also meet the water needs of the livestock.

The following table presents the average productivity of different crops cultivated by 20 sample farmers. We see that after the construction of the *happa*, the average productivity has improved for all the crops. This has happened despite the fact that the rainfall this year has been below normal. In West Bengal, paddy is the main crop and is grown in three seasons—Aus, Aman and Boro. As the rainfall was very poor in the surveyed year, paddy production was greatly hampered. Nevertheless, the farmers shifted to different crops such as vegetables (mainly cabbage), using the *happa* water. Table 2

presents the crop-wise area before and after the construction of the *happa*.

ECOLOGICAL BENEFITS

Sample *happas* were constructed in 2009 and 2010; therefore, the full impact of the ecological benefit is yet to be seen. The

soil and moisture conservation of the watershed area has improved in the village. Because of enhanced moisture retention, microbial activities and biomass deposition have increased. As a result, the local micro environment has improved. Of the households surveyed, 80 per cent say that the construction of the *happas* has checked soil erosion and run-off. Seventy per cent say that the quality of the land has improved. According to the villagers, the colour of the soil has changed from red to yellowish and the soil has become loamier; more herbs and shrubs grow in the area now and 25 per cent of the families say that the water table has improved. All the households are in favour of NGO involvement in water management.

SOCIAL BENEFITS

The water from the *happa* is used for various purposes such as bathing, washing clothes, and cleaning of utensils. Before the construction of the *happas*, 45 households had to share one dug well and one tube well for bathing as well as for drinking water. The tube well is not operational now. Migration in search of work has also been checked. According to the survey results, migration in the sample households has fallen from 21 persons to 15 persons. The process of the happa construction has also led to institutional development, in terms of greater participation of the poor and marginalized farmers in village affairs, improvement in the relationship between different stakeholders the farmers, the traditional institutions (*panchayats*) and the bureaucracy (blocklevel authorities).

ECONOMIC VIABILITY OF THE HAPPA: COST BENEFIT ANALYSIS

This analysis of the data from the sample group gives us an idea about the economic viability of a *happa* in a drought-prone region. We compared the cost of construction of the *happa* and its annual maintenance cost with the annual benefits generated from it. We selected 20 happas for this analysis. A programme such as this generates social, environmental as well as economic benefits. The environmental and social benefits are difficult to estimate because of their complexity; therefore, we studied the economic benefits, in terms of the incremental income from crop production. If we were to add the environmental and social benefits to the economic benefits, the incremental benefits would be much higher.

To assess the viability of the programme in the long run, it is important to see whether the programme generates enough benefits to outweigh the costs. The construction cost of a *happa* is incurred only once. The restoration cost of a tank is estimated at Rs 500 per year and the incremental returns have been calculated by net profit from the increased

production because of the *happa*. The main crops grown in the command are paddy and vegetables. The Net Present Value (NPV), the Benefit Cost Ratio (BCR) and the Internal Rate of Return (IRR) for the CBA were calculated using the standard technique. The lifetime of a *happa* is assumed to be 10 years and the discount rate is at 15 per cent, which is taken as the long-term lending rate. All the 20 happas in our sample were constructed between 2008 and 2010. The number of happas constructed each year is: 2008–1, 2009—24 and 2010—1. For our sample, the average length of the happa is 52 ft with a maximum of 60 ft and a minimum of 40 ft; the average width of the *happa* is 36 ft with a maximum of 50 ft and a minimum of 30 ft; and the average depth of the *happa* is 11 ft with a maximum of 12 ft and a minimum of 10 ft. The average construction cost of the happa is Rs. 25,260 with a maximum of Rs 33. 600 and the minimum of Rs 9.400. The average incre-mental profit per happa has been calculated at Rs 11,241.

The results of the CBA have been presented in Table 3. This table has been prepared by averaging the data of the 20 sample *happas* under consideration. The results reveal that there is much economic justification for the construction of happas. The present value of the benefits of the incremental returns assumed to be accrued for the next 10 years

Table 5. Cost benefit? That is the sails for a happa			
	Value (Rs.)		
Present Value of Benefit	64.682		
Present Value of of Cost	27.646		
Net Pressent Value	37.36		
Benefit Cost Ration	2.3		
IRR	75.71		
Source: Own Estimation form the Primary Ssurvey Data			

Table 3: Cost Benefit Analysis Results for a happa

is calculated at Rs 64,682 and NPV is calculated as Rs 37,036. The IRR is about 75.7 per cent, much higher than the market rate of interest.

