

THE POOR AND  
THE PRIVATE SECTOR  
PUBLIC PRIVATE COMMUNITY PARTNERSHIP

CASES FROM THE FIELD

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**THE POOR AND THE PRIVATE SECTOR**  
**Public Private Community Partnerships**

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## PREFACE

India, while having well placed herself on the global map, still faces the challenge as well as responsibility to include over 60% of her population who are still struggling to have a decent life in this economic development. Of its nearly 1 billion inhabitants, an estimated 350–400 million are below the poverty line. The poor are subject to deprivation and both economic and social exclusion. As argued, economic growth and the related employment growth alone are not sufficient to help the poor overcome poverty and have dignified lives.

There have been significant efforts to make the economic growth more inclusive. The poor face complex livelihood challenges that often exclude them from mainstream developments like the growing retail markets, real estate, service industry, besides others. The Government, in India, is still by far the largest development organisation investing in infrastructure development as well as social welfare. Flagship programmes like NREGS have been designed and implemented to ensure minimum employment for the poor, to facilitate the participation of the poor in development and thus help them overcome poverty. On the other hand, economic growth is also attributed to the growth and expansion efforts of the private sector. Both of these pillars for economic growth have worked in exclusion, until recently when the model of Public-Private-Partnerships was pursued to ensure that cumulative efforts of both these growth contributors can help in making growth inclusive.

Both the Central and State governments are aiming to use this PPP model more intensively to ensure provision and delivery of basic services. Given the potential risk of conflicting interests and contradictions, the PPP model need to be better understood as mutually reinforcing arrangements. It becomes even more challenging considering the vast population of underserved or un-served poor in India, where the urgent need is to adapt this model to ensure inclusive and accelerated growth. There are initiatives that have been made by various institutions and individuals to refine and adapt PPP models and hence attempt to make the economic growth more inclusive and ensure engagement of poor in the mainstream markets and

value chains. Though these have been localized and are implemented at smaller scales, they do provide significant learning with their specific set of challenges, successes, experiences and even failures. These initiatives have remained isolated islands of knowledge, often unknown to the rest of the development sector to benefit from such rich experiences.

ACCESS Development Services, instituted and mandated to serve the poor and help them overcome poverty and live with dignity, has been making significant efforts at all levels of the sectoral value chain to impact and improve the livelihoods of poor. While working on-the-ground, ACCESS also realises the critical significance of needing to assimilate learning as well as to disseminate these for the benefit of the entire sector. Through initiatives like the Microfinance India Summit, the State of the Sector Report-Microfinance, the State of India's Livelihoods Report and various policy retreats and visioning exercises, ACCESS has been attempting to contribute towards dissemination and sharing of best practices for the benefit of the entire gamut of stakeholders in the sector.

Management Development Institute, one of the premier educational institutions in India, recently announced its Centre for Sustainable Development. MDI with its dedicated team has been contributing towards the sharing and dissemination of knowledge and creating better human resources who would contribute towards inclusive growth.

ACCESS and MDI collaborated on this initiative titled 'Sitaram Rao - Livelihoods India Case Study Competition', dedicated to late Shri Sitaram Rao, one of the sectoral thought leaders of his time who was always endeavoured towards developing models for inclusive growth. With the 2009 theme for the competition being 'Making Markets Work for the Poor', this case study competition aims to bring together two diverse perspectives on issues that affect the livelihoods of the poor – the business and management perspective on markets and related livelihoods solutions, together with on the ground learnings on various innovative livelihoods solutions for the poor. The case study competition strives to bring together the collective intellect in the country present across the private sector, civil societies and future leaders and managers, and look for innovative solutions that can help change the poverty status in India.

The case study competition had an encouraging response in its first year itself, with over 120 case studies from across the entire range of stakeholders. With a unique perspective and innovative solutions provided in each of these case studies, it was indeed a challenging job for the screening committee members and the Jury to shortlist the best case studies. The jury comprising of Deep Joshi (recipient of 2009 Magasaysay Award and Former Executive Director – PRADAN), Padmashree Prof. Pritam Singh (Professor of Eminence, MDI, Gurgaon), Biswajit Sen (Rural Development

Specialist – World Bank), Dr NCB Nath (Chairman, PIC and FAIR), and Bindu Ananth (President, IFMR Trust), made an extra effort to mine the top 10 case studies.

This publication is a compendium of the 10 best case studies and presents the innovative livelihood solutions for inclusion of the poor in the economic growth and how the PPP model can be adapted to ensure inclusive growth. This compendium is an attempt to showcase the rich repository of knowledge and learnings which can be used by practitioners, thought leaders, policy makers and other stakeholders.

The compendium gives insights of innovations in various challenging conditions. On one end the case presented by Keystone Foundation narrates an innovative solution to achieve triple bottom line impact, i.e., social, economic and ecological while ensuring improved livelihoods of poor through creation of enterprises. The Handicrafts sector has been a challenge with its complexities. The case study of Kala Raksha presents how through innovative on-the-ground initiatives help the poor artisans are helped to link to mainstream markets. Other case studies like AKRSP, TATA-AIG provide a good insight to create local sustainable business models for delivery of services to the poor. The cases like GOONJ, SCD give innovative solutions on how the waste can be productively used to provide livelihoods solutions for the poor. These different case studies enrich the knowledge bank of the entire sector and we hope this compendium serves as a quality reference for practitioners to innovate livelihoods solutions.

I thank all those who have shown interest in the case study competition and submitted their cases. It has been a great inspiration and encouragement for us. Though only 10 could be finally short-listed, the rich content of all the cases is beyond any doubt. I thank the faculty at MDI, especially Prof. Neelu Bhullar and Prof. Jaydeep Mukherjee for their inputs, enthusiasm and expert guidance throughout the entire process that helped us put this compendium together. My gratitude is due to Dr Sankar Datta from The Livelihoods School for giving his expert inputs on developing a protocol and an assessment matrix for the cases. Special thanks and appreciation to the time and efforts put in by the jury members, albeit their busy schedules, to critically examine the cases. Their expertise and experience has helped us bring out the 10 best case studies for this compendium. This entire effort would not have been possible without the perseverance and efforts of Gayatri and Aarti, and the entire team at ACCESS, to whom I owe my appreciation.

**Vipin Sharma**  
CEO, ACCESS Development Services





## Conservation, Enterprise & Livelihoods - A Dilemma or a Meeting Point

*Mathew John*

### Background to the Area

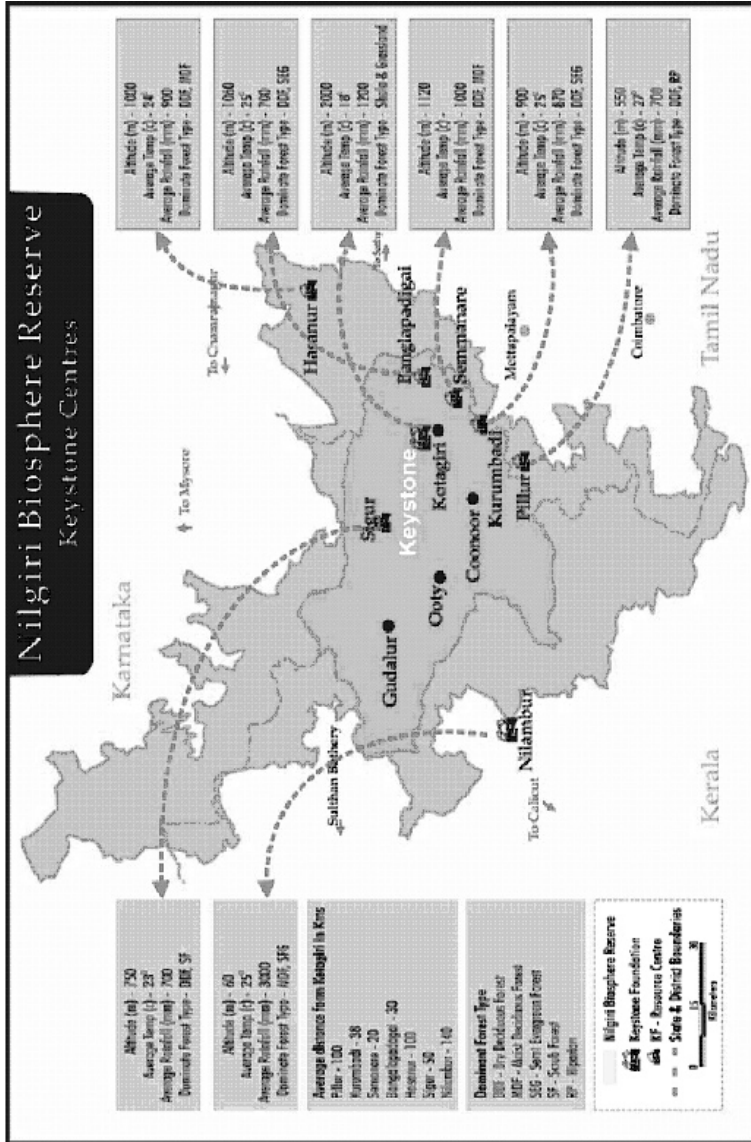
Nilgiris, a juncture where the Eastern and Western Ghats converge is an ecosystem which brings together biodiversity in all its richness—indigenous communities, flora and fauna and unique livelihood options which have all co-existed for the past centuries. However, destruction of forest areas due to various reasons and a cash economy has left these communities on the sidelines. Keystone has been working in the Nilgiri Biosphere Reserve (NBR) and felt the need to address issues of market access and opportunities which would build on their skills and knowledge.

The Nilgiris is a mountain area, a home range for 6 primitive tribal groups. Most of them are either pastoral or have been hunter gatherers. This district in the north western part of the State of Tamil Nadu, is a hilly area with elevations ranging from 400 to 2600 MSL. The region is dominated by plantations of tea/coffee and commercial vegetable cultivation. Approximately 55% of the land is under the Forest Department - including all plantations of eucalyptus, tea, wattle and the two wildlife sanctuaries and national parks. The average rainfall varies between 2000mm in the west to less than 500 mm in the eastern and northern sides. Land use change has taken place in the Nilgiris over the past 200 years, with a constant move towards commercial species, both in the forest and in agricultural lands.

### Understanding the Context

Keystone began work with indigenous communities with an aim to work in the field of environment conservation and livelihood enhancement of indigenous communities ([www.keystone-foundation.org](http://www.keystone-foundation.org) and [www.nilgiriswaterportal.in](http://www.nilgiriswaterportal.in)). In such a scenario, initiating a new effort on enterprise seemed a risk. It was a new concept to the area to discuss about organic issues and products from indigenous communities. As discussed later in the case study also, most people did not equate tribal products with quality and consistency. It was a barrier to be broken. These two crucial issues also did not seem to add up to the idea of a non-governmental organisation (NGO) moving into commercial areas - this did not sit well in

the environment and many people felt that this was an area that was best left to entrepreneurs and NGOs should address 'socially relevant issues' only. Also, at the time of initiating the effort, the market seemed to be very local and hence very limited. What transpired was that the same local market was more appreciative of the local products and hence tremendous encouragement.



## Understanding the Challenges

Some of the primary concerns to provide support to the community on the marketing front have been because:

- low prices are offered to the indigenous people from traders/middlemen
- there are unfair practices in terms of weights and measures
- they do not have a good bargaining power and have to sell their produce in a matter of days/weeks
- they were dealing with forest produce, which had a direct relevance to conservation of natural resources
- incentive needed to be given to 'organically' produced homestead products.

The entry point for work was bees and honey – the Kurumba and Irula communities are traditional hunter gatherers and slash and burn agriculturists. Honey hunting is an important part of their tradition and nearly 2-3 months in a year are spent in this activity.

### CASE STUDY

#### *Honey Hunting by Kurumbas*

The Kurumbas, one of the many indigenous communities, possess tremendous skills to collect honey from the Giant Indian Rock Bees, *Apis dorsata*. This practice of honeyhunting has continued over centuries but with a symbiosis which has allowed the honeyhunters and the bees to co-exist. This honey was used as an item of barter with other communities for grains, milk, implements and other needs. However, with the advent of cash economy, the rules of the game changed and suddenly, skillful tradition was dictated by traders and moneylenders.

Over the past few years, Keystone felt the need for these production groups to become independent and make their own decisions. With working capital built up over time, they now are able to procure, value add and sell completely finished products. Since 2007, sharing of the profits among the producers/harvesters has given one more reason to increase their stake in the value addition/production centres. Since 2007, new products have been added to the range of value addition options – bees wax lip balms and bees wax soaps.

One important fact to keep in mind is that the collectors bring in the honey which has been collected from forest areas or around their homesteads. In this case study we will primarily look at two products – honey and bees wax though there are other products like coffee, pepper, silk cotton, spices, etc., from their homestead gardens.

Most of the honey is 'forest' honey which is collected from the honey combs of the '*Apis dorsata*', or commonly known as the Giant Rock Bee. Bees wax is a by-product which is available after extraction of honey. Normally, the

tribals used to throw away the combs. After the organisation's intervention, bees wax became a valuable commodity that fetched more than the price of honey.



At the time of establishing the enterprise, one of the primary concerns of the organisation was to increase the prices/returns that come in to the honeyhunters. These groups had become dependent on middlemen and traders to move their produce. The shift for the indigenous community was from the barter system that existed earlier to the cash economy.

The second challenge was to improve the quality. Since it was an item of barter and local consumption, the quality parameters got determined at a very local and basic level. If the product had to be packaged and marketed to a wider audience, many parameters would have to be redefined. This had backward linkages to 'sustainable methods of harvesting' and nature conservation.

Some of the principal challenges that were faced when the organisation began marketing at the local level were:

- **no concept of forest honey:** honey which was sold in the market had no identity that related it to the source. The USP would just be that the honey was clean and 'pure'. For the customers, honey carried a tremendous negative baggage of high adulteration and hence was always used to beat down the price.

- **processing of honey:** normally, the honey is always processed when it undergoes a process of ‘flash heating’ The purpose is to kill the bacteria which in turn will prevent the formation of yeast and hence fermentation will not take place. It also ensures that the moisture content in the honey is brought down to comply with certain standards. The problem that occurs is that a minor constituent of honey, commonly referred to as HMF (hydromethylfurfural) levels are raised in the honey and hence there is a change in the composition of honey – it then does not have the qualities or properties that is inherent in it. Due to this Keystone does not believe in the concept of heating or processing the honey.
- **self-perception of tribals about their activity was low:** since honey was always perceived to be produced only from bee boxes, it assumed a very urban and sophisticated image. It was not an issue that nearly 70% of the honey produced in this country is from the wild. For the tribal honey hunter, it became imperative that he fit into this sort of scenario to upgrade the character of his honey and then be able to sell it.
- **market system very obscure and fuzzy:** As with most forest products, the whole market is very closed and highly depressed. Local traders and middlemen take maximum advantage of the fact that access to ‘remote areas’ and ‘tribal people’ work to their advantage. The prices are then kept low and measures are faulty. The traders also provide advances and loans to tribals which are then adjusted at the trader’s convenience. Most large companies that sell honey, procure through agents in which the bottom layer is formed by the agents at the local level. Quality then cannot be assured in such a system.
- **medicinal value:** in the Indian context, honey has always derived its value from its medicinal properties. Thus, the marketing of honey never had positive tones.

## Hiccups!! & Mastering Conditions

The marketing initiative, though a part of a NGO setup, was started with the help of a development bank – the Small Industries Development Bank of India (SIDBI), Chennai. Many of the initial challenges that were mentioned earlier were confronted when trying to convince the bank to fund such a venture. It took nearly two years before they were convinced about the financial viability of such a programme. The funds constituted 2 parts, one of which was a grant and the other part, a loan at slightly below market rates.

This funding was finally secured on the basis of the personal guarantee of 3 directors of the organisation. It was a unique situation where though the

funding is being given to a registered charitable trust, it could not secure its assets for a single project. Hence the personal liability of the directors was provided.

The organisation also registered itself with the local sales tax body – the Deputy Commissioner of Commercial Taxes. This entailed two aspects: one, a registration to purchase and sell within the State and second, to carry on transactions within the entire country. The tax implications at both levels are completely different. There is a plethora of other legal formalities that have to be complied with such as: labour laws, weights & measurements, employment conditions, etc.

The initial operation was totally dependent on the amount of collection of honey that could be made. This was in turn dependent on network and word of mouth.

The marketing activity was begun as a separate programme with a separate bank account so that it could operate as an independent cost centre. The size of the operation was very small in the first year i.e. 1996, also due to the inexperience in all aspects – procurement, production and processing, quality control, value addition possibilities, packaging materials and marketing. The operations expanded hesitantly because not all parameters were within control – consumer response was unknown, acceptance and viability being other factors.

The initial location was in a small town locally and it still remains so. This was done so that initial logistical bottlenecks were at a minimum. Direct supplies were made to dealers/retailers so that consumer awareness could be built up gradually. This helped also in getting immediate customer feedback which in turn helped in developing the products further. No agents for marketing were employed as one of the prime objectives in starting this initiative was to reduce the trade chain so that both producers and consumers could gain on prices.

### Customer's Perceptions

- **tribal product is equal to low price;** For most customers, the initial reaction has been to reduce the price without any appreciation of the product. Quality is not a determining factor. Also, in the present context of machine-made, mass products, consistency becomes a baseline by which most products are measured. This does not allow products to be appreciated in their entirety and different benchmarks come into play where these tribal products lose out.
- **not a table item:** It never had a table value except in the hilly areas where honey was consumed with the local diet. Honey was never a mass

consumption item. It had developed a very small niche where it was a medicinal item and hence normally found in drug and pharmaceutical stores. It was only in the hilly and rural areas that honey was acknowledged and eaten for its intrinsic values and properties.