The performance of a *happa* depends greatly on rainfall. The year in which the survey was conducted was declared as a drought year for the district—the annual rainfall was 600 mm whereas the normal is about 1,400 mm. The programme would have been more successful if the rains had been normal. Though this analysis covered 20 households, the results will not differ much if more households are included.

SCALING UP

Scaling up means that the geographical area covered is enhanced. It could also mean that the number of beneficiaries of the programme is increased. The viability of scaling up of a technology depends on how much human resource development has taken place at the local level. The programme has strong potential, judged by sustainability indicators for the farmers such as increased market access, employment opportunities and more control over water resource. Farmers' beliefs and practices can be changed if a campaign is systematically planned and implemented. The key ingredient in participatory research is co-operation and understanding among stakeholders. Because most of the agricultural area is single cropped, there is a great scope for scaling up this experiment in the area and further afield. According to the reports, there is huge demand for happas in this region. Initially the farmers' interest was very low; the success of the happas, however, has acted as an inspiration to other farmers to construct happas on their land. In fact, some households have constructed more than one happa. For example, in 20 households there

are 26 happas. At present, the happa programme is on in three out of five GPs of Hirbandh block. The number of happas constructed each year in Hirbandh block is: 2008-09: 40, 2009-10: 950 and 2010-11: 1,200. About 2,000 happas can be constructed in a single GP. The survey revealed that some people prefer the *indara* (dug well) to the happa. Nevertheless, on grounds of sustainability, indara is less preferred because it is based on ground water instead of surface water harvesting. In addition. the cost of construction of an indara is high. Three families could have a happa each for the cost of construction of one indara.

The major hindrances to up-scaling the programme in this region are:

- i) Lack of awareness about the scheme
- Lack of an efficient system to invest mainstream government funds for land husbandry
- iii) Lack of political will

CONCLUSION

A small irrigation structure like the happa has a strong impact on the livelihood security of the rural people. It has improved the productivity, intensity and diversity of crops. Farmers have diversified their production from a single kharif crop of paddy to other crops such as vegetables and into new areas such as fisheries: such diversifications have reduced farmers' vulnerability to the climate shock they used to face before the construction of the *happa*. The success and up-scaling of the programme depends very much on the system of planning, app-lication, execution, monitoring and fund-flow. The field survey indicates that there should be more emphasis on crop diversification. Paddy cultivation is more risky compared to crops such as maize and vegetables because

the paddy crop suffers heavily when there is low rainfall. The survey results also reveal that 100 per cent of the households have said that they are unable to utilize the land fully because of lack of water. There is a huge demand for irrigation facilities in the area. The government needs to take a more pro-active role in up-scaling the experiment. To make the programme more successful, technological interventions are required, in terms of new production techniques such as SRI cultivation, new irrigation techniques such as drip and sprinkler irrigation techniques for conserving water, and introducing organic farming methods. The average annual rainfall in the district of Bankura is about 1,400 mm. Therefore, there is huge scope for enhancing irrigation if the run-off water is systematically and correctly tapped. Another advantage of this model is that the number of beneficiaries per unit expenditure spent is much higher i n the *happa* than in the bigger irrigation model. A *happa* is the private property of individual farmers; they, therefore, have an incentive for maintaining the structure. Moreover, the low maintenance cost makes it affordable for them. A strong feature of the *happa* model is that it is both replicable and sustainable. There is enough scope for uplifting of livelihoods of the marginalized sections of the rural community through this programme. This programme needs to be integrated with other watershed activities so that water can be more efficiently utilized. In addition, there is need to think about how small farmers, landless farmers and those with scattered land can avail of the benefits of this programme.

There is also great need to create awareness about the programme and to increase support for it. Involving more women in the decision-making process may also make the programme more successful. More emphasis on capacity building at the local level and the development of institutional arrangements is vital. The success and upscaling of the programme depends greatly on its planning, application, execution, monitoring and fund-flow.

Migration in Darbha Block of Bastar District (Chhattisgarh): A Study

GAURAV KUMAR AGARWAL

"It is an explosive situation in India today as far as agriculture is concerned and the farmers are concerned, with the employment rates in rural areas being the lowest since the late 1990s. We keep hearing about huge displacements due to dam-building or canal-digging, but let me tell you the biggest displacement is in agriculture where the largest mass migration in the history is beginning to unfold, following displacement of people from their land..."

> P. Sainath, 'India's Brave New World: The Agrarian Crisis, Farm Suicides and the Wages of Inequality,' *hosted by the South Asian Journalists' Association in New York.*

A large number of educated, uneducated and illiterate tribal women from Jharkhand, Chhattisgarh, Orissa and West Bengal migrate to different parts of the country. Metropolitan cities such as Delhi, Mumbai and Kolkata are their main destinations. They search for gainful employment as casual labour in the unorganized sector or as household maids for their livelihood. They are often exploited physically and sexually.

There is not enough data available to analyze and understand migration, particularly among women tribals, the regional and seasonal variations, the different types and forms of migration such as inter-state cross-migration, circular migration, occupational migration, short-term migration, long-term migration, migration caused by displacement and gender migration. The reasons for this exodus need to be studied in detail, especially because a large number of development programmes such as the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), the Jawahar Rojgar Yojana (JRY), the Employment Assurance Scheme (EAS), the Food For Work Programme (FFW), the Prime Minister Gramin Swarojgar Yojana (PMGSY) and the Swarna Jayanti Gramin Swarojgar Yojana (SGSY) have all been introduced to address the issue of migration.

The proposed study plans to find the reasons for the migration of tribals and to document how and where they migrate to; their living conditions prior to migration and at their place of migration; what they think about their future; whether they

know of the development programmes being implemented for their benefit; their health status; their vertical job mobility; the impact of the migration on their socio-economic life pattern at the individual and the community levels; the agencies involved; and all the other related aspects.

The study will focus on the tribal majority state of Chhattisgarh and will include women migrants from the cities of Delhi, Mumbai and Kolkata. The findings of the study will be used to make suggestions to policy makers, to undertake various development and welfare interventions among these tribal groups. The objectives of the study, the methodology adopted, the data analysis, the findings, the analysis of results and the suggestions are presented here.

OBJECTIVES OF THE STUDY

- To assess the present condition of tribal families in Darbha, in terms of parameters such as income, assets and standards of living.
- To provide an evidence base and data on the impact of migration.
- То establish certain benchmark indicators such as changes in family food security, assets, savings, credit mobilized. etc.
- To identify government interventions on the situation of migration in this area.

METHODOLOGY

The time-frame of the study was from the 6 June 2011 to 15 July 2011. Both techniques-qualitative and quantitativewere used in this study. Purposive sampling was used for selecting the study area and three villages—Kamanar, Chidpal and Chotegudra—were selected. PRADAN assisted in making this selection so that the

areas from where migration happened massively could me studied.

FINDINGS AND ANALYSIS

- Family Profile: Of the 121 households a. surveyed, 12 per cent were in the OBC category, 23 per cent were Scheduled Caste (SC) and 67 per cent were Scheduled Tribe (ST). The average number of households in each community were five or six. All the surveyed households lived in kaccha houses and had BPL cards as proof that they were indigenous to the area.
- Educational background and working b. skills.

Figure 1 depicts the village-wise literacy among the surveyed households.



- C. Livelihoods: Figure 2 depicts the number of families practising different livelihoods. Most of the families mainly practise two basic natural resourcebased livelihoods-agriculture and forest- based work. Apart from this, figure 3 shows the income of the villagers from agriculture, the families

Fig. 1. Literacy Counts Village Wise

Fig. 2: Families Practising Livelihoods



are also engaged in wage labour and migration.

d. Experience of migration: Figure 4 clearly shows that there is 80 per cent migration from the 121 households surveyed—that is, an average of two persons from each of the surveyed families or approximately, 202 people migrating from a population of 603.

Our key findings clearly reveal that there is no income from agriculture or from natural resources such as forests. Therefore, in spite of having landholdings, people are migrating to earn a livelihood. When one person from a family migrates, the other members of the family take care of the land.

Figure 5 shows the job descriptions of the surveyed households in the migrated place.

e. Impact of Migration

Case No. I

Pagni lives in the hamlet of Naya Kamanar in Chidpal *panchayat*. Her husband, Raju, has been in Andhra Pradesh for the last one-anda-half years. She had got married to Raju more than three years ago. Raju's financial position at that time was very bad. The agriculture and labour work available locally was not adequate to feed his family as is clear from the table 1.