## Marketing Efforts

There were a few things that were kept in mind while formulating the marketing plan:

**Local area:** It was clear from the small initial production and capacity base that the local market was where the footprint had to be the strongest. Logistics involved could be handled easily. In later years, the idea was to expand to other metro cities. Niche shops selling either organic or development products were approached to market the products and though the initial response was encouraging, other factors made it difficult to foresee this route as a viable long-term option.

**Differential pricing in different places:** this was a conscious decision as a policy of one price across all areas would not be fair to customers, especially to the local market where we were trying to build the customer base.

**Aimed at being environmentally friendly, organic and fair trade products:** As discussed earlier, since there was no distinct organic market, the strategy had to be modified to attract the customers.

As part of the marketing process, Keystone promotes a chain of Green Shops. Kotagiri and Coonor shops opened in the late 90s but a major step was taken when a shop was opened in Ooty in 2007. However, a separate section which added value was a Bee Museum, which allows customers to understand the products and the background. The 4th shop, has opened in September 2009, in Mysore, which is in another State. Space has been provided by the Green Hotel, which is an alternative hotel.

A crucial process which has changed over the past few years has the emphasis on network marketing. Keystone now generates more customer footfalls as it provides an immense range of products: handicrafts, garments, incense, wooden toys,

What is crucial in the whole process of linking producers/harvesters with the market is to be able to develop a set of principles and ethics which are applied. Keystone takes effort in ensuring that the products fall within those – organic, fair trade, support small producers, increases biodiversity, provides local employment and encourages local markets. With these guiding principles, it has found that there is tremendous potential yet to be tapped.

### *Arakode Women and Land Development Group, Banglapadigai*

This project is in a region, where lands are fallow, steep and a very low soil cover. The Arakode region of Kotagiri taluka is known for its steep slopes, drainage, glens, headlands and precipices – it is a rain shadow area and the Irula community is predominant in the region. There are over 350 families in the valley who hold approximately 550 acres of traditional land. The Irulas cultivate minor millet, vegetable and fruit trees in their community land holdings. The millets are always grown in a mixed cropping system – a combination of different cereals, pulses, tubers, vegetable crops and numerous uncultivated foods crops, as food and nutritional security. Millet cultivation is taken up as a community activity – labour for clearing land, crop guarding against wild animals and post harvest processing is shared. This provides a strong bond, socially and culturally. Rainfall and crop raiding by wild animals are huge determinants in their food security.

Coffee is grown largely with a number of fruit trees, shade trees, pepper vines, silk cotton trees and wild trees – a rich diverse system. In addition, collection of non-timber forest produce (NTFPs) is an important traditional activity to meet their livelihood requirements – gooseberry, soap-nut, gallnut, barks, roots and phoenix leaves, seasonally, which would be sold to small traders.

The farmers were encouraged to grow crops organically with training on compost, vermi-compost and preparation of bio-pest and disease control inputs. Soil and moisture conservation techniques were incorporated to ensure soil health. Micro irrigation through HDP hose pipes and sprinklers were introduced for efficient water utilisation and sharing amongst users. The farmers were encouraged to supply coffee, silk cotton, pepper, fruits to the value addition centre at fair prices. The harvests from the farms like vegetable, greens, tubers and fruits were procured under an Organic Bazaar-marketing venture for farm/fresh produces. The value addition groups have shared a ratio of profit with all famers and collectors who have supplied raw materials for value addition. Through value addition, the value of the product increased 5–7 times within the village premises, itself.

The human resource skills and attitudes enhances not only the production processes but overall family and village development. Technological intervention have increased efficiency in ginning cotton, solar driers & dehumidifiers for fruit processing, husking machine for millet processing, mixers and grinders for pickle and spice packaging. This women's group has now started a small grocery in the premises to cater to the village's needs with some principles, like not selling tobacco.

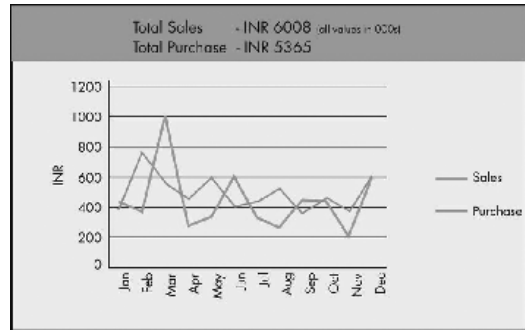
The farmers of the village have registered themselves under PGS certification (Participatory Guarantee System) ensuring sustainable farming conditions. The value addition centre acts as a central pivot around which social, cultural and economical linkages are bound. This production and direct participation is a critical backward link to the Organic/Green Enterprise which Keystone hopes will bring the customer and the market, closer.

However, this extremely strong effort at the village has not come without its share of difficulties. Such a holistic approach is constantly challenged by a few farmers' practices. Hard market realities force them to grow short-term mono crops like cultivation of beans to deal with cash requirements.



## The Past Year - 2008

Some salient features, the year had its share of challenges for the Organic Market Development (OMD) team—a year of consolidation and stabilisation. The financials do not look really great, nevertheless it shows the change in trend of growth. Looking at the previous year where the turnover rise did not result in a net profit, the steps to improve the profitability were taken this year. The aim to achieve 35% growth which was consistent over the past three years was under pressure because of the prevailing economic recession. Key decisions on supplies and price stabilisation with the production centres were taken in the year and sources of anomalies identified and remedial measures were taken. There are more that need to be addressed, for example FPO license.



Organic Market Development (OMD) took shape after Mike Jenkins' (Ernst & Young's Assignee in 2007) Business Plan was adopted and the strategic bifurcation of Production Center Development (PCD) and OMD lent focus. Initially, there were some teething problems which were sorted out by regular meetings between the teams. Value addition centres come under the purview of PCD and all supplies are dealt by PCD team. OMD started placing orders as a monthly forecast. Volumes improved from the centres and supplies become steady from Thumbitha Kadu and Kurumbadi, 2 production centres.

Both PCD and OMD agreed to stabilise supply prices for one year for all products which helped in assessing demand and consumer preference. This year, the focus on increasing sales through retail through our Green Shops came into effect. Green Shops contribute 60% of the turnover and wholesale supplies contribute 40%. Overall, turnover has gone up by 5% from April to December, year over year.

Operations were streamlined in terms of finance and personnel. Sundry debtors were brought to one bill outstanding; and 30-day credit period terms and efforts made to bring the one bill outstanding and 30-day credit period for suppliers came out fairly successfully except for Kumbaya and Kullu Karishma, 2 crucial suppliers who extend us a longer credit

period. Capping operating costs which stands at 30% currently and achieving a net surplus of 10% is the target set for the financial year ending March 2010. Better space utilisation and adding new counters at Green Shops have been discussed and are being operationalised currently. The team members are assigned with specific responsibilities and outputs to measure their performance.

**Trade Mark Registration:** During 2003, the need to register the brand name of Keystone, 'Last Forest' had become urgent because of the duplication of the brand by some local traders. The process, initiated during the year has taken its own time to come to fruition. Both 'Last Forest' and 'Keystone' logos were registered as Trade Marks under Section 30 (staple foods) especially for honey and certificates were received. In December, the application for getting Toda embroidery under Geographic Indication (GI) was undertaken with the help of Win Lexis from Bangalore. A Consultative Group Meeting (CGM) to present the uniqueness and distinctiveness of Toda Embroidery was organised at Bee Museum, Ooty to the panel of Appraisers.

**Coffee Launch:** Over the years, coffee has assumed importance as a product from the indigenous communities' homestead. The advantage of having the entire process under control for ensuring and improving quality of the coffee led to the set up of a full-fledged Coffee Unit (a long felt need and a dream fulfilled). The name Coffea' (100% Arabica!) and the packaging appealed to the customers and the formal launch of the coffee at Green Shop, Ooty turned out to be an instant hit.

**Production Centre:** Discussions with the members reveal that

- There is need for continued training and monitoring of quality at the centres.
- People in the villages are happy that the training given is applied and leads to work.
- It has taken more than five years for people to understand the linkages between conservation, livelihoods and enterprise.
- A sense of ownership has been evolving over the years and people feel the centre belongs to them.
- Transparency in the way we work has also helped in this regard.

- When people undertake the activities in the village, other people and government visitors compliment them and this encourages them.
- Harvesters are seeing the need to maintain quality during the harvest period. They appreciate getting the wages on time and being sure of the weights.
- The need to harvest only as much as the demand and to discourage people from taking credit in advance for the harvest have to be worked upon.

## **Kala Raksha Vidyalaya- Educating to Preserve the Old by Creating the New**

*Partha Sarathi Roy*

### **Livelihoods - The Basics**

Livelihoods as a concept, though often encountered in contemporary writings of poverty and rural development, is hardly agreed upon by different researchers and practitioners. The Oxford Reference Dictionary defines livelihoods as 'a means of obtaining the necessities of life' which makes it more than merely synonymous with income because it directs attention to the way in which a living is obtained (Ellis, 2000). The most quoted definition of livelihoods is provided by Chambers and Conway (1992:7) wherein a livelihoods 'comprises the, capabilities, assets (stores, resources, claims and access) and activities required for a means of living'. This definition with minor modification has been adopted by several researchers employing a rural livelihoods approach (Carswell, 1997; Hussein and Nelson, 1998; Scoones, 1998)

Successful livelihoods projects must capture the link between assets and options people possess in practice to pursue alternative activities that can generate the income level required for survival. For example, lack of education means low human capital, one of the several types of assets, which restricts the income earning opportunity of the individual. The term 'capabilities' in the foregoing definition is inspired from Sen (1993; 1997) and refers to the ability of the individuals to realise their potential as human beings, in the sense both of being (i.e. to be adequately nourished, free of illness and so on) and doing (i.e. to exercise choices, develop skills and experience, participate socially and so on). We need to be conscious of this spirit to engage in the understanding of the highlighted case.

### **Kala Raksha - The Original 'Experiment'**

Kutch is an arid district of Gujarat located on its western front neighbouring Pakistan, the Arabian Sea and the Rann of Kutch. Although backward for its isolation from mainstream society, the region is globally acclaimed for its rich cultural heritage and inhabited by large number of small ethnic communities. The Suf embroiders are one such ethnic community with whom Ms Judy ben Frater started working since 1993 by forming the Kala Raksha Trust.

Starting with a Fulbright Scholarship, then Ford Fellowship, Ms. Frater a Pennsylvania-born researcher, *helped* found Kala Raksha (KR), a grassroots organisation, in Bhuj, Kutch, in 1993, to nurture the embroidery traditions of the region. As a student of Indian Handicraft, she was attracted by the vibrant colours, bold outlines, the shimmering mirrors of the Kutchi handicraft. During one such visit to Kutch, then an extremely backward region, she was asked by some local artisans as to why she was only observing and not helping them. *“Madam ye aapki padhai se hamari kala ki raksha kaise hogi. Aap toh wapas chali jaogi, kala dhire dhire khatam ho jaegi”*. This comment sparked the beginning of an extensive campaign to turn the impoverished area’s native craft into a viable business initiative. Thus began the journey of KR from a modest group of 25 Suf embroiderers of Sumrasar Sheikh village to an organisation which now markets the work of around 1000 embroiderers spread across 25 villages of seven communities besides sourcing from other artisans like weavers, tie-and-dyers, block printers, tailors who also gain from the efforts of KR.

Literally meaning ‘preservation of art’, KR has been instrumental in marketing the famous repertoire of Kutchi embroidery to the world and providing these disadvantaged people with an alternate source of livelihoods. What started as a project in 1993 had blossomed into a full fledged movement by 2004. The initial success of the KR experiment can be gauged from the sales figures.

## Genesis of the Problem

Once the experiment was upscaled, the initial enthusiasm gave way to teething problems and sales started dipping. Against targeted sales of Rs65 lakhs for FY2003-04, KR could register sales of only Rs55 lakhs. The management at KR realised that in the emerging globalised markets, business of traditional craft had undergone tremendous changes. With the shift from local to distant markets, market-driven professional design has become an essential entity that is separate from the production of art. Because traditional artisans rarely gain access to contemporary formal training in design due to their social and financial barriers, the artisans are often reduced to mere labourers, both in terms of income and social status. Further, the artisans’ social mobility is limited by their low education – and the perceived irrelevance of available education perpetuates the status quo. The solution called for a two-pronged strategy – first, to revitalise the traditional arts as a viable livelihoods option and second, adapt the traditional form of art to the taste and preferences of the new clientele that is urbane, sophisticated and a connoisseur of art. And to foster genuine sustainability, ensure artisans as well as their art, adapts. To facilitate this

relationship to the new market, and to maximize their earning through craft on a long-term basis, artisans must learn to innovate, diversify and improve their work that is in sync with the new market. Thus, relevant education must address and interlink understanding of traditional crafts, contemporary design input, and marketing. To address these issues and the needs of artisans, Kala Raksha Vidyalaya (KRV) was started by KR in November 2005. Vidyalaya's student-artisans develop collections of different products based on natural themes during their year-long design course. Ms Frater believes that artisan communities themselves are best equipped to revitalise their native art form and make them economically viable. KRV intends to find a market niche for these 'artisan designed' products as a special line for KR regular products.

### **Kala Raksha Vidyalaya**

KRV is the design school of KR situated at Tunda Vandh village about 85 kilometres from KR. Built on an eight acre campus in the Mundra Taluka, a peaceful rural setting near the Gulf of Kutch, the school is unique in its environment, curriculum content and the pedagogy adopted. The curriculum has been designed keeping the skill needs of adult artisans who already have some exposure to their own repository of traditional knowledge. The focus is on disseminating knowledge and skills that can be directly applied by the artisans to their existing heritage-base and foster innovation suitable to contemporary markets. With a permanent staff strength of 9 people, the Vidyalaya is operating with three departments:

- Administration
- Building & Ground
- Accounts.

The students at KRV undergo various courses in which they learn the intricate aspects of colour, design, costing, merchandising, etc. Based on the philosophy of experiential learning all courses are supplemented with hands-on 'experiments' of making products after each course-week. Artisans are only provided with a broad theme and facilitated with ample scope for their imagination to take control over their creations. The students have reported of taking inspirations from the various excursions organised during the course.<sup>1</sup> For example, one artisan created a Dariya Collection inspired from her visit to Mandavi Beach near Kutch. The students of the Vidyalaya visit modern format stores like Fab India, Anokhi & Bandhej

<sup>1</sup> Quoted from an 8 week OTS project of IRMA Participants, Sharda Gautam and Suman Kumar, both PRM 28 participants.

shops in Ahmedabad to get an exposure of how modern day retailing is done and the ways they can make their traditional textile arts more appealing to the urbane customer.

### **Course Contents at KRV**

The entire curriculum at KRV was designed as a hands-on course for practising craftspeople and focused on preparing them for the marketplace. The course consists of six modules, each building upon the other. During the course every student works toward creating a final collection that will be displayed and evaluated by a jury panel of experts, and ultimately available for sale in a public mela.

The six modules (called Sessions) spread over a one-year period are:

- Session 1 : Colour : Sourcing from Heritage & Nature
- Session 2 : Basic Design : Sourcing from Heritage & Nature
- Session 3 : Market Orientation : Concept & Costing Techniques
- Session 4 : Concept, Communication & Projects
- Session 5 : Finishing & Collection Development
- Session 6 : Merchandising – Presentation

The Vidyalaya has invested substantially in providing technological assistance at its Computer Centre which is equipped with digital cameras, scanners and printer. The objective is to learn to use computers as a tool of creating and documenting designs. With assistance from KRV staff, artisan-students document and archive their work throughout the year.

### **The Business Model – Making Markets work for the Poor**

KRV is a design school aimed at creating more market-oriented products for better sales by the artisans of Kutch, conservatively estimated at 50,000. Artisans rarely have the luxury of leaving their homes and profession for a long time due to livelihood-sustenance pressures. Hence the KRV curriculum is designed as a residential programme comprising of a series of workshops which are conducted in short periods of two weeks spread over the year. To ensure that the artisans are compensated for the wage loss incurred to be a part of the Vidyalaya, they were originally paid a stipend of Rs1500 per student per session. The understanding was that until the education provided was established as relevant, it would be essential to clearly show that there was no risk involved. By the end of the first session,

the male participants were convinced of its utility. The second year, the male students attended on a no-stipend, no-fee basis. In the third year, men were asked to pay a fee of Rs10,000 that was fixed by KRV's Master Artisan Advisors as 'reasonable'. For women, craft is still largely a wage earning activity rather than independent business opportunity. As per a decision made while establishing KRV, for the first 5 years women participants will be members of KR and until that time they shall be supported with a stipend of Rs750 per session.

It is important to understand the resource base of KRV which is a glowing example of a thriving Public-Private-Community-Partnership (PPCP). KRV was started with generous funds from the Development Commissioner – Handicrafts, Govt. of India, (DC-H); and other private funding agencies like the All Together Now International, ArtVenture (now ArtAction), Bestseller Fund, the COMO Foundation, Eileen Fisher Project Marigold, UNESCO and a host of private donors. The cost of training per artisan student works out to be Rs110,000 and all artisans till recently were sponsored from these grants.