The major crop in Bastar is paddy. Those who have large landholdings have surplus to sell after their own requirements.

But Raju never had enough surplus. Besides rice, he would have to buy vegetables and other household goods for his family. He therefore, had to do some work other than farming, provided either by MGNREGA or some private firms. But due to lack of work available, he had to migrate to Hyderabad in Andhra Pradesh.

He went to Andhra Pradesh with his friends. The group comprised people who had been to Hyderabad before, so he found a job easily and began to earn well. He worked in a wood company called Raveela Pvt. Ltd. and earned about Rs 4,000 per month after deduction for his boarding and lodging expenses. He has been working in Hyderabad for the past one year.

Pagni told us that he sends money every three months or whenever anyone comes to Bastar. She continues to live a difficult life. She cuts wood from the forest and sells it in the local market to feed herself and her son. Sometimes, she gets paid for some work provided by MGNREGA and sometimes she works in the private working agencies and earns Rs 120–150 daily. She said that Raju Fig. 3: Village-wise Income from Agriculture



comes home every six months and gives some money (about Rs 2,000-3,000) for her old parents and her and then goes back to Hyderabad within two to three weeks. She gets no support from her parents-in-law because of a land dispute. She gets no food from the produce of their land. She, therefore, has to do more work for her self and her son. According to her, Raju is not fulfilling his responsibility after migration. Whenever he comes home, he is very affectionate but after going back to Hyderabad, he forgets about the family. According to her, he might even have got married to another girl in Hyderabad, but she is not sure about that. She cries whenever he talks to her on the phone from there and pleads with him to come back but he does whatever he wants without thinking about his family. Pagni has to face many difficulties alone. So, migration is situational and good for Raju but has not worked well for Pagni.

Case No. 2

Sukman is 22 years old and lives at Tikra hamlet in Landra *panchayat*. He owns app-roximately six or seven acres of land. In season,

which is about four or five months in a year, he farms his land and for the rest of the year, he migrates to Jagdalpur and works as labour on construction sites and earns daily wages to feed himself and his family. He lives with his mother and his two-year-old child.

He had got married three years ago to Pamma, but within a few months he left for Hyderabad in Andhra Pradesh to earn some extra money. He worked there in a stone quarry and earned more money than in his native village. He divided his time between working there and farming in his village. But he found that his mother and his wife faced many problems, especially because he was the only male in the family and he was away at work. The women survived by selling

TABLE 1: ANNUAL INCOME AND EXPENSES OF PAGNI'S HOUSEHOLD						
Total Iandholding	Agriculture earnings per year (Rs)	<monthly expenses="" in="" rupees=""></monthly>			TOTAL	
		Feeding	Lodging	Others	Others	
3 acres	8,000–10,000 in a good season 4,000–6,000 in a bad season	Rs 50 per day ⇔ Rs 1,500 per month	Owns the house	Rs 15 per day for tobacco/liquor ⇔ Rs 450 per month	Approx. Rs 2,000 per month has to be spent	

Fig. 4: Gender-wise Migration



wood and doing small jobs around the village. He and his wife had a baby and the monetary help that he sent was erratic and his wife decided to leave him and get married again, leaving the child behind. His mother and his baby stay with him now.

Case 3

Mahadev is very poor and lives in Chidpal village of Pujari hamlet with his wife and daughter. He does not own any land and earns his living by selling wood from the forest. He did some work

provided by MGNREGA but he was not satisfied with the payment modality so he no longer wants to work through them. He has made a *kaccha* house on someone else's land. He lives in it for free but he will have to vacate whenever the owner wants him to. His daughter is young and goes to Jagdalpur with him to work in the construction company and earn daily wages. His monthly expenditure is listed in table 2.

When I asked him if he had tried migrating to earn money, he replied that he had gone to Tirupati in Andhra Pradesh and worked in a stone quarry firm. He had worked there for three to four months and,

Fig. 5: Job Description in Migrated Place



during that time, MGNREGA began registering people who wanted to be provided work in his village. He missed the registration and was unable to get a job card. He was, therefore, unable to benefit from the

TABLE 2. MAHADEV'S INCOME AND EXPENDITURE						
Total Landholding	Agriculture Earnings	<monthly (rs)<="" expenses="" th=""><th>TOTAL</th></monthly>			TOTAL	
No Land	Does only labour work and earns Rs 120 as daily wages	Feeding Rs 40 per day ⇔ Rs 1,200 per month	Lodging Owns the house	Others Rs 10–15 per day for house- hold expenses	About Rs 1,600 per month	



government's schemes for the tribal people and has had to work as labour for private companies, which he says are exploiting people. For now, he is very ill and has no money for treatment. He told me that there were many people, who had migrated and could not register in MGNREGA, and they all are facing similar problems.

SUMMARY AND FINDINGS

From these cases, we can surmise that migration has been very difficult and bitter for these people. It has severely affected individuals and families, whether the migration has been situational or forced. The tribal population did not have any other option. Agriculture is the backbone of the farmers; however, in Bastar, the season is only for three to five months; during the rest of the year there is no other option open to the farmers. The government agencies that are supposed to provide supportive schemes to provide livelihood are not doing their job properly.

CONCLUSION

The study of tribal mobility in the Darbha block shows a forced migration pattern among the tribal population. The tribals from this area go to places such as Andhra Pradesh, Orissa, Punjab and some local places in Bastar itself to earn their livelihood. The migration is seasonal and takes place mostly during the months of January to April because the places they migrate to have enough work and employment and good working conditions during time period. The proportion of adult women and men is equal among the total migrants. All the migrants from the Darbha are unskilled labour, working in stone quarries, wood mills, powder mills and construction companies and anywhere else where they can find jobs. During migration, the labour depends entirely on the employer for practically all their needs-be it buying daily need items, tobacco and vegetables or money for health care. During the final settlement, all the advances so made are deducted from the payable amount. The



employers reach the villages of migrant labour and pay them advances or other benefits and thereby bind them with an obligation to migrate. Many employers come with tractors to transport the labour. As the number of labourers increase the, per capita wage will reduce.

MGNREGS was flagged off in February 2006 with its basic purpose being to check migration and provide employment at the doorstep of the villagers. But the District Administration has not provide effective measures to check migration. Consequently, hundreds of people continue to be forced to migrate in search of employment. When the issue was raised, the reaction and response of the people's representatives and the Administration was not very encouraging. We pointed out that despite the employment guarantee, these marginalized families could not secure their Right to Work. The impact of migration has far-reaching effects on the socio-economic life of the people. The worst affected are the vulnerable women and children. The inhuman conditions in which people live are a denial of their human rights. It is to highlight the reality of migration and establish the fact that the Administration has failed to provide the Right to Work and that the human rights of the people are being violated, that a rapid survey was conducted. The report discusses the situation of migration, its impact on the families especially women and children, hunger as a cause of migration and the extent of deprivation of employment guarantee. Apart from this, there are some other points which conclude this study:

- Limited agriculture and less labour (non-initiation of works under MGNREGS, etc.) work are the leading factors for migration from Darbha.
- The District Administration does not acknowledge that migration exists, so has no effective means to check it.
- Better savings options at the migrated place.
- The unskilled and illiterate population is targeted for forced migration.
- Migration is rampant in Darbha block.

Dare to Dream: Kamala and Jaisen Sakia

The willingness to take risks and experiment with innovative methods, with the backing and guidance of professionals, proves to be life-changing for the tribals of Koraput district and especially one family...

Kamala Sakia is a 35 year old Gadaba woman, who lives with her husband, four daughters and a son in Chaparamba, a far-flung village in the tribal-dominated Koraput district of southern Orissa. She has been living in this village since her birth.

The main source of livelihood for her family is agriculture, followed by wage labour. They own approximately 2.5 acres of land, of which half an acre is lowland, where they cultivate paddy twice a year, and the rest is upland, where they cultivate upland paddy, *ragi*, *nigera*, and vegetables in the *kharif* season. At one time, they used to cultivate only cereals and oil seeds, and had food sufficiency for six to seven months in a year; after the government introduced the Rs 2 per kg rice, they get 25 kg of rice with their BPL card. Once the pressure of food security was taken off, they have began cultivating some vegetables and there by earn some extra cash for their household expenditure.

In February 2010, PRADAN began its intervention in this village. Poverty was abject and pervasive and the people highly vulnerable; literacy rates were dismal, the village was poorly connected and there was a soaring migration rate. PRADAN started its work by mobilizing the women into Self-Help Groups (SHGs). The task was more difficult than anticipated. The women in this village had been members of SHGs twice before. Unfortunately, they lost their valuable savings both times, and also lost faith in outside agencies. Therefore, a lot of time had to be invested in rapport building and community mobilization.