### Understanding the 'KRV Solution'

Artisan involvement is the fundamental philosophy of KRV education. At the heart of opening the world's first design school for traditional artisans was the belief that if Indian Handicraft has to flourish commercially then there is a need to honour the creativity of our traditional artisans and more importantly their art. Ms Frater has always stressed on the distinction between Craft and Art. Both KRV and its parent organisation KR believe in serving Art not Craft. Craft connotes charming creations but diminutive workers while Art commands respect deserving of the artisans.

KRV is a design school for revitalising the ethnic art form of mostly the marginalised groups like the Dalits or pastoral nomads, the Jats, Rabaris, Meghwals, the Mutua, all different Muslim maldhari groups. Each community has its own distinctive style of embroidery, like suf, kharek and paako. KRV also works with male weavers, printers and bandhani artists. KRV wants to harness the built-in capability of these communities over generations in design and not impose on them a sense of hierarchy in aesthetics. So the student-artisans are encouraged to look at every line of stitch differently, they are motivated to learn to defend or critique their own work for better designs and creations. Also the wide age variation in every class enables the participants to appreciate that in learns there are no age-limits. Learning is mutual where the elders' experience help the younger ones to grasp new concepts and the enthusiasm of the younger ones inspire the older ones to look around for new designs.



A successful livelihood intervention initiative can take at least one of the three forms. KRV, as envisaged by Ms Frater is a good example of all the three.

- **Building Local Capacities:** The talent of the Kutchi artisans was always globally acclaimed and has been passed down as a legacy over generations. Before KR however, its commercial prowess was little realised by the local community. KR gave them the belief that there was indeed a market demand for their ethnic creations and it was possible to make out a living being an artisan. But soon Ms Frater realised the existing talent base was raw that needed polishing to make a cut in the market. Thus KRV was envisioned to build upon the already existing capabilities of the people.

Only income generation cannot foster development. Communities must also learn to productively use their income. They must be made aware of their choices and capabilities. The management was always conscious of this need and accordingly a community centre built and KRVADA (Kala Raksha Vidyalaya Artisan Design Association) formed. Overall, the extensive use of local resource base for problem solving through collective approach gives a high rating to the capacity building criteria of KRV in creating local capacity.

- **Package:** With KR, the impact was restricted to solving the economic aspects of the artisans' lives. But soon it was realised that what began as a 'project' must blossom into a package that addresses besides income, the health and education concerns of its associated artisans. Accordingly, apart from imparting aesthetics related information, the curriculum was integrated to include Preventive Health Care and Basic Education Programmes for the students. This coverage on nutrition, hygiene, economics and management empowers their participation in the programme.

In a concerted effort to bridge the digital divide, new technology is an important component of the design school. Harnessing new technology (CAD/CAM) as an extension of existing knowledge base enables quick acceptance of the medium itself, encouraging artisans to think in innovative ways to access new markets. KRV has established links with premier design institutions like NID, NIFT, and many others to provide technical inputs to its artisans. In fact, Ms Frater mobilised an entire team of faculty from these leading institutions to develop a dynamic curriculum for the Vidyalaya.

- **Movement :** The experiment of *art preservation* has now become an integral part of the newly revitalised Kutch economy (post earthquake)

and forayed into many other activities. Of all the solutions that KR created, setting up of the design school remains the most laudable and impactful effort. The artisans have slowly started to realise the difference between skilled and unskilled labour and the importance of designs as a means of cultural distinctiveness. To take forward the commitment towards preserving of the art, having already established KR, Ms. Frater received the Ashoka Foundation Fellowship in 2003 to establish the KRV – the design school that facilitates innovation into crafts like textiles weaving, woodworking, and painting to students of either gender, emphasising contemporary innovation within traditional design disciplines. With an aim of reaching 50,000 Kutchi artisans, 3 batches have already graduated earning substantial amount as direct sales. The impact of KRV on KR can be realised from the improvement in sales figures post FY2005-06.

## Innovation

Innovation is a necessary attribute of any development intervention because they promise to alter the social systems that permeate the society's most pressing problems. KRV offers the following innovations:

- At the time of her first visit to Kutch, decades of federal subsidy to artisans had weakened the concept of native craft as an art. Ms. Frater was convinced of the idea that female embroiders can be made to learn to generate income without giving up their cultural and personal identity that is a sacred part of the art-making-process. Thus, KRV inspires the artisans to preserve their tradition through craft and improve the quality of life through development of business skills, time management, basic health care and nutrition.
- The KRV curriculum was developed to provide relevant and appropriate education to the artisans to revitalise the Kutchi tradition to the needs of the market. With technical inputs from professionals like Ms Maria Conneli of New York's Fashion Institute of Technology and Ms Jan Baker of the Rhode Island School of Design, an innovative modular curriculum was developed that enhances existing skills with use of latest technology.
- Given the local setting, KRV realised the enormous amount of resistance women would have to face to participate in its course. Hence it has been organising separate classes for male and female artisans to conform to the social norms. The reason for this step appeared to belie wisdom but was unavoidable as the educational background, exposure and orientation to work and methods of working are very different in

men and women groups. Thus the curriculum needed to be tailored differently for men and women.

- The convocation ceremony at KRV is a grand affair, an opportunity for direct feedback and a public awareness building exercise. Spread over three days of celebration, this event is visited by over 6000 people to the KRV campus. The ceremony provides its graduating students a platform to test their designs among buyers and professionals in the field of craft. Each student works towards creating a final collection that is to be judged by a panel of eminent experts. Such valued feedback emboldens the graduating artisans to become self-employed designers. It is also a window for the outside world to witness the creativity and capability of these talented artisans and develop a taste for traditional art. The fashion show has become a popular and anticipated event. This helps to place craft in a new, contemporary light. In fact, KRV offers an excellent example of rural-tourism that has attracted international travellers from UK, USA, Switzerland, France, Germany, Sweden, Australia, New Zealand, Israel and other countries.

## Issues in Scaling up

Ms Frater built KRV as an institution to strengthen Kutchi handicrafts while refraining from commercialising it. With this organisational philosophy and to prevent the artisans from becoming labourers, both KRV and KR have been extremely slow in scaling up. KRV does not believe in working for the artisans, it is an institution to work WITH the artisans. Working in close connection with the associate artisans has meant slow expansion for KRV. Formed primarily as an educational institute of its parent organisation KR, KRV does not generate any income. Running the institute remains a major financial challenge. Efforts have been concentrated on building the institution, ensuring effective and relevant curriculum and inviting genuine support from artisan communities. In future, ways to achieve financial sustainability have to be creatively sought. KR has done its part to support the artisan designed products. In KR exhibitions, the designs of KRV students are displayed as a separate product line and all income go directly to the artisan students. Every product sold is unique from others and has a story to narrate. Last year KR participated in 14 exhibitions which contributed to about 36% of their turnover. Delhi is the most lucrative market for its products followed by Mumbai. Apart from these two metros, KR also sells its products in Ahmedabad, Bangalore, Jaipur and Hyderabad. Sales at their own outlet in Sumrasar has been increasingly good, with market appreciation for the artisan

designed product. KR participates in international sales events in London, the Textile Centre of Minneapolis, USA, Denmark etc.

### **KRV - The Livelihood Movement**

Understanding livelihoods can be a daunting task for its ubiquity around the lives of the poor people. Frameworks often serve as guide maps to understand complex social phenomenon. They also provide us with food for thought in objectively analysing an intervention. Here we employ the Livelihoods Framework as developed by IFAD (Figure 1). Livelihoods frameworks are inspired by the Chambers and Conway's approach (1992) to sustainable livelihoods. This framework exhibits the methods of dealing with system dynamics in livelihoods approach at a general level. The reference frame captures livelihoods through six key assets ranging from human and financial capital, through physical and natural capital to social and personal capital. Interaction among these elements defines an 'envelope of opportunity' for the poor. It then draws a distinction between a vulnerability context with its potential shocks, trends and seasonality on one side, and the enabling agencies and service providers of the wider context with their influences on the six dimensions of livelihood assets on the other. There is a constant conflict between the vulnerability threat and facilitating conditions as tried by the enabling agencies and service providers. This tension is reflected by the arrows in either direction in the figure. Where the relationships between enabling agencies, service delivery agencies and the poor do not function well and fail to support them, their capacity to deal with vulnerability factors will be reduced, the 'envelope of opportunity' more limited (the inner circle contracted), and both the aspirations and opportunities of the poor would be correspondingly constrained.

The IFAD framework also highlights the importance of markets – most service providers are usually private sector agencies. It is important to appreciate the private sector by analysing the rules that govern it, understand who set these rules and how are they enforced. Market forces also exert a major influence on livelihoods through changes in the relative prices and terms of trade. Government liberalisation policies may interact with market forces by removing market imperfections and barriers. The framework also specifically recognises 'politics' – representation, power relations, rights, and political processes that influence strongly the relations between enabling agencies, service providers and rural citizens. Culture is also liable to play a critical role in defining the 'rules of the game' – attitudes to legal process, money, property, the distribution of power, the roles of gender/age/class/ethnic group/ability in attracting people's access to

services and to the policy process and the social 'norms' or customs that are common throughout society or for particular groups within society.

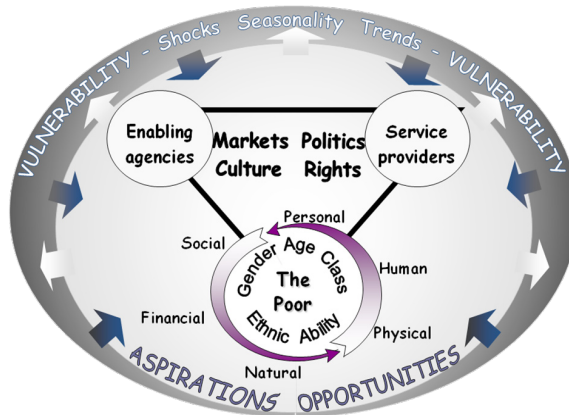


Fig I: The IFAD Livelihoods Framework (Source: IFAD)

The KRV initiative fits well into the IFAD framework. By addressing an issue that is both about being (concerns livelihood) and doing (concerns meaningful existence with concern to culture), the initiative has touched the lives of the artisans in all the six aspects of assets – financial & physical (by providing livelihood); human, social & personal (giving them an identity & respect deserving of artisan) and natural (by employing local natural resource base). Through sustained efforts of creating market linkages and adapting to the market requirements (through customer friendly designs), KRV has enabled the artisans of Kutch the following benefits:

- More income
- Increased well-being
- Reduced vulnerability
- Improved food security
- Better and sustainable use of Natural Resource base.

Between the stakeholders (the artisans), the enabling agency (KRV) and the service provider (KR – the marketing agency), a congenial environment has been created that makes the markets and politics (through govt. support) work in favour of the till now isolated, underprivileged artisans of Kutch. By forming artisan pricing committees to value the economic worth of work, Ms Frater and her organisation has also been able to influence the terms of trade. It can be well appreciated that the efforts of KRV have helped in enlarging the

‘envelope of opportunities’ of the artisans of Kutch thereby reducing their susceptibility to vulnerability. In terms of the IFAD framework, the KRV initiative scores well as a livelihoods facilitating model.

### ‘Sustainability’ of KRV Livelihood Approach

Sustainability is an important underlying theme for livelihoods. A livelihood is sustainable, according to Chambers and Conway (1992), when it ‘can cope with, and recover from the stress and shocks, maintain its capability and assets, and provide sustainable livelihood opportunities for the next generation’.

We adopt a Sustainable Livelihood Approach (SLA) to understand the solutions offered by KRV. SLA is a preferred approach as it is centered around people and their livelihoods. They prioritise people’s assets (tangible and intangible); their ability to withstand shocks (the vulnerability context); and policies and institutions that reflect poor people’s priorities, rather than those of the elite. Applying SLA to the efforts of KRV, we find that the dreamers of the design school (KRV) and marketing agency (KR) represent a positive evolution in the thinking around poverty alleviation that differs from previous approaches to development in the sense :

- **Putting people at the centre of development:** The dream of KRV was born out of the desire to make ethnic art a viable livelihood alternative and a thriving cultural institution. For KRV, it is the local artisans – rather than the resources they use or the turnover they generate through sale of the Suf art – that is the priority concern.
- **Builds upon people’s strengths rather than their needs:** KRV operates on a philosophy that it is serving art and not craft. Serving art denotes commendable improvement over catering craft. KRV has been able to instil a sense of pride and ownership of the artisans towards their traditional knowledge base. Even while experimenting with new designs and patterns, the artisan-students never feel working outside the ambit of their traditional art form.
- **Integrates lives and livelihoods into development planning, implementation and evaluation:** Being an arid region, agriculture could never become a viable livelihood option in Kutch. Under such harsh conditions, it was KR which for the first time made the people of Sumrasar Sheikh village realise that it was economically viable to sell their art which they knew from centuries. The belief that market access can indeed work to the advantage of the hitherto cut-off people of Kutch from mainstream society was already successfully demonstrated by KR. The movement has been taken forward decisively by KRV.

- **Unifies different sectors behind a common framework:** KR is not just confined to imparting education about art. Educational camps are also organised to highlight the importance of health, hygiene and nutrition. Under its parent organisation, some of the other associated development activities were started like provision of microcredit, building community centre and museum. KRV evolved from the experiences of these programmes.
- **Takes into account how development decisions affect distinct groups of people, especially women, differently:** KRV primarily works with women artisans. Alive to its social sensitivity, separate classes are organised for men and women. This renders a sense of sincerity and empathy of KRV's motives to the wider cause of the community.
- **Ensures participation of important stakeholders:** KRV has been able to draw in relevant partners from time to time whether state, civil or private, local, national, regional or international to the cause of socio-economic upliftment of the Kutchi artisans.
- **Responds quickly to changing circumstances:** A 'living-organisation', KRV recently had assessment of its functioning by Mr Ashok Chatterjee, President of Crafts Council of India and former NID director to look into ways to expand the Vidyalaya's activities.

## Social Transformational Leverage

Transformational leverage refers to the impact that the initiatives exert over the lives of its stakeholders. The Nine-Square-Mandala gives a practical heuristic tool to view the livelihoods system in a multidimensional way that is more holistic and underscores the level of impact. The nine-fold focus is useful in the approach to understand the rural livelihood systems from various angles, ranging from outer (material) to the inner (non-material) realities and from the tradition bound to more future-oriented perspectives.

KRV has touched upon the lives of its intended stakeholders not only in present concerns of livelihood sustenance but also future aspirations of a better living. We find reflections of every box details in the work of KRV. Starting with physical base in Box 1, KRV offered a solution that employed the natural resource base which was locally available. Even during the course, ample care is taken not to tinker with the aesthetic orientation of the artisans that has been inherited by them as a legacy of their illustrious past. KRV is an attempt to enrich the Knowledge Activity Base as listed in Box 2. Every piece of art that is created and sold narrates a story which is based on the memories of past experience of the artisans. Like other art

forms, these textile creations are reflections of the artist's inner mind and their aspirations that form the 3rd box of the Mandala.

The middle row impact of KRV is by now well enumerated – the socio-economic impact on the community through increased income, enhanced identity and stature and better living conditions. In fact, it is the elements of the middle row that influenced the author's choice to take KRV as a case for the present cause.

In the classroom a mutual environment of learning is created where the focus is on sharing and self-learning. It has also fostered good camaraderie feeling among the community who now readily appreciate their common bondage and heritage, and an active cooperative network. The artisans have

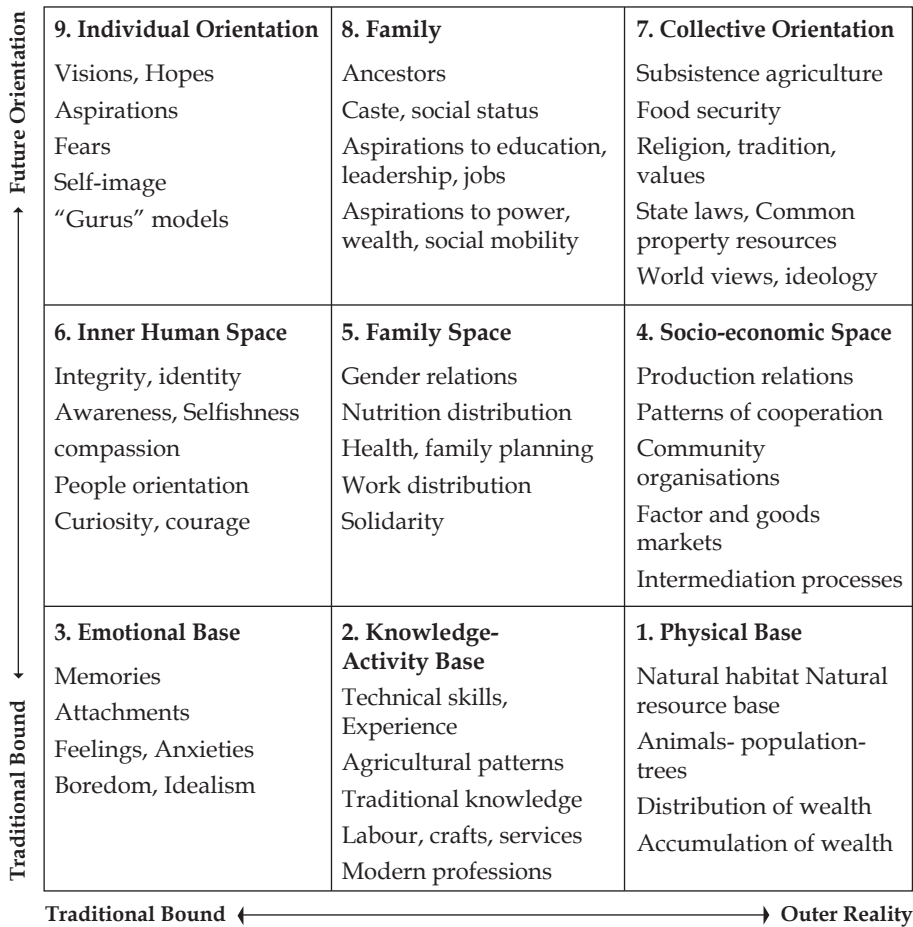


Fig II. Visual Representation of the Nine-Square Mandala



started to realise that the solutions to their problems lie only in a collective approach and not at the behest of any external agency. The youngsters are encouraged to take their culture ahead with pride. The participating students have reportedly become more self confident about their ability to become self-employed and pursue the art as a full time activity.<sup>2</sup>

The key insight of applying the Nine-Square-Mandala is that KRV has been able to make a deep impact not only on the living conditions but also on the attitude, aspirations and dreams of the Kutchi artisans which is an indicator of its holistic approach in implementation.

### **The way ahead...**

The innovation named KRV was started with the aim of restoring the cut-off link between design, production and market access. KRV and indeed its parent organisation, KR, may have travelled some significant distance but a major journey remains yet unconquered. Like other NGOs involved in marketing of traditional handicrafts, KRV is also facing problems on various aspects. In the business of craft selling, creating value, quality consistency and proper supply chain coordination are the key management challenges that need to be addressed effectively. They also represent the desired tangible outcomes of the curriculum of the Vidyalyaya. KRV is also facing the threat of relocation from two leading industrial houses that have been approved of setting up coal-based ultra mega thermal power plants in close vicinity. Such economic vandalism may play havoc with the already fragile ecological balance of Kutch apart from the uncalculated loss to the artisans in case KRV is forced to move or shut shop. The champions of neoliberal movement are fast catching up on what seems a unique community driven, privately initiated and publicly encouraged bottom-up model of development.

*So much has been achieved by a lady who came from outside only as a student of Indian Handicrafts and ended up making this land her Karmabhoomi - the future of KRV poses a challenge to the commitment of the development professionals of the nation!!*

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1 Source : KRV website highlights a few success stories

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## Entrepreneurs in Agricultural Extension - Experience of AKRSP(I) in Junagadh district of Gujarat

*J P Tripathi and Kriti M Jasani*

### Origin of the idea

AKRSP(I)'s work in the semi-arid regions of Saurashtra, Gujarat had largely focused on water harvesting through percolation tanks, check dams, etc. However, field experiences showed that with an increasing population there was no way that supply could always meet the growing demand. In most villages, farmers increased the area under irrigation after constructing water harvesting structures, and hence, water levels came down to the earlier levels. Salinity levels, had come down, returned and in fact increased as extraction increased. Hence, by 2000-01, the organisation felt that there was a need to focus on groundwater management as a whole rather than just promoting community managed water harvesting structures. In Junagadh district, where groundwater overuse was very high, AKRSP(I) decided to pilot groundwater management with two inter-related objectives:

- Revive the Meghal river, which had become dry, by working on groundwater management with the communities in the 64 villages of Malia block which were part of the river basin.
- Arrest salinity ingress along the coast in Mangrol Block, where groundwater overuse was leading to increased ingress annually. State efforts had only focused on increasing freshwater supply through large dams, tidal regulators, etc., which had proved inadequate and villagers were facing shortage of non-saline drinking water.

AKRSP(I) looked at various options to reduce water use in agriculture, which included promoting crops that use less amount of water, appropriate agronomic practices and promoting water use efficiency devices like drip and sprinklers. AKRSP(I) felt that farmers would be willing to explore options where the current agricultural income would remain the same or increase and where they could see an immediate result in terms of water saving and/or increased productivity. Research and field trails showed that the most substantial savings in water end use is through water efficiency devices like drip and sprinklers. Mere use of such devices by farmers does not reduce groundwater extraction, as the water saved is used

to irrigate a larger area and earn more income. However, with widespread adoption of drip and sprinkler for most crops, it not only saves water but increases productivity, and most farmers will adopt these systems for their entire farms (for good and bad years), leading to an overall decline in extraction.

### **Ensuring Accessibility to Appropriate Technology for Farmers**

Before the introduction of new technology, the use of drip and sprinklers in Junagadh was low and only found in Talala block where there were many mango orchards. Many farmers who had accessed sprinklers on subsidy were merely using the pipes for conveyance. Our analysis revealed that the major reason for this low coverage was a subsidy policy that had led to extremely high cost of drip and sprinkler devices and an extension approach which is not user friendly but technologically intensive. Private companies had been provided a subsidy by the government for up to 60% of the total cost to produce and deliver drip devices in India. Since farmers have to bear only 40% of the cost and the subsidy provides a regular source of income for the drip companies, there has been little effort to reduce costs. In short, there has been no market incentive to improve efficiency and quality and reduce costs.

Since government subsidy is involved, farmers have to go through time consuming procedures before receiving a subsidised drip system, and the delay in finally getting the system dampens demand. Additionally because government funding is limited, targets for drip and sprinkler sets are allocated on a district basis. These targets are much less than the potential and therefore the spread of these devices is largely limited. After a farmer goes through the government procedures and gets a set allocated, the technical staff of the drip company visits the farm and does a detailed survey followed by installing the drip. Most of this is done in a manner wherein the farmer feels technically inadequate to replace, repair or reuse the installed system. If for some reason anything goes wrong, the farmer has to call back the company person and get it repaired. This causes delays, and therefore only well-off well-connected and risk-taking farmers adopt these systems.

AKRSP(I) reflected on the inherent weaknesses of this approach and felt that the only hope for large-scale expansion was to identify an alternate low cost drip system which was user-friendly, and a delivery mechanism that was sustainable. International Development Enterprise (IDE), an NGO which works on low cost technical solutions for the poor, had been

experimenting with low cost drips in Rajasthan, Gujarat and Maharashtra. AKRSP (I) could access these system and worked out an informal collaboration with IDE.

A more appropriate form of drip irrigation, a Microtube-based system, available from IDE, has a total cost of Rs12000-16000/ha, compared to the Rs40000/ha cost of the conventional dripper-based system. Not only is the cost lower, but a major technology change in the IDE drip system (use of micro tubes vis-à-vis drippers) means that in saline areas, farmers could overcome the challenges of salt getting deposited in the dripper and choking the system. It was difficult to open and clean the dripper on a regular basis, adding to the 'cost' of the old dripper system. In addition, the new system uses material which is locally available in the market (and therefore cheaper) and also promotes villagers or local entrepreneurs to do the assembly work which has made it technically very simple. This system was user-friendly and flexible and therefore installation and repairs by farmers on their own were feasible.

However, IDE promotes bucket and drum kit systems only which are useful on small size gardens or vegetable plots. Since AKRSP(I)'s main objective is groundwater management, it was interested in using this technology for large farm sizes and crops like groundnuts, bananas, etc., which are the main groundwater guzzlers in Junagadh. Therefore, AKRSP(I) has adapted the approach with its own system of extension and financial support.

### **Developing the Supply Chain: Assembler Model**

AKRSP(I) promoted one of its extension volunteers as an 'assembler' of drip systems as he had proved to be effective and respectable as an extension agent of a biogas programme supported by AKRSP(I) in the target areas. The assembler was trained by IDE, and became a key figure to expand the adoption of drip irrigation. He earned good money, and soon became a model for others in the area. And, he also started employing fitters of the drip systems. Because the first assembler was a person of credibility, the technology could spread fast and farmers were willing to pilot the new technology. This was thus the eventual success of the 'villager as an assembler/entrepreneur' model, even though he focused only on the bucket drip technology.

The process involved in this model is recruitment through selection of promising para-workers/ volunteers from other organisations. The person has to have zeal to grow along with his community and should have good communications skills. Providing initial training on technological aspects of good entrepreneurship, customer service, etc., are the innovative processes involved in the model. Organisational learning from various

programmes is also shared with them. This helps them to be updated with new technologies and also motivates them.

The Assembler/Entrepreneur in this model is selected for his/her basic qualities of 'Social commitment' which are generally found less in traditional local traders. Moreover he/she is one of the efficient and talented workers of the organisation, and as a result he/she gets an established base of popularity required for an entrepreneur to succeed. The basic motivation for our entrepreneur is his/her development along with the community, growth in his/her social-stature, and increased income potential.

### Support provided by AKRSP(I)

These entrepreneurs are supported by the organisation to establish their business, with initially the organization paying rent, telephone bills and other fixed costs in parts for three to four years which ranges between Rs45000-52800. Establishment expense is also modified along with the progress and success of the model. Total expenses given to all the entrepreneurs (as of March 2009) are given in Table 1:

Table 1: Financial support provided to entrepreneurs by AKRSP(I)

Name	Date of establishment	2005	2006	2007	2008	March 2009	Total
Mangrol	15/6/2005	14000	19800	14000	5000	0	52800
Maliya	1/4/2006	0	16200	16740	11800	2700	47440
Talala	1/4/2007	0	0	17500	23250	5250	46000
Veraval	1/3/2008	0	0	0	20000	6000	26000
Keshod	1/3/2008	0	0	0	25000	7500	32500

Note: Location in paranthesis indicates the block in Junagadh District

Initially the establishment costs to help the entrepreneurs establish independent shops was subsidised by AKRSP(I) for over 4 years. Later it was decided to modify this to 2 years on the basis of the initial experience gained by the team.

Performance of the Agri-entrepreneurs:

Previously, it took AKRSP(I) staff two years to reach out to about 200 farmers while each of the individual entrepreneurs covered more than this number, in their first year of establishment (table 2).

These entrepreneurs also have diversified services to be given to the customers, depending on the need of their blocks. Currently, they have

dealerships of reputed manufacturers of MIS, seeds, pumps and harvesters. In addition the entrepreneurs also supply organic manure and tree saplings to farmers. The coverage of these farmers through the entrepreneurs is as in Table 2

## Community involvement

Organisation selects para-workers from villages they work; hence one of the community members will get a chance to enhance his livelihood options. Success of this model ensures quality agri. inputs and relevant information to the community. Entrepreneurs are developing para-workers team to cater to their growing business. AKRSP(I) is associated with community for more than two decade. This model is about developing agri-business service models for the community represented by the local entrepreneur; person having a good reputation amongst the community and having entrepreneurial skills stands a good chance of being selected as Assembler/Entrepreneur. Hence it is model where community indirectly has a say in selection of agri. service provider.

## Sustainability

Basic characteristic of the model which ensures sustainability are:

- Enterprise once established generates its own funds through services provided to the farmers
- Increasing trends among farmers for installation of MIS
- Appropriate policy environment facilitating promotion of Micro-irrigation systems and also access to formal institutional forms of credit
- Close monitoring and evaluation and live contacts will help in assessment and guiding the entrepreneurs
- Farmers have easy access for repairs and maintenance of MIS.

Organisational Experiences show that after initial support for two years on shop rent, salaries and recurring expenses round off to about Rs40000-55000 per entrepreneur. On the other hand, entrepreneurs are earning a net profit of more than Rs120000/annum which is sufficient for sustaining himself and the para-workers team. These profits are growing as the business grows older. Table 3 gives the summary of the business with profit/loss in the last three years, based on the year of establishment. The expense also includes the salary of the para-worker teams employed by the entrepreneurs for fitting the MIS in farmer field.

Table 2: Number of farmers serviced by the entrepreneurs

Year	Item	Mangrol	Maliya	Talala	Veraval	Keshod	Total
2006	Sprinklers	520	450	0	-	-	970
	Drip	160	95	-	-	-	255
	Seed	200	70	-	-	-	270
	Accessory	142	90	-	-	-	232
	Organic Manure	200	100	-	-	-	300
2007	Sprinklers	392	325	100	-	-	817
	Drip	168	144	10	-	-	322
	Seed	210	111	30	-	-	351
	Accessory	250	300	15	-	-	565
	Organic Manure	145	30	50	-	-	225
2008	Sprinklers	39	225	70	140	210	684
	Drip	190	120	3	70	6	389
	Seed	310	198	90	45	20	663
	Accessory	350	410	10	35	40	845
	Organic Manure	150	30	20	11	15	226
	Alternate Energy	-	-	35	-	-	35
	Farm Forestry	20	30	60	-	-	110
	<b>Total</b>	<b>3446</b>	<b>2728</b>	<b>493</b>	<b>301</b>	<b>291</b>	<b>7259</b>
<b>Villages covered</b>	<b>69</b>	<b>60</b>	<b>20</b>	<b>40</b>	<b>30</b>	<b>219</b>	

The Talala Enterprise became fully functional only by the end of 2007; hence, not much data in 2007.

### Risks/challenges and Mitigation

- Our present entrepreneurs are doing major work with Gujarat Green Revolution Company scheme (a company established in 2005, to promote MIS, with components of Government subsidy and loans); any change in policies of GGRC will affect the annual turnover of the enterprise. Diversification of products is reducing this risk, and is an ongoing strategy and process
- Change of National Policies on agri. input can affect the programme, although this risk is low. AKRSP(I) is staying informed about the policy environment and will continue to support entrepreneurs to be informed and react accordingly. Diversification is also the mitigation strategy to reduce dependence of entrepreneurs on a single product.



Table 3 Financial performance of Entrepreneurs

Mangrol				Maliya			
	2007	2008	2009 (Aug)		2007	2008	2009(Aug.)
Gross Revenue	312924	245136	173500	Gross revenue	309350	402350	204200
Expenditure	194503	109048	95000	Expenditure	199900	196900	123400
<b>Net profit</b>	<b>118421</b>	<b>136088</b>	<b>78500</b>	<b>Net profit</b>	<b>109450</b>	<b>206900</b>	<b>80800</b>
<b>Keshod</b>							
	2008	2009 (Aug.)			2008	2009 (Aug.)	
NA				NA			
Gross revenue	-	139000	236900	Gross revenue	-	196400	269000
Expenditure	-	93333	123560	Expenditure	-	122590	112630
Net profit	-	45667	113340	Net profit	-	73810	156370
<b>Talala</b>							
	2008						
Gross revenue	283200						
Expenditure	50000						
Net profit	233200						

## Replicability and Scaling up

As per our experiences, this model makes sense and has good potential of being replicated. Based on the success of this model, AKRSP(I) itself has evolved entrepreneur models in alternative energy, organic pesticide production, etc. Other factors which are in favour of this model are:

- Low fund requirement; even banks can finance the businesses;
- Human resource required is not very highly qualified.
- Use of drip and sprinkler is going to increase as groundwater levels are depleting in most parts of the country. Hence this model directly or with modifications can do wonders for the programme.
- Above all, this being a business model is viable for service delivery to rural communities over the long-term
- This is a market-driven programme and hence can counter the complexity of caste and religion dynamics of the society very easily,
- Other companies working on MIS installation do not have appropriate post-installation services providing mechanism; these existing service gaps are being used to the advantage of the village entrepreneur model who provides follow-up maintenance.
- Copy cat entrepreneurs are entering the system, showing the strength of the model, and offering more choice to farmers as consumers

## Impacts of the model

The impact being presented here is based on the experience of AKRSP(I); it may vary depending on the kind of infrastructure availability and human resource involved. This model has helped in:

- Enabling 7000 farm households to access affordable and appropriate technology
- Reducing staff and travel costs in the extension of MIS in the region
- Increased irrigated coverage of more than 8000 acres under MIS
- Reduced time for the organisation and allowed scope for new programmes to be included in its agriculture portfolio.

Beyond organisational advantages, there is additional and noteworthy impact for the agriculture development of the region:

- New area under MIS

- Increased area under winter cropping
- Increased incomes of farmers
- Water efficiency increased
- Time and cost saving for the farmers (irrigation time and cost along with costs they use to incur for getting the MIS systems repaired)
- Employment generation (para-workers with each entrepreneur)
- Old idle MIS is re-installed

### **Summary:**

With the promotion of the MIS entrepreneurs in the above mentioned blocks of Junagadh district, coverage and acceptance of MIS have increased. Now every season you can see loads of pipes and sprinklers sets moving towards the villages. This model has seen light of day as there has been a basic shift in the approach of the programme from 'doing it' to 'getting it done'. Being a market-driven programme, it has the potential of growing much beyond the present levels and as time passes on market driven changes will help in further improvement and development of this model.

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Sharma R S (2008): 'Study on Socio- Economic Impact of Drip Irrigation System on The Farmers of Junagadh District of Gujarat'.

## By the Power of Cloth- How GOONJ Transforms Villages Through its 'Clothfor Work'

*Rathish Balakrishnan*

### Introduction

Over the years, there have been many stories in the press on why Anshu Gupta (Anshu) started GOONJ. One of the oft-quoted stories is about how he once saw a man, wearing the flimsiest of shirts on a cold winter night in Delhi, dead on the streets. He was clutching an empty bottle of alcohol and an untouched packet of food.<sup>1,2</sup> Anshu admits that his decision to start GOONJ is not based on any one single moment but many such experiences that have stayed with him over the years.

His analysis of the problems due to lack of proper clothing during his journalistic stint<sup>3</sup> confirmed the dichotomy that existed in our society. Every year a large number of deaths are reported due to lack of hygienic and comfortable clothing. On the other end of the spectrum, getting rid of old clothes is in itself a prevalent problem in today's consumerist society. However, the urban communities wait for a disaster relief activity to donate their clothes because they do not know how else to put them to good use.