Kamala was one of the women, who could be taken into confidence, because she was still hopeful and optimistic. She helped mobilize nine other women to form an SHG. The next obstacle PRADAN faced was that there was no one in the village who could maintain records. The only person they could think of as their record-keeper was Narayan Saika, a village youth, who was away in Akula, Maharashtra, to work in a concrete pole factory as wage labourer. They decided that they would start the SHG once he returned but they were not certain about his homecoming.

PRADAN promised to help them with an accountant until Narayan returned, and in March 2010, the Siba-Sankara SHG was formed. A few meetings with the village women and men showed that the village had

an abundance of upland resources but these were gradually degrading due to high erosion

and landslides. Also, the villagers wanted to

cultivate vegetables round the year but because they did not have the facilities for irrigation, they were unable to do so; instead,

the villagers migrated to faraway places in

search of work after the *kharif* season. The

A project proposal was submitted to the Jamshedji Tata Trust (JTT), and after its approval, the INRM planning was done in April 2010. story was more or less the same across PRADAN's working area in Koraput. Past experience indicated that the introduction of Integrated Natural Resource Management (INRM) activities could help the

villagers arrest erosion, increase ground water and provide them round-the-year water in the medium uplands for vegetable cultivation.

Nevertheless, the introduction of the INRM required a considerable amount of money. PRADAN was new to the area; therefore, it



was difficult to raise the money locally. А project was conceived then to demonstrate INRM activities in Chaparamba village so that the people in the village would be benefited; in interim. the the local could be administration

persuaded to take up similar activities elsewhere in Koraput district under MGNREGA.

A project proposal was submitted to Jamshedji Tata Trust (JTT), and after its approval, the INRM planning was done in April 2010. Kamala stayed in the forefront during the whole planning process, and mobilized the villagers to participate in large numbers. She included all her uplands towards planning for bonding; in partnership with another farmer, she planned to construct a ring-well in her medium upland.

In May 2010, the implementation of INRM work began, and Kamala and Jaisen both participated in it. In June 2010, they started constructing thea ring well. But due to the onset of the monsoons, they had to abandon work after the excavation work was done.

After the *kharif* season was over, the villagers once again started the earth work. Kamala and Jaisen finished the bonding work in two acres of their upland, and also completed the construction of the ringwell.

Though the effects of the land-bonding activities are yet to be seen, the ring well has already been a boon for them in the 2010 *kharif* season and the 2011 summer season. When paddy in their medium upland was in its growth stage, the area experienced a dry spell and it did not rain until harvesting was over. The ring well saved the crop of the

With this income, they have bought two cows this season and have increased their herd of goats and number of hens. villagers because they irrigated their fields from the half constructed ring well. In addition, in summer, on the same land, with facilitation from PRADAN, Kamala cultivated hybrid tomatoes. From around 15

decimals of land, she harvested 30 quintals of tomatoes and earned approximately Rs 10,000.

Kamala's husband did not migrate to Maharashtra after the *kharif* season was over because wage labour was available within the village. He and Kamala earned more than Rs 7,000 from the INRM work done in the village. They also expect enhanced production from their developed up-land this year.

With this income, they have bought two cows this season and have increased their herd of goats and number of hens. Now, when we visit Kamala Sakia, she talks about the education of her child and of availing of better medical facilities for her family. When PRADAN first intervened, the conversation was only about earning enough to feed her family and stopping her husband from migrating to other areas. Her confidence has increased manifold, and when villagers from the surrounding areas and officials come to see the INRM work in their village, she shows her work with pride and motivates them to take up the same kind of work in their villages. Evidently, she and her family have entered a developmental spiral, and both Kamala and Jaisen are now able to dream of a brighter future for their family. These positive changes could not have been possible, without the perseverance of PRADANites and the generous financial support from JTT.



INRM evolved in response to several developments in the global agronomy, following growing demands on food production and ecological un-sustainability of prevalent technological and chemical solutions. It championed the cause of localized, grass-roots action research methods as opposed to the top-down, technocratic approach of international agricultural institutes. The conditions that INRM opposed have and continue to be a stark reality of the agricultural sector in India and most other developing countries.



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

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