So, in 1998, Anshu started GOONJ, along with his wife Meenakshi Gupta, with the aim to make clothes available to the needy while keeping their dignity intact. The initiative started with 67 clothes and extended to collecting clothes from friends and relatives from Anshu's house. The clothes were distributed to people on the roads of Delhi who needed them during cold winter nights.

Today, GOONJ runs a nation-wide effort, round the year, to collect used clothes from urban areas and to make it available to those in need. The GOONJ team comprises a five member governing body and over 300 volunteers-spread all over the country. In addition, GOONJ has built a network of over 150 partner groups, spanning 21 states, including

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1 'Clothes for Work', September 9 2009 - <http://business.outlookindia.com/article.aspx?261417>

2 'Goonj: A ready to wear label for the poor', <http://www.goodnewsindia.com/index.php/Magazine/story/goonj/>

3 Anshu has a double Post Graduate Diploma in Journalism, Advertising and PR from IIMC

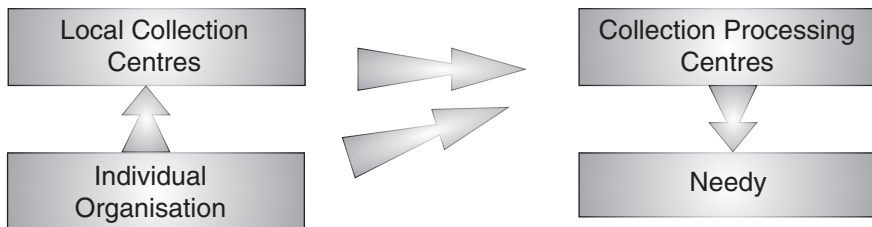


grassroots organisations, Ashoka Fellows, Indian army and Panchayats to collect and distribute clothes.

## The end to end value chain

GOONJ collects clothes from across the country as part of its flagship programme, VASTRA-SAMMAN (Dignifying Clothing)<sup>4</sup>. Any individual or organisation who would like to donate clothes can drop the clothes at a local collection centre.

Figure 1: GOONJ's cloth value chain



GOONJ has its collection/processing centres in Delhi, Kolkata, Mumbai, Chennai, Jalandhar and Saharsa (Bihar). In addition to these centres, GOONJ leverages its network of volunteers and partner organisations to create local collection centres in other cities. These partner organisations cover the costs of transferring the clothes to the nearest processing centre.

In the processing centres, the clothes are segregated, processed and packed for further distribution. The processing centres allow GOONJ to address needs that are specific to the rural areas and cannot be met directly through the clothes given from urban communities. Classic examples of the same are the 'Not just a piece of Cloth' initiative focusing on creating sanitary napkins and the Recycling campaign aimed at converting waste paper and cloth into a range of useful products.

The two key campaigns through which GOONJ distributes the collected and processed clothes are RAHAT and the 'Cloth for Work' programmes. RAHAT aims to provide relief during natural and human-made disasters. The Cloth for Work programme is an ongoing initiative aimed to encourage villagers to take up village level development activities by using clothes as a motivation and reward.

<sup>4</sup> The programme was earlier referred to as the *Vastra Daan* (donating clothes) programme but was renamed to emphasise that it is not just about discarding old clothes but dignifying the act of giving clothes to those in need



## About 'Cloth for Work' Programme

Like a lot of its initiatives, 'Cloth for Work' was an experiment that worked while searching for innovative ways to distribute clothes. During the Assam and Bihar floods in 2004, a road in Morigaon (in Assam) was damaged and seriously impacted access to the region. The GOONJ team asked the villagers to repair the road and rewarded them with clothes for their efforts. Since then, it has become an integral part of GOONJ's disaster relief efforts. GOONJ provides the victims clothes for the first two months to ensure basic sustenance. And after the initial distribution, Cloth for Work programme was initiated to ensure that the relief victims partake in the rehabilitation efforts.

The Cloth for Work programme is not only limited to post-disaster rehabilitation. In villages across Madhya Pradesh, Bihar, Tamil Nadu and West Bengal, local communities have taken up the initiative to solve their problems. These partner organisations could be NGOs or the local Panchayats who are aware of the local needs and populace. The projects are identified together with the community and address pressing problems of the villagers. The key motivation of the initiative is to make the recipients feel that they have earned the right to have the clothes, and not feel as a beneficiary.

## Used cloth: Not a commodity but a resource

The fundamental tenet of the Cloth for Work programme is that the used cloth is not a commodity but a resource. The cloth is the motivation and reward for encouraging communities to participate in the programme. Hence, GOONJ maximises the value out of every single piece of cloth it receives and ensures transparency from the time it leaves its processing centres to when it reaches the needy.

## Ensure Zero Waste

As a rule, no cloth, however small or old or worn out, is wasted. All clothes, right down to the last inch, are either reused or made into other items. The table below lists the various ways in which unusable clothes are transformed into useful products.

Such an approach helps GOONJ transform any cloth waste into products. For instance, during Tsunami in 2004, over 2 million unwanted clothes were collected in south India. The initial plan was to sell the good clothes to merchants at 2 rupees (who would then sell it for forty rupees). However, Anshu worked with the government and promised to clear the entire pile



Donated clothes	Products
Suits, bed sheets, blouse, petticoats ... (Cotton)	Sanitary Napkins
Jeans and trousers	School bags
Saris	School, Yoga mats
Chunris	String for ladies suits
Children clothes	Front portion to be added as design in bags
Old T-Shirts and other hosiery items	Undergarments for women
Old non cotton bed sheets, towels, sofa covers	Bags
Old shirts / non-cotton material	Sheets and covers for baby beds
Jeans and pants	Half-pants or school bags
Western clothes	Design and colour in products
Last bit of small pieces	Mattresses for babies

Source: GOONJ

of undistributed clothes. The government provided the warehouse to the store the clothes while GOONJ brought together the workers. Around 50 women worked for two years and converted every single unit of this massive wastage into a valuable garment or product. These products are now used as part of various initiatives.

### **Build accountability in distribution**

The effectiveness of cloth distribution at the grassroots level is strongly dependent on the partner organisations, who act as the implementation partners. Hence, GOONJ has a strict due diligence process to include any new partner in its network. The prospective partner has to fill up the required forms and provide documentation regarding its activities. Then a background check is done through GOONJ's network to ensure the credibility of the organisation. GOONJ also does a field visit to see firsthand how the organisation is impacting the society.

Once the check is done, the partnership is taken forward in a phased manner. The partner is initially provided with a limited number of bags (e.g., 20) and is monitored on the usage of the clothes. At the end of any initiative, the partner is expected to provide a report on how the clothes were utilised and what were the benefits. Based on the same, GOONJ increases the level of engagement by providing greater number of bags for the partners to scale their initiative.



GOONJ team regularly travels to each of these locations and tracks the progress that has been achieved as part of the Cloth for Work programme.

## Reach out to the right people

GOONJ works closely with the partner organisations to ensure that clothes reach those who are in real need for the same. The partner organisations provide the required local expertise and help identify those who would benefit from the initiatives. They also help ensure that the same people do not benefit every time.

The Cloth for Work initiative also acts as a filtering mechanism. “When you say that one has to dig a well to get clothes, only those who really need these clothes come forward. So, it is an auto-filtration for us to know who really needs these clothes”, says Anshu Gupta.

## Addressing specific demographic needs

Cloth is a fundamental and essential need for everyone. But at the same time, each section of the society has specific requirements for clothes. By working with local communities, directly and through its partners, GOONJ is able to identify pressing needs and make the required products to address the same.

## Women and Menstrual hygiene

Menstrual hygiene is one of the most neglected and the least discussed topics in rural areas. Millions of women use all kinds of items due to non-availability of sanitary pads. Women use items such as sand, rags, ash as absorbents in Uttaranchal, Bihar and Rajasthan.<sup>5</sup> In some cases, women have died because the clothes they used had a hook or sometimes even a centipede.

In order to address this problem, GOONJ makes sanitary napkins out of cotton clothes such as suits, bed sheets, blouse and petticoats. These clothes are measured, washed, dried and ironed to make them moisture free and finally made available in the size of 1ft x 1ft. These are then distributed through partner organisations to rural women in far flung areas of Bihar, U P, Madhya Pradesh, Orissa, Jharkhand, Maharashtra and many other States. GOONJ then works with partner organisations, in order to increase awareness among the local women to adopt the usage of disposable sanitary napkins.

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5 “Not just a piece of cloth”, <http://www.goonj.info/Not%20Just%20a%20Piece%20of%20Cloth1.pdf>





## Addressing Malnourishment in Children

In the Khandwa region, many children die every year due to malnourishment. The government has set up Anganwadis in the region to retain the children and ensure that they are well-fed by providing them a supplementary meal. However, the children refused to stay within the room since these Anganwadis have no windows and nothing to keep them entertained. In order to make these Anganwadis 'child-friendly', GOONJ worked with its local implementation partner, Spandan Seva Samaj Samithi (Spandan), an advocacy group that fights for the rights of the Kurku tribe. They supplemented the Anganwadi with toys, mostly made out of used clothes, and decorated the room with colourful items to improve the overall ambience. Their efforts have shown a dramatic improvement in the retention of children. Thanks to the toys, the children stay longer in the Anganwadis and often do not want to leave the centres. This has also helped address the malnourishment problem since they consume the supplementary meal. Spandan and GOONJ want to extend the efforts to 100 Anganwadis by March 2010.

"We are showcasing our efforts to the government as a model that can be implemented in all Anganwadis across the country", says Prakash Michael (Prakash), founder of Spandan.

## GOONJ: A Scalable and Sustainable initiative

GOONJ is today running one of the largest nationwide civic movements in the country. Unlike events and campaigns, the GOONJ initiatives are alive around the year spanning people from all sections of the society including individuals, companies, associations, local governance bodies and grassroots organisations, to name a few. By following a decentralised model and leveraging its existing partnerships, GOONJ has scaled across geographic boundaries.

Such a model also helps minimise the costs across the value chain. Today, it costs GOONJ only 97 paise per cloth, right from collection to sorting, packing, transportation, and distribution in any remote part of the country.

Building a network of individuals and organisations

Any individual or organisation can run a clothes collection campaign on behalf of GOONJ, after receiving prior approval from GOONJ. The GOONJ website provides a set of 'Dos' and 'Don'ts' on how the campaign can be organised. The volunteers are sent a readymade kit including electronic posters, GOONJ banners and a guest book to record the donors' details.



Volunteers can then run the campaign from their homes and drop off the clothes at a local collection centre. By having at least one processing centre in each part of the country that is equipped to process and distribute clothes, GOONJ is able to substantially reduce the transportation costs.

## Open framework for partner engagement

GOONJ works with varied types of organisations as part of the Cloth for Work programme. If a new organisation from any part of the country wants to collaborate with GOONJ, it is provided a clearly defined engagement model where the organisation can combine its current activities with the Cloth for Work programme. For instance, GOONJ is working with over 18 partner groups in Bihar including established voluntary organisations, young organisations, Gandhian groups, youth groups and Panchayats.

These partnerships are symbiotic and benefit both organisations. In Madhya Pradesh, GOONJ benefits from the local understanding and expertise of Spandan. And by solving grassroots issues through the Cloth for work programme, Spandan is able to gain the trust of the Kurkus and thus get more local support for its advocacy initiatives.

The success of the Cloth for Work initiative has also ensured that it is not only a push model but also a pull model, where villagers are requesting to implement the initiative in their respective villages. For instance, due to the success of the Cloth for Work initiative in Salidana and Ambada villages, 8 more villages in the vicinity have come forward to implement the Cloth for Work programme.

## Leveraging existing strengths

GOONJ's model allows organisations to leverage their strengths to contribute to the cause. For instance, for the annual VASTRA-SAMMAN initiative, AFL<sup>6</sup> supported the courier services and transportation of the sorted material to the Indian villages; Eulogik<sup>7</sup> assisted with the website and replication kit, Bedi Films<sup>8</sup> made a short video capsule and SAP<sup>9</sup> provided an MIS programme to track the progress of the initiative.

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6 AFL - <http://www.afl.co.in/corporate/jsp/index.jsp>

7 Eulogik - <http://eulogik.com/>

8 Bedi Films Pvt. Ltd. - <http://www.bedibrothers.co.in/>

9 SAP - <http://www.sap.com>



## **GOONJ and the community**

GOONJ's initiatives address the fundamental need of clothing of every human being. Through their initiatives, they have been able to save lives of men, women and children. And through their Cloth for Work initiative, they help address long outstanding infrastructure needs and improve the overall quality of life of the villagers.

In addition to these improvements, GOONJ has also been able to create a sustainable social and behavioural impact in the communities they engage with.

## **Effecting behavioural change**

Many initiatives that are picked up as part of the Cloth for Work programme do not require a facilitator or external technical help. Once GOONJ uses cloth as a motivation for people to take up these tasks, the villagers are able to accomplish them on their own. For instance, in the Salidana village in Khandwa region, the villagers took up the responsibility of cleaning up their farms as part of the Cloth for Work initiative. The meagre farmlands of the villagers were filled with stones and small boulders which affected the overall yield. The villagers removed these stones and used the same to create a bund around the field to stop the soil erosion. Their efforts were amply rewarded when the yield from the lands were 1.5 times higher than the previous year.

Seeing the success of such initiatives, eight new Cloth for Work projects have been identified by the villagers including repair of broken dams and roads and building boundary walls for Anganwadis that are situated close to main roads using local wood and Bamboo. More than the tangible benefits, the Cloth of Work programme has empowered these villagers to address their own problems.

## **Instilling Dignity**

Clothes have a strong effect on how people are perceived and more importantly, how they feel about themselves. This was very clear in the example of the Korku tribe in Khandwa - The Korkus have been socially discriminated for centuries and considered 'out of caste'. This perception was aggravated when, due to rising costs, korkus could not buy clothes and often owned only a single pair of old clothes. They were shunned from government offices and the local governance bodies did not want to engage with them.



Wearing decent clothing has improved their social standing and perception among other sections of the society. For instance, while Korku women were earlier not allowed in Government offices, today they are able to make themselves heard and often represent their cause in front of government officials.

## Providing employment

The Cloth for Work programme provides employment opportunities for many villagers in the rural areas. The villagers partake in disaster relief efforts and community programmes. For instance, GOONJ worked with the local Panchayat in Kuthambakkam village in Tamil Nadu to clean the local water body. All the villagers who participated in the initiative were paid in the form of crop, food and cloth.

The social impact of GOONJ is not only in the villages where it distributes clothes, but also in areas where they have processing centres. The GOONJ processing centre in Delhi employs 70 workers, out of which 25 women work with sewing machines and handlooms. Almost all of these women are unskilled and have never worked on machines before. “We choose the workers not based on their level of skill but based on their level of poverty”, says Anshu. The women are trained on the job both on the skills required to operate the machines and soft skills such as making presentations. Such an approach – to select and train unskilled workers – also helps GOONJ to replicate the processing centre models across the country.

## GOONJ and the government

GOONJ and government play a symbiotic role to identify and distribute clothes to needy rural communities. In the process, they complement each other’s initiatives that are targeted towards a common goal.

**Government as the local expert:** As part of the Cloth for Work programme, GOONJ works closely with Panchayats to identify the right opportunities and provide the local expertise. They act as local experts and provide information about the local populace (e.g., Kuthambakkam village, Tamil Nadu). The Panchayats also help engage with the local community to identify tasks for the Cloth for Work Initiative.

**Government as the infrastructure provider:** The government, more than any entity, has the scale to reach out to far flung locations in the country. GOONJ leverages this network to scale its programmes. For instance, GOONJ uses the Indian Army to distribute clothes to locations in Kashmir. Also, GOONJ and its partner organisations have used Anganwadis as



centres for social intervention. In Khandwa, the Anganwadis are used to distribute sanitary napkins to women who come to drop their children.

**Government as stakeholders:** Due to the success of its initiatives, the government has approached GOONJ and its partners to implement the same programme across other locations. For instance, GOONJ and Spandan provided clothes to the Child labour school, which in turn improved the attendance of children in the labour school. The labour department has recently approached the organisations to implement the same scheme in 10 more schools. Similarly, after observing the relief efforts in the Bihar region,<sup>11</sup> the Block Development Officer (BDO) personally reached out to Anshu Gupta and recommended other tasks that could be taken up as part of the initiative.

GOONJ complements government initiatives: Certain government initiatives fail to address local issues and get a buy-in from the local community. This is largely due to the scale of these initiatives (which are spread across the country) and lack of accountability at ground zero. GOONJ addresses the last mile by providing innovative solutions that can then be scaled by the government. For instance, when Anganwadis were unsuccessful in attracting children, GOONJ and Spandan worked to make them more child-friendly and thus encouraged children to stay longer.

## GOONJ, government and the community

For any government initiative to succeed in India (or any democratic country), it is important to have an empowered community that is aware of its rights. Tribes like Korku are unaware of the fundamental rights that they deserve. "They don't see the Anganwadis as the right of the child but a dole-out from the government", says Prakash. Such an attitude ensures that the bureaucrats can be lackadaisical about the impact of these initiatives, thus doing nothing to improve the conditions of these communities.

The Cloth for Work programme has helped break this vicious cycle by enabling the villagers to solve their own problems. Addressing their basic need of decent clothing has increased their sense of self-worth. This has helped create an empowered community that demands actions from the government and ensures transparency. And that in turn has helped improve the effectiveness of its programmes.

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6 Over 600 people worked filled a huge pond as part of a day's work for Cloth for Work programme



## GOONJ - Going Forward

### Challenges

When GOONJ started in 1998, it was the first initiative of its kind to address the issue of decent clothing. Today, GOONJ dispatches over 40 tons of material per month, only from Delhi. This does not include clothes collected in other parts of the country or clothes collected for disaster relief. Their reach extends across 21 States in the country including far flung villages.

In 2004, Anshu was awarded the Ashoka Fellowship for his innovative idea and its mass social impact. Over the years, many organisations have recognised GOONJ for its continued success with its initiatives. Today, after 10 years – GOONJ is facing the next set of challenges to sustain and streamline its operations.

### Accountability in a decentralised system

One of the key challenges for GOONJ is to ensure accountability across its decentralised model. While they have achieved the same through a rigorous diligence model in the case of implementation partners, they face issues in the cloth collection campaigns. In the recently concluded VASTRA-SAMMAN campaign (01 - 03 October), there were instances of conflicting messaging to the donors. Partner organisations add their own variations to the collection campaign, which are in conflict to the principles of GOONJ. There have, in the past, been instances where clothes collected by volunteers for relief efforts were not transported on time to the processing centre. Such instances have a direct impact on the credibility of GOONJ as an organization.

### Raising funds

Today, GOONJ spends only 97 paise per cloth, right from collection to sorting, packing, transportation, and distribution in any remote part of the country. However, due to the large scale of clothes that they handle, GOONJ has an annual budget of 1.2 crores per year. While GOONJ has been immensely successful in collecting clothes, they have had challenges raising funds. The growing recognition is aggravating the problem with several individual donors discontinuing funding on the assumption that GOONJ is now an established organisation.

“The situation is ironic – The more the positive word of mouth we receive, the more clothes we have to collect and distribute. At the same time, the more positive the word of mouth, the lesser is the amount of money people donate”, says Anshu. Their operations are cost intensive with a substantial



part of the expenditure going into procuring space to store the clothes and then for transportation to various locations.

### **Retaining the dignity in giving**

The ongoing challenge for GOONJ is to bring a sense of dignity to the act of giving clothes. Donors feel that they are doing someone a favour and hence should not be inconvenienced in the process even though "One is only discarding clothes that they do not require anymore," says Anshu. Adding to the challenge, there have been many initiatives similar to GOONJ that have started in the recent past.<sup>12</sup> There have been business plans on how to create a viable business model to distribute sanitary napkins to village women<sup>13</sup> that mirror the 'Not just a piece of Cloth' campaign of GOONJ. While such initiatives could help address the issue of decent clothing, Anshu feels that it is important for these initiatives to be aware of the ground realities since, "It is always easy to collect clothes ... . What is challenging is to see how to best use the clothes that have been collected."

### **Future plans**

GOONJ's immediate focus for the next 6-12 months is to streamline the process of collecting clothes through its various partners. GOONJ will work on drawing a blueprint of the entire process with clear terms and guidelines so that there is no ambiguity or conflict of interest in the process. GOONJ also wants to bring the focus on operational issues that are often underestimated by the donors. "Having 50% of the ladies suits without a string is a big problem. It is not a trivial issue," says Anshu. He wants to draw the attention of the donors to such issues in the next six months.

GOONJ has immensely benefited through VASTRA-SAMMAN, the pan-India cloth collection campaign since it provides an excellent opportunity to raise awareness about GOONJ's activities while being very successful in collecting clothes. Going forward, GOONJ would like to conduct the pan-India cloth collection campaign not once (as it is done today<sup>14</sup>) but twice a year.

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12 *Xavier foundation recently inaugurated a Clothes Bank focused on collecting clothes. According to the press releases, the organisation also "plans to involve the Panchyats, NGOs and various charity organisation to reach out to the maximum number of needy people" - <http://www.indiatogether.org/2008/dec/pov-clothes.htm>*

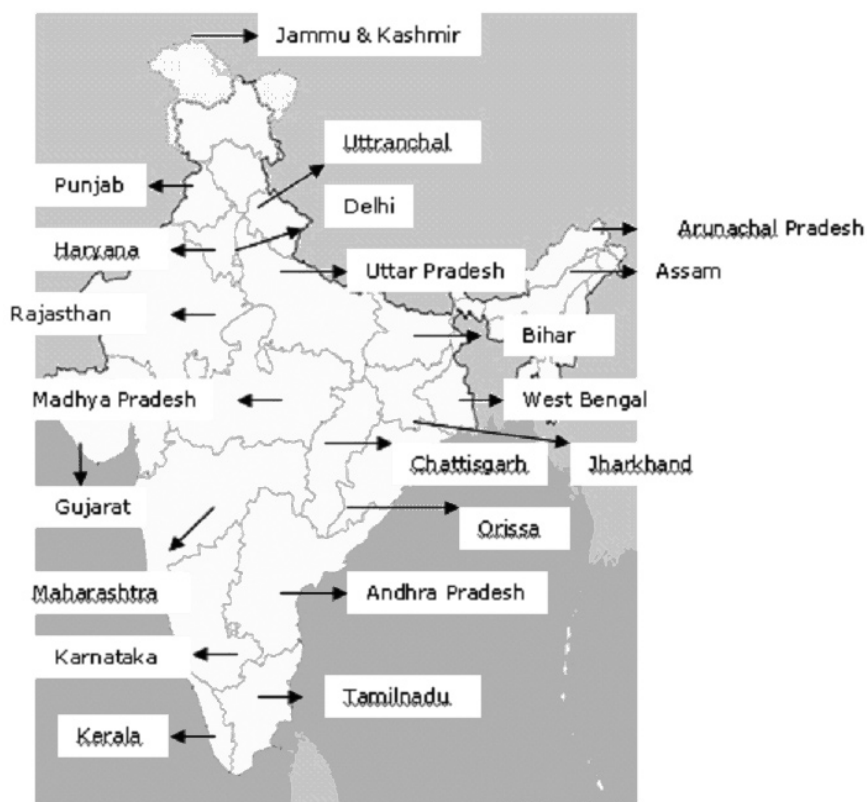
13 *Anshu was invited as one of the judges to a B-plan competition where such an idea was presented.*

14 *The Nationwide VASRA-SAMMAN programme for 2009 was held between 1st and 3rd October.*



In the next 2-5 years, Anshu visualises a substantial change in the discussion around clothing. He expects to see a lot of new organisations focusing on the clothing issue. There will also be a lot of focus on Sanitary napkins, he says. Meanwhile, he continues to scale the dream that started with 67 clothes in a house in Delhi – Making clothes available to the needy while retaining their dignity.

Exhibit 1: Areas of Implementation covered by GOONJ



Source: <http://www.goonj.info>





Exhibit 2: GOONJ Collection centres



GOONJ has its own offices in Delhi, Kolkata, Mumbai, Chennai, Jalandhar and Saharsa while Hyderabad & Bangalore are being managed by volunteers.

Source: <http://www.goonj.info>



Exhibit 3: List of programmes run by GOONJ

<b>Initiative</b>	<b>Description</b>
VASTRA-SAMMAN importance	Nationwide movement highlighting the of cloth as a basic need
Cloth for Work	The implementation of VASTRADAAN takes place through Cloth for Work where clothes and other material are provided to the rural community not as charity but as a development resource.
Not just a piece of cloth	Providing clean cloth sanitary napkins to rural women. GOONJ is actively campaigning in rural & urban India to generate awareness on this taboo issue
Recycling-a step ahead	Converting waste paper and cloth into a range of useful products. Two different ranges are developed keeping in mind the utility in urban and rural/slum India. If school bags, tents and mats are developed for rural areas, a range of fancy bags, yoga mats & wallets are developed to suit urban needs
RAHAT	Initiative for reaching relief in natural & human made disasters (apart from annual disasters), active since Chamoli earthquake (since 1999).
RAHAT Winters	Regular campaign to reach material in the villages where countless people die or suffer due to the scarcity of a basic pair of clothing.
School to School	Establishing a relationship between urban and rural schools by channelising school supplies from one to another. Building a sense of empathy among urban children towards the needs of their rural counterparts.
PRATIBIMB	One to one interaction event between urban and rural children to cement the relationship between them and move them away from the bias led donor beneficiary mindset.



Turning Tsunami  
wastage into  
a resource:

A first of its kind initiative; after tsunami GOONJ worked on over 2 million pieces of waste or undistributed clothes. Around 50 women worked for two years and converted every single unit of this massive wastage into a valuable cloth or product; (Status: Complete)



## **Enabavi–The Road Ahead in Agriculture**

*Tarakarama Rao Raghupati and  
Jay Shankar Prasad*

### **Introduction**

Organic farming is not a new concept to Indian farmers. Before the Green Revolution, during which the chemical fertilisers were introduced, Indian farmers used to cultivate crops using natural resources like Farm Yard Manure (FYM), leaves of various plant species, animal wastes, etc.

With the advent of Green Revolution, High Yielding Varieties (HYVs) came into existence. In order to utilise the potentiality of the HYVs, the use of chemical fertilisers was popularised. Farmers who were habituated to use organic fertilisers, shifted to the chemicals in order to reap greater benefits by increasing the productivity. Farmers got habituated to the use of chemicals (Fertilisers and plant protection chemicals), and in this process they did not realise that the usage of chemicals will destroy the soil fertility and the soil health.

In order to reap extra benefits, the farmers started using more of chemicals than recommended. Because of this, the pests got acclimatised to the chemicals. As a result the dosage of the chemicals used to kill the pests has to be increased. Because of the high cost of chemicals, cost of cultivation increased. For purchasing the chemicals, farmers borrowed money from the local moneylenders. Because of the less returns (due to soil ill health, loss of soil fertility, etc.), the farmers were unable to pay the debts. As a result, farmers started committing suicides because of the economic pressures. Use of chemical fertilisers has drastically affected the livelihoods of the Indian farmers.

### **Chemical Free Farming - Need of the hour**

**Chemical free farming means** cultivating crops without using any chemicals, i.e., without using either a single granule of chemical fertiliser or a single drop of plant protection chemicals.

Even though greater than 60% of the Indian population derives their livelihood from Agriculture, the share of agriculture in Indian GDP is only 19%. This is because of so many reasons, and exports are one of the key issues in improving the returns from agriculture.

Now-a-days, in the era of globalisation, wherein the export standards are very strict, quality of the product is of prime importance. Though India is one of the largest producers of various agriculture products, the products are being rejected for export because of the exceeding levels of chemical residues in them.

In order to cater to the international market and increase the revenue from the exports, the Indian farmers have to reduce the use of chemicals, to meet the export standards. In this regard, scientists once again are concentrating on the age-old practice of organic farming. As organic farming does not yield high benefits in the initial years, the scientists are apprehensive whether the farmers will implement organic farming after being habituated to the use of chemicals.

This case is about **Enabavi**, a village in Andhra Pradesh.

### **Village profile**

**Enabavi** is a hamlet of Manikyapuram village which belongs to Linghalaghanapuram Mandal of Warangal district in Andhra Pradesh. The total number of households in the village is 51 and the total area under cultivation is 280 acres. The irrigation facility for the fields is being catered by 29 bore wells. Paddy, Cotton, Tobacco, Maize, Red gram, Sesame, Chilly, Onion, Garlic and Vegetables like Tomato, Bitter Gourd, Lady's finger, Beans, Coriander, Spinach, Lettuce, etc. are the crops they grow in the village. There is a water tank and three hand pumps in the village providing water for drinking and other household activities. A primary school is there which provides education facility till 5th standard to the children of the village. A Primary Health Centre (PHC) is there in Manikyapuram village which is 2kms away from Enabavi.

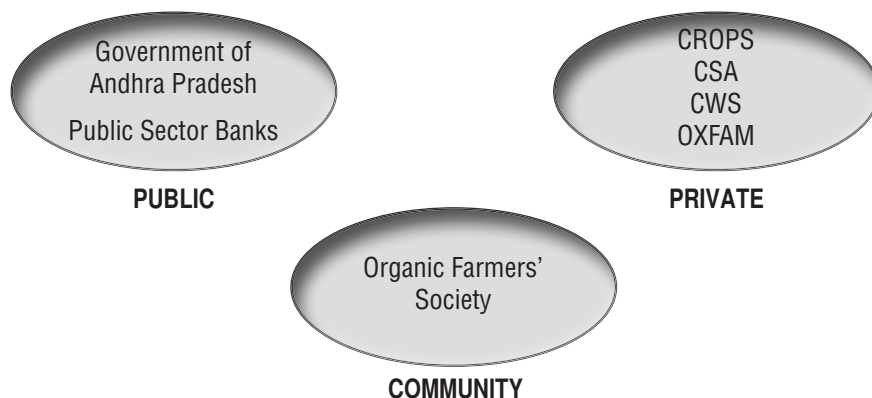
### **Chemical Farming to Chemical Free Farming**

During 90 s, Red Hairy Caterpillar (RHC) used to be a devastating pest on almost all crops in Enabavi. In 1995, an organization named CROPS, an organisation based in Jangaon in Warangal district, took some steps in the village in order to eradicate the RHC incidence on the crops. For this, the organisation got financial help from AEI-Luxembourg through CWS (Centre for World Solidarity). By that time, like all the other farmers, the farmers of Enabavi were also habituated to cultivate crops by using fertilisers and plant protection chemicals. CROPS worked in the village for 3 years (1995-98) in order to eradicate the incidence of RHC with the help of Solar Light Traps. They distributed one light trap to each farmer to keep them in the fields during night. By doing so, the organisation successfully

eradicated Red Hairy Caterpillar in 3 years, with the help of the farmers of the village. After this success, the organisation left the village in 1998.

Two years since then, i.e., in 2000, Ponnammallaiah, a progressive farmer from Enabavi attended a meeting in Kallem village and met Lingaiah, the head of CROPS. There, Mallaiah asked Lingaiah to suggest some cultivation practice, so that the villagers would be benefited. Then, CROPS suggested the farmers to go for Non Pesticide Management (NPM) and guided them in practising the same. Only three farmers came forward in the 1st year (2000). The three farmers who came forward have practised non pesticide management on a very small scale. The farmers of the village realised the benefits of NPM and in 2001, more than 50% of the farmers were practising NPM in their fields in some part of their lands. But the farmers who practised NPM in the 1st year, practised NPM on their entire land. In 2001 Rabi, the organisation advised the farmers to go for complete organic farming. Six farmers practised complete organic farming in that season. In 2002, almost all farmers came forward to practise organic farming, but as it was for the first time they were a bit apprehensive and used fertilisers to some extent, but in less quantity (half of what they used previously). From 2003 onwards, all the farmers started complete chemical free farming.

#### Public Private Community Participation Model



### Public Institutions' Role

The Government of Andhra Pradesh has implemented a programme called Community Managed Sustainable Agriculture programme which is implemented by Society for Elimination of Rural Poverty Government of Andhra Pradesh, Sustainable Agriculture Network of NGOs with technical support by Centre for Sustainable Agriculture.

The public sector banks (SBI) provides financial support by providing loans to the farmers' society.

### **Private Sector's Role**

Many organisations are supporting the chemical free farming in Enabavi. CROPS, a local NGO; Centre for World Solidarity (CWS), and Centre for Sustainable Agriculture (CSA) which are based at Hyderabad and international funding agencies like Oxfam are supporting the farmers of this village by various means in the successful cultivation of crops without using chemicals.

### **CROPS (Centre for Rural Operations Programmes Society)**

This is a local level NGO which is based at Jangaon in Warangal district of Andhra Pradesh. The organisation has helped the villagers to transform their village into a complete chemical free village by providing technical help with the help of various other organisations. In addition to the technical help they have provided to the villagers, they helped them in the following ways to practise chemical free organic farming:

- Provided financial help for procuring various organic resources:
  - CROPS gave financial help to construct vermicompost beds and provided the earthworms to the farmers.
  - The organisation also provided tank silt to each and every farmer of the village for three years (2004-07). The organisation paid the proclaimer cost to dig and fill the silt into the tractors and the farmers paid for the transportation.
- Provided training to the farmers regarding various organic practices and preparation of various organic supplements for the fertilisers and plant protection chemicals.
- Provide market to the organic products.

In addition to these activities, the organisation has taken up seed production programme in all the crops that are grown in the village.

Details of Seed production programme:

**Paddy:** IR64 and Chittimutyalu are the varieties that are being produced. The seed is distributed not only to the villagers but also to other organisations like WASSAN and SEVA, Warangal.

**Red gram:** Maruthi is the variety that is being used. The seed is distributed to CSA, MARRI, Secure, IKP (Gundal) in addition to the farmers of the village.

**Sesame:** Madhavi is the variety that is being multiplied and the seed is distributed to the famers of the village and the nearby villages.

**Maize:** Narmada is the variety that is being produced and the seed is distributed to farmers of Enabavi and to the farmers of the nearby villages.

**Cotton:** in cotton, the farmers have practised hybrid seed production and developed a hybrid called Ramanjaneyulu. The female parent used for the crossing was Narasimha and the male parent was Bunny cotton.

**Chilly:** Marutham is the variety that is used in the seed production.

**Vegetables:** Seed production of vegetables like Tomato (Haritha and Rohini), Brinjal (Aadhar and a local variety) and Cluster bean (Neelima) is also taken up.

### Centre for World Solidarity (CWS)

CWS is present in Hyderabad and it is one of the funding agencies for CROPS for taking up various activities in the village. This is the organisation through which CROPS got fund from AEI-Luxembourg to intervene into Enabavi for eradicating Red Hairy Caterpillar.

Their main aim is to reduce the water wastage by promoting better water management practices. Accordingly, they have taken up some projects in the village in order to promote water management.

Under the project named 'Social Regulations Project', CWS has installed a rain gauge which helps in collecting rainfall data. CROPS is the implementing agency. In this project, rainfall is measured every month and the data is displayed on the wall of the community hall cum milk collection centre, where people gather for various meetings and for selling milk. As a part of the project, CWS is also promoting SRI cultivation of paddy in the village.

Another activity which they have taken up is periodic monitoring of ground water levels in the observational wells. They have started this activity from 2007-08. Every month, the coordinator of the programme, who is the resident of the village, will collect data from the observational wells twice (2nd and 15th of every month). This will help the farmer to know how much deep the water is there, so that they will take care of the ground water management.



They have provided capacitors (see the picture) for all the 29 bore wells present in the village so as to regulate the power supply to each and every bore well. Previously, the bore well which is near to the transformer used to get more power, thereby it used to pump more water. The bore well which is far off from the transformer used to get less power. Now, because of the capacitors, the power distribution is even and the water supply is also good.

They also promote the cultivation of dry land crops (Sunflower, Maize, etc.) which requires less water, thereby, the water table can be saved from depletion. Because of this, the farmers are having sufficient amount of water for the cultivation of crops and they have reduced the cost of irrigation.

### **Centre for Sustainable Agriculture (CSA)**

CSA (Secunderabad) is the organisation which provides technical support regarding organic farming. They provide training regarding the preparation of various organic extracts and solutions. They are promoting the chemical free food products by taking up an initiative called "SAHAJA AHARAM", which means Natural Food in Telugu.

This organisation is responsible for providing the major market for the villagers. It provides market facility to the organic products on 5th of every month. The farmers will take the products to the CSA office situated in Hyderabad and from there will sell the them at a higher price. They provide market for the organically grown vegetables and rice.

### **Oxfam-India**

Oxfam-India has taken up the project in the current season only and their project is regarding the marketing of non-BT cotton that is being cultivated in the village. They have formed a society named, Sthree Sakthi Sendriya Rythula Paraspara Sahayaka Sahakara Sangham. The membership fee for joining the society is Rs500 and the organisation has provided Rs1000/acre to each farmer.

### **Community's Role: Enabavi Sendriya Rythula Paraspara Sahayaka Sahakara Sangham:**

This is the society of organic farmers in the village. All the farmers of the village are the members of the society. They have framed some rules and they strictly follow them.

Every farmer will:

- practise organic farming
- produce our own seed.
- practise inter cropping.
- grow trees in his/her household.
- have a kitchen garden in his/her household.
- improve his/her livestock population
- be a member of one of the farmers' groups
- maintain a register for the cultivation details
- not use genetically modified crops
- create awareness to the farmers of other villages about the practices of organic farming
- abide strictly to the rules framed by the village organisation and CROPS.

### **Effect of chemical free farming on the livelihood of the villagers**

In order to study the impact of chemical free farming on the livelihoods of the villagers, we have surveyed 20 farmers and collected their experiences. The survey findings are as follows:

- Urea and DAP are among the fertilisers they use in both paddy and cotton
- They use monocrotophos in cotton and phorate granules in paddy as plant protection chemicals.
- On an average, in paddy they save Rs1425 per acre in paddy and Rs6090 in cotton, because of not using the fertilisers and pesticides.

In place of fertilisers, they use:

- Compost
- Vermi compost
- Green manure
- Green leaf manure
- Bio fertilisers
- Other solutions.

In place of plant protection chemicals, they use:

- Tobacco leaf extract
- Solution of cow dung and urine
- Green chillies and garlic extract
- Dry chillies and garlic extract
- Extract of Green chillies, Neem leaves, Garlic and Tobacco leaves
- Other leaf extracts.

The survey details are mentioned in the appendix.

## **Experience of a farmers**

### **1. Ponnam Mallaiah**

Village : Enabavi  
Mandal : Linghalaghanapuram  
District : Warangal  
State : Andhra Pradesh

#### **Paddy cultivation**

Ponnam Mallaiah has 12 acres of agricultural land and he grows paddy in 4 acres. Besides paddy, he also grows cotton and tobacco as major crops. His irrigation source is bore well. He grows the crops without using any chemicals. He has 6 cattle to provide him with dung, which is utilised for vermin-compost. The yield obtained in paddy is 23 quintals per acre.

#### **Chemical free cultivation**

Initially he used to grow the crops using chemicals but the incident of Red hairy caterpillar (RHC) was very severe on the crops. An organisation called CROPS intervened in their village in 1995 and took up the activity of controlling the caterpillar by using Solar light traps. Within three years, the RHC was successfully eradicated and CROPS then suggested they take up NPM (Non Pesticide Management) and provided them with guidance and financial support to construct vermin-compost pit. From the year 2003, all the farmers in the village are growing the crops organically.

In the place of chemical fertilisers, he uses the following:

- Compost
- Vermi- compost
- Green manure
- Green leaf manure
- Azolla

**Benefits:**

- Low cost of cultivation
- Improves soil health
- Less attack of pests on the crops
- Higher price for the produce
- Better health condition of the family members
- Crop loan is not required
- The quality of the produce is better.

**Constraints in practicing:**

- Lesser yield obtained compared to chemically produced crop in the initial days.

**Lessons learnt:**

- Though the yield is less, the higher price for the organically produced grains compensate for the loss.
- He does not have to take Crop Loan hence he is in a good state of mind and health.
- Learnt how to grow Azolla.

**Suggestions:**

- For chemical free farming-Neem tree is the 'Gold Mine'.

**Comparative study**

Particulars	Cost per Acre (in Rs)	
	Inorganic farming	Chemical free farming
<b>Operations</b>		
<b>Nursery</b>		
● Land preparation	400	400
● Seed	400	400
● Manures	250	250
● Fertilisers	50	-
<b>Main field</b>		
● Land preparation	1,200	1,200
● Transplanting	1,000	1,000
● Manures	500	1,500
● Fertilisers	1,540	-
● Weeding	1,0500	1,000
● Plant protection chemicals	2,000	2,000
● Harvesting & Threshing	9,140	7,750
Total		
<b>Yield and Income</b>		
● Yield(in quintals)	24.5	23
● Gross returns (in Rs)	12,495(22,785)	27,600
● Net returns (in Rs)	3355(13,645) 24.5	19,850

**2. Ettaaboina Pedda Siddulu.**

Village : Enabavi  
Mandal : Linghalaghanapuram  
District : Warangal  
State : Andhra Pradesh

**Cotton cultivation**

Ettaaboina Pedda Siddulu has a total land holding of 3.3 acres out of which he grows cotton in 1 acre of land. He has 6 cattle and a bore well. He used to grow the crop following the normal practice of applying fertilisers

and plant protection chemicals in his fields. The yield obtained was 8-9 quintals per acre.

### Comparative study:

Particulars	Cost per Acre (in Rs.)	
	Inorganic farming	Chemical free farming
<b>Operations</b>		
● Land preparation	2400	2400
● Seed cost	500	500
● Sowing	200	200
● Manures	1,200	1,200
● Fertilisers	3,800	-
● Weeding	480	480
● Plant protection	1,500	-
● Chemicals	18,00	1,800
● Harvesting	11,880	7,330
<b>Total</b>		
<b>Yield and Income</b>		
● Yield(in quintals)	9	8
● Gross returns (in Rs.)	27,000	24,000
● Net returns (in Rs.)	15,120	16,670

### Benefits

- Cost of cultivation is less
- Pest attack is very low hence product is not affected with the application of pesticides
- Increase in soil health
- Since plant protection chemicals are not applied, the health of the farmer is not affected.
- Free of debts.

### Constraints in practicing

- Less yield in the initial days when compared to chemical farming.

## Lessons learnt

- Organic farming is best for soil and human beings
- Profit generated is almost same.

## Suggestions

- He feels that the price of organically produced crop should be higher than chemically produced
- Every farmer should grow cotton organically.

Change in the Livelihood: the people of the village are very happy with the way things have changed. They no longer have to take loan for cultivation which makes them master of their produce and. Their income level has also increased resulting in their standard of living rising too. The farmers are getting educated by learning new methods and the desire to send their children to school has also increased. Their health status is far better than that of the farmers of other villages due to intake of completely chemical free produce.

## Chemical Free Farming: Future Perspective

In order to improve the condition of the priority sector and its contribution to the country's GDP, the government has to participate very actively to promote chemical free farming. In addition, Corporates should also participate in promoting chemical free farming.

## Government's Role in the near future

The role of government has been very minimal in promoting chemical free farming. The Government has to involve in various ways to promote chemical free farming.

- Agriculture research should concentrate on chemical free farming.
- Agriculture Extension Department should be activated to promote chemical free farming and create awareness among the farmers.
- Provide support to private organisations like NGOs and other funding agencies which are promoting chemical free farming.
- Encourage the agriculture chemical industry to produce organic fertilisers and plant protection substances.

## **Role of Corporates in the PPCP model in the near future**

- Help the villagers to obtain certification for their products.
- Adopt a village and encourage chemical free farming by providing technical and financial help.
- Corporates like Reliance Fresh, MORE, etc., which are into Agri Retailing can promote chemical free farming by practising contract farming.
- Corporate can also set up organic stores in towns and cities.

## **Conclusion**

Chemical free farming is not something which is beyond reach or impractical. Enabavi has set an example and it is time for the rest to be in the race. As seen from the story of this village, many things have changed gradually for the betterment. Their living standard, awareness level, health condition, education status, etc., all have improved. All that is needed is self realisation and support from the government and corporates along with unity among the farmers of the villages. The need of the hour is that rather than giving more and more subsidy on chemical fertilisers, the government should take strong measures to promote chemical free produce. It will not only help the farmers with the above benefits mentioned but also improve their soil condition by making it more sustainable.



## Enhancing Income of Farmers through Patneswari Agricultural Cooperative

*Jitendra Nayak and Prabeen Kumar Tripathi*

### Introduction

Patneswari Agricultural Cooperative Ltd (PACL) has been involved in development of agro-forestry in Koraput district, Orissa since January 2006. Having vast degraded upland with small and marginal farmers, a model was devised to bring these unused lands under pulpwood plantation and take up other crops like maize and pulses. The project was initially focused in Jeypore and Kundra block, eyeing on the demand of pulp wood by the nearby paper mills like the Sewa unit of Ballarpur Industries Limited (BILT).

The cooperative was also formally registered under Orissa Self Help Cooperative Act in the year 2008 to further expand the activity and institutionalise the intervention. The pilot project on agro-forestry was initially supported by BILT and had been guided by Harsha Trust at the field level. ASA Agencies Limited provided loan and technical support to the cooperative. The loan was given to the cooperative at 8%, which subsequently passed on the loan to the Joint Liability Groups (JLGS) of 5 to 10 farmers at 9% and the JLGs to the farmers at 10%. A farmer takes up one or two acres of eucalyptus plantation in its own degraded land by availing loan through the cooperative.

After completion of three planting seasons (2006, 2007 and 2008) covering 844 acres of eucalyptus plantation; the cooperative approached NABARD to support the expansion of this intervention. Looking at the opportunities and quality of plantation, NABARD readily sanctioned a loan of Rs209 lakh and grant of Rs20 lakh under their Umbrella Project on Natural Resources Management to take up 1000 acre of eucalyptus plantation in June 2009. A NABARD project is contingent upon the buyback guarantee from BILT for all the plantation that the cooperative raises and a grant from BILT to meet the administrative cost of the cooperative for five years. There is a tripartite agreement between the cooperative, BILT and Harsha Trust where BILT has provided assurance to buy all the pulpwood at Rs1500/ton or at the market price whichever is higher, and support administrative cost of cooperative for next five years and Harsha Trust would provide support to build the capacity of the cooperative in terms of its governance

and operation. By 30 August 2009 the cooperative has 1200 members covering 1800 acres of eucalyptus plantation.

Through this intervention each small and marginal farmer is expected to get a return of Rs60,000/acre of plantation at an interval of every five years for the next fifteen years. The one time revenue would help them to release their mortgaged land, and invest in property and for other productive uses. Thus the intervention is all poised to alleviate their poverty and bring them out of the vicious poverty cycle.

In addition to the potential for eucalyptus plantation the cooperative found the opportunity to promote maize cultivation on a large scale. A poultry (commercial broiler poultry) cooperative has been promoted by Harsha Trust in Jeypore block of Koraput district and the poultry cooperative requires 30 tonne of maize per month. The agricultural cooperative has tied up with the poultry cooperative to supply dried maize.

The agricultural cooperative initially demonstrated maize cultivation in 3 acres of land in the year 2006 and the intervention has grown to cover 196 acre in 2009. There are now 112 farmers who are being supported for maize cultivation by the agricultural cooperative. Maize farmers are able to earn a net income Rs6000/acre of maize cultivation.

## Context

The cooperative initially started its intervention in Koraput district of Orissa. This is a tribal dominated district of Orissa where more than 70% of their populations live below poverty line. Of the total population, 49.5% and 12.9 % belong to ST and SC communities respectively. Paraja is the main tribe that inhabits the area. The area is highly undulating and upland (less productive sloppy highland) forms more than 50% of the total agricultural area. Average land holding is only about 1.5ha and that of SC's is meagre. The percentage of landlessness is around 30%. In addition to the landlessness, the distribution of landholding is much skewed; around 70% belong to small and marginal farmers. Agriculture is the main source of livelihood. The irrigation coverage is 33% of the net sown area (NSA) but except for Jeypore block, in all other blocks the coverage is less than 25% of the NSA. Most of the area has mono cropping. Except for some forest fringe communities and irrigated belt, the other major sources of livelihood are local wage labour or migration for unskilled labour to cities like Raipur and Mumbai. The average food security is only for 4-5 months and the average annual income of a family is about Rs20000.

This scenario is despite more than 1300mm of rainfall in the area. Upland accounts for more than 50% of the total agricultural land; it is unproductive

and mostly belongs to the poor small and marginal farmers. Each of the small and marginal farmers own one or two acres of these degraded uplands. These lands are unirrigated land and most often they are left fallow. Some of the farmers cultivate minor millet in these lands and earn less than Rs750 from an acre of land.

Except for some irrigated pockets, the farmers are dependent on rainfed farming and adopt primitive practice. Productivity of almost all the crops is low - productivity of paddy is around 9 quintal/acre.

The area is poverty stricken, along with low literacy and health problems like Malaria and Tuberculosis. Literacy rate of women is less than 20% and that of men less than 40%. The expenses on health accounts for more than 20% of their annual family income. Most of the families depend upon traditional practices and quacks for cure. Lack of awareness and proper institutional support for health care have been contributing to high expenses on health.

### **Initiation of Intervention**

Harsha Trust has been implementing community development project since 2002 in collaboration with BILT under their CSR initiative in Jeypore block of Koraput district. During the collaboration, the Trust realised the gap between the demand and supply of pulpwood in their paper mill located at Jeypore. The paper mill meets 70% of the pulpwood requirement from outside the State. The Trust also realised that though the land and climate were very suitable for raising eucalyptus, hardly any small and marginal farmers were involved in plantations. Large farmers who could manage loans from the bank were mostly taking up eucalyptus plantation. The large farmers were also taking land on lease from the small and marginal farmers to raise plantations. The lease rate was Rs250 per acre/year. Over the years as the quality of saplings improved from root trainers to clones, eucalyptus farmers started realising better benefit from the activity but it still remained beyond the purview of the small and marginal farmers as the sapling rate increased from Rs1/sapling to Rs6/sapling.

Harsha Trust along with the CSR unit of BILT planned to make a win-win situation for both the paper mill and the small and marginal farmers. They lunched a pilot project wherein the small and marginal farmers were motivated to take up eucalyptus plantation in their degraded uplands. BILT mobilized loan from ASA agencies and routed it through Harsha Trust to the cooperative. In the year 2006, for the first time, 95 acres of plantation were taken up with mostly small and marginal farmers. Harsha Trust played the role to motivate the farmers and guided the cooperative

to take up quality plantations. Farmers were initially taken for exposure to Andhra Pradesh to make them realise the benefit of plantation. After the first year, the plantation in the local area became the exposure site for many farmers. With the approach and quality of plantation, the cooperative has now collaborated with NABARD for loan and with BILT for sale of pulpwood. NABARD has granted loan for 1000 acres of plantation in 2009 and has given verbal commitment to provide loan for an additional 4000 acres of Plantation in the next four years. BILT has agreed to provide grant to meet the administrative cost of the cooperative for the next five years, which is when the cooperative is expected to meet its cost from the 'profits' from input supply and sale proceeds. The cooperative has not looked back since then and has been adding twice the number of farmers and area every subsequent year. The cooperative has diversified into maize cultivation and is providing loan to the farmers during Kharif and Rabi season for the same. It has tied up with poultry cooperative to sell the dried maize.

### Scope of Intervention

Sewa paper mill of BILT at Jeypore is producing 200 tonnes of paper per day and requires 600 tonnes of pulpwood for the above process. Out of the 600 tonnes of pulpwood, the share of eucalyptus is 150 tonnes. Thus, the mill requires eucalyptus from 4 acres of plantation every day. So in a year, eucalyptus from almost 1500 acres is required to meet the requirement of Sewa paper mills. Presently only 30% of its requirement is being met from the local area and other 70% of pulpwood is being sourced from outside the State. The agriculture cooperative can easily go for 1000 acre of plantation every year if it intends to supply eucalyptus only to the Sewa paper mill. Other than Sewa paper mill, there is the JK paper mills within 150km from the catchments of the cooperative, which also requires equal amount of eucalyptus every year. So the demand for eucalyptus far exceeds the present supply from the local area and the cooperative can easily plan for 1000 acres of plantation every year. So if the cooperative plans for one acre of plantation per farmer, then it can cover 1000 small and marginal farmers every year.

Other than eucalyptus plantation, maize intervention is very promising. The feed mill of poultry cooperative requires 30 tonne of maize per month and thus maize from 20 acres of land can meet this requirement. So in a year if none of the maize is sold as cobs, maize grains from 500 acres of land is required. As the poultry cooperative is expanding its business and many farmers sell maize cobs, 1000 farmers covering 100 acres of maize cultivation can be planned by the cooperative every year.

## **Viability of Intervention**

The crop has been chosen both considering the demand in the local area and the skills of farmers to take up the cultivation. Both eucalyptus and maize are disease resistant crops and need minimum care. Eucalyptus, once planted and established in the first year, then very minimum care is required for the next 14 years. In the first year its growth is up to 10 to 15ft. The first harvest is done after five years from the date of planting and the plant is regenerated for the second crop. The plantation is harvested three times in fifteen years. The plantation thrives well in uplands where there is no water logging and performs better in high rainfall areas like Koraput.

Maize cultivation, the other crop that is chosen to provide additional income every year to the farmers, is well accepted by the farmers. Many of the farmers were also taking this crop earlier and the cooperative have been providing training to farmers to go for commercial cultivation of this crop. The farmers are also able to reap better benefit from this crop without any crop failure.

The two crops are also economically viable. The investment and return from eucalyptus and maize are in the table.

## **Management of Intervention**

The intervention is being managed by the cooperative. It is registered under Orissa Self Help Cooperative Act. The management of the cooperative is in the hands of 13 board members selected from among the farmers. Except the CEO, all the other staff members are from the local area and their capacity has been built to motivate farmers and assist them to take up quality agricultural intervention. The cooperative is in a positive spiral of growth, has established strong forward and backward linkages and devised suitable extension strategies to benefit its members. There is CEO deputed from Harsha Trust. The structure of the cooperative is as follows.

## **Impact**

The degraded uplands available with mostly the tribal small and marginal farmers can be put to best use through agro-forestry models with a combination of forest plants and agricultural crops like pulses and maize. The return from these presently unused lands can be as high as Rs15,000 per year from the above kind of interventions. Moreover, with wide scale replicability of the intervention, more and more families can be covered under the model. The uplands is also being used to take up maize cultivation which can be sold to the feed mill of the poultry cooperative.

**Unit Cost: Eucalyptus Plantation in one Acre**

Spacing: 3m X 1.5 m

No of Plants: 900

Variety: Clones

Unit Cost of Eucalyptus plantation / acre

Sl. No.	Particulars	Type	Unit	Number	Rate	I yr	II yr	III yr	IV yr	Total (Rs)	Remarks
1	Ploughing	MB Plough	Acre	1	1000	1000	800	800	800	3400	Two Ploughing Every Year Recommended
2	Pitting, App. Chloro (1st.Dose) & Plantation	Per plant @ Rs1.50 for 900 Plants	No	900	1.5	1350				1350	
3	Strip Weeding & Soil Working and App. Fertiliser ( Sept )	First Phase @ Rs1.00 per plant	No	900	0.8	720	540	216		1476	The area will progressively decrease
4	Applying Chloropyripus	Second dose @ Rs.0.25 per plant	No	900	0.25	225				225	Termite Treatment
5	Weeding & App. Fertiliser ( Jan )	Second Phase @Rs1.00 per plant	No	900	1	900	675	270		1845	The area will progressively decrease
6	Applying Chloropyripus	Third dose @ Rs0.25 per plant	No	900	0.25	225				225	Termite Treatment

7	Applying Fertiliser	Third dose @ Rs0.30 per plant	No	900	0.3	270	270	270	270	810	DAP
8	Tray Returning		LS			100				100	
	<b>Sub Total (Labour component)</b>					<b>4790</b>	<b>2285</b>	<b>1556</b>	<b>800</b>	<b>9431</b>	
1	Clone Cost	900 Saplings + 5% extra	No	945	6	5670				5670	
2	Cost of Pesticides (Chloro. & Others)	For 3 doses @ Rs190/ Ltr.	L	9	190	1710				1710	Termite Treatment
3	Cost of Fertilizer	For 3 doses @ Rs1.00/ plant.	kg	495	7	693	1040	1040	1040	3813	DAP/ mix of N,P
4	Transportation (LS)	Sapling, etc.	LS			376				376	Trays by van
	<b>Sub Total (Material component)</b>					<b>8449</b>	<b>1040</b>	<b>1040</b>	<b>1040</b>	<b>11569</b>	
	<b>Total</b>					<b>13239</b>	<b>3325</b>	<b>2596</b>	<b>1840</b>	<b>21000</b>	

Maintenance Of Rs 1000 would be required per year from 6th to 15 Yrs.

Yield	V Yr	X yr	XV yr
Tonnes of pulp wood/acre	40	40	30
Sale price @ Rs1500/ton (farm gate Price)	60000	60000	4500

In Rs

Cost estimates per 1 Acre Eucalyptus plantation					Estimated benefits per Acre			
Year	Eucalyptus plantation	SCW	Inter crop and other Livelihood	Total	Pulp Wood	Intercrop	Total	Cash Flow
	(a)	(b)	(C)	(d)	(e)	(f)	(g)	(h)
1	13239	1500	500	15239	0	1000	1000	-14239
2	3325	0	500	3825	0	1000	1000	-2825
3	2596	0	500	3096	0	1000	1000	-2096
4	1840	0	0	1840	0	0	0	-1840
5	1000	0	0	1000	60000	0	60000	59000
6	1000	0	0	1000	0	0	0	-1000
7	1000	0	0	1000	0	0	0	-1000
8	1000	0	0	1000	0	0	0	-1000
9	1000	0	0	1000	0	0	0	-1000
10	1000	0	0	1000	60000	0	60000	59000
11	1000	0	0	1000	0	0	0	-1000
12	1000	0	0	1000	0	0	0	-1000
13	1000	0	0	1000	0	0	0	-1000
14	1000	0	0	1000	0	0	0	-1000
15	0	0	0	0	45000	0	45000	45000
						NPV	12% PLR	40,368
						NPV	11% PLR	44,399
						FRR		40.1%

**Economics of Maize cultivation:**

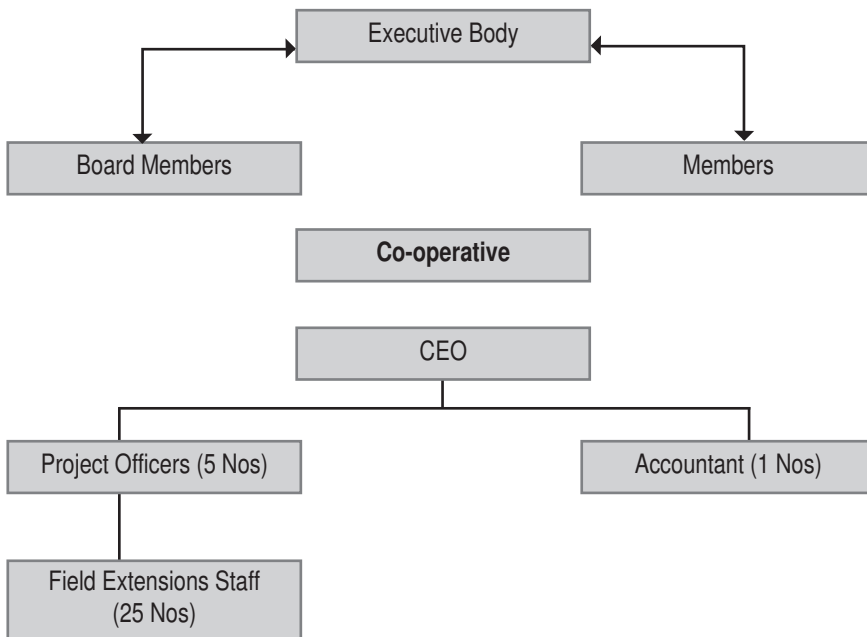
Sl. No	Maize/acre cultivation cost in Rs	Yield/acre (dried Grains) Quintal	Selling Price/ in quintals in Rs	Totalsales in Rs	Net return/acre in Rs
1	3500	15	650	9750	6250



The balance sheet of the cooperative as on 31.03.2009 is given below\*

<b>Patneswari Agri. Cooperative Ltd.</b>					
Balance Sheet as at 31.03.2009					
Liabilities	Amount (Rs)	Amount (Rs)	Assets	Amount (Rs)	Amount (Rs)
<b>Capital Account</b>					
Farmer's Membership Fees		268,000.00	<b>Fixed Assets</b>		
			2HP Diesel Motor	37570.00	
			5HP Diesel Motor	15707.15	
<b>Loans (Liability)</b>			Maize Grinding Machine	6141.25	
Harsha Trust			Tractor	358871.70	418290.10
BILT Tree Tech Ltd.	6,366,884.50		Current Assets		
			Sundry Debtors (Sch.-I)		8509505.62
BILT Tree Tech Ltd.(Plants)	3,136,980.00	9,503,864.50	Advance for Expenses		1163.00
			Loans & advances (assets)		230422.00
<b>Current Liabilities</b>			Cash & Baank Balance		
Sundry Creditors			Cash-in-hand	-	
Reserve & Surplus			Bank Accounts		
Opening Balance	227,993.00		SBO-4044	88046.00	
Add: During the Year	59,830.10	287,823.10	Axis Bank Ltd	653146.00	741,192.00
Profit and Loss			Closing Stock		159114.88
<b>Total</b>		<b>10059687.60</b>	<b>Total</b>		<b>10059687.60</b>

\* Does not take account of the grant provided by BILT to meet the administrative cost of cooperative



Returns from this intervention through both agricultural crop and forest species can provide regular income every year and one time income every five years. Regular income from the crops like maize and pulses can meet the consumption need of the families, while one time income can be used for investment purpose, repaying old debts and social functions like marriages etc.

The regularity of income though seasonal, a large amount once in every five years can be used by the debt trapped families to come out of their poverty cycle and lead their life in a more dignified manner. Most of the families have slipped into the poverty cycle by way of debt traps and mortgaging their assets during emergencies arising out of meeting their health or social expenses. Moreover, the forest species gives the liberty of harvest time where farmers can decide when to harvest depending on their need.

## Sustainability

The sustainability of this intervention largely depends upon the affiliation of the members to the cooperative. There might be temptation of the farmers to sell the eucalyptus logs to other agents than to the cooperative. However, with regular interaction with the members, providing proper education and suitable control mechanisms this temptation can be

overcome. The cooperative may need to diversify to other services like providing insurance and health services to build a long-term perspective for its members. The cooperative should always be careful to promote varieties of eucalyptus that are resistant to Gull and can provide better returns to the members.

On the whole, the cooperative should build its capabilities and be governed by its members so that the members are benefitted on regular basis.

### **Replicability**

The intervention has scope for wide scale replication in KBK region of Orissa as there is availability of more than 50% degraded upland. The intervention is upland and this is indirectly targeting the poor who own more of uplands. Given the present demand of pulpwood in the region (JK paper Mill and BILT paper Mill), more than 10000 farmers can be covered for eucalyptus plantation. The poultry cooperative has also expanded to other districts like Rayagada and Kalahandi and at the end of this year it would require 100 metric tonnes of maize per month. So with growth of poultry cooperative and demand of maize from the neighbouring State like Chhatisgarh the maize intervention has potential to cover more than 10000 farmers in the next five years.

### **Key Insights**

The cooperative plans to provide both short-term and long-term benefits to its members to take them out of the poverty cycle. It has studied the demand of different crops in the local area and established collaboration with the industry like BILT, NABARD, the poultry cooperative and Harsha Trust to maximise return to its members. Such a cooperative, if groomed properly where members take charge themselves, can be the channel of development for many small and marginal farmers in the KBK region of Orissa.

## Grain-Cash-Seed Bank - A sustainable Approach to Achieve Seed Security Using Market

*Kushal Neogy and Sunil Vishwakarma*

A satellite imagery study<sup>1</sup> by Subbarao et al., 2001<sup>2</sup> showed that there were huge areas of land left fallow after the harvest of kharif paddy in India and Bangladesh. In India, there was almost 12 million hectares<sup>3</sup> of these rice fallows, mostly in the east of the country. The same survey of over 1,200 farmers showed that almost all of the upland (93% in Orissa, 84% in West Bengal and 85% in Jharkhand) remained fallow after rice. Previous research in Bangladesh developed simple, low-cost, low-risk technologies to facilitate growing a second crop in rice fallows during the rabi season.

Farmers have always demanded such simple technologies. The Rainfed Rabi Cropping (RRC) programme is sought after by farmers in 10 States of India where Catholic Relief Services<sup>4</sup> (CRS) and its partners have sensitised them to the possibility of growing a second crop. The popularity of RRC increased its usage by 26,000 farmers. The initial study revealed that 60% of farmers had increased the chickpea cropping area. Seventy per cent of the farmers reported that chickpea cultivation was highly profitable, resulting in increased income (Kankal et al., 2006).<sup>5</sup> However, in spite of the success, the studies conducted by Joshi et al., 2002<sup>6</sup> suggested that lack of knowledge about RRC was the major constraint for its adoption. However, CRS' ongoing programme has stimulated huge demand from

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- 1 *Research study undertaken by International Crop Research Institute for Semi Arid Tropics [ICRISAT]; National Remote Sensing Agency [NRSA]; and DfID Plant Sciences Research Program [Central Arid Zone Studies, University of Wales, Bangor, UK]*
  - 2 *Report of the Study done by ICRISAT <http://www.icrisat.org/gt-aes/text/home.htm>*
  - 3 *See Annexure 1 as Table 1 for details*
  - 4 *An US Based Development agency working in over 100 countries across the world [www.crs.org](http://www.crs.org)*
  - 5 *Kankal, M., Basu, I., Gupta, B., Mishra, K., Gupta, A., Peter, R. and Dash, P. (2006) Agricultural Alternatives - Experiences of Rainfed Rabi Cropping in Rice fallows of India. Catholic Relief Services-USCCB, October 2006. pp 33*
  - 6 *Joshi, P.K., Birthal, P.S., and Bourai, V.A. May (2002). Socioeconomic constraints and opportunities in rainfed rabi cropping in rice fallow areas of India. A Consultancy report; 59 pp; ICRISAT, India [Constraints analysis and baseline study].*



farmers to participate, and meeting that demand has been challenging in terms of resources availability. Repeated provision of those resources, primarily seeds, on such a large scale by CRS or other external agencies is not possible, nor desirable, as in the long-term it is too expensive and promotes dependency in the farmers and their families. The primary focus of this intervention is to address this issue of sustainability.

Chickpea cultivators became increasingly aware of the potential for technological improvement of chickpea through observing effects of a simple low cost treatment as seed priming<sup>7</sup> on chickpea yield. This made them increasingly receptive to other technologies introduced and they evaluated, not only with respect to chickpea but also to short duration and other paddy varieties and alternative rainfed rabi crops. Now farmers demand these farmer-friendly techniques but the main bottleneck to their widespread adoption is lack of readily available key inputs (e.g., quality seeds of improved varieties, Molybdenum,<sup>8</sup> Rhizobium,<sup>9</sup> effective pesticides, etc.). Direct involvement of farmers in the on-farm experimentation and evaluation of these technologies increased their interest and commitment to seek improved technologies for their entire agricultural production system.

These outscaling efforts have also shown constraints in essential input supply. The seed specific constraints (Bourai et.al., 2002)<sup>10</sup> observed in the supply system were:

- Chickpea: It was designed that chickpea seeds supplied initially by CRS could be multiplied and maintained by farmers. However, the attempts made by marginal farmers to maintain the improved Kabuli quality of chickpea seeds have proved unsatisfactory. The existing system of a single crop per year of rainfed paddy, does not generate enough capital to buy new chickpea seeds, so farmers are trapped in a negative cycle of:  
low paddy yield = no marketable surplus = no funds to buy chickpea seeds.
- Upland paddy varieties: It is less profitable to produce seeds of lower-yielding upland varieties than higher-yielding transplanted lowland

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7 Soaking overnight either in water or with Rhizobium culture

8 Micronutrient essential for improved nodulation and production of chickpea

9 Nitrogen fixing bacteria in leguminous plants

10 Bourai, V.A., Joshi, K.D. and Khanal, N. (2002) Socioeconomic constraints and opportunities in rainfed rabi cropping in rice fallow areas of Nepal. ICRISAT, India. [Constraints analysis and baseline study]



varieties. Since the market for lowland varieties is far from satisfied, this seems to prevent a sustainable commercial enterprise for upland paddy seed production which is even less profitable.

A remarkable difference was observed in seed supply system of chickpea and paddy. Taking RRC successes and limitations into consideration, CRS and partners, with support from CAZS-NR and RiUP initiated the innovative concept of 'Grain-Cash-Seed (CGS) Banks' into RRC to address issues of seed supply, marketability and sustainability. The inclusion of these new innovations into the RRC model helps to eliminate the need for a continuous externally supported seed supply, improve the value and level of farm production, as well as increase access to other farm inputs.

Successful application of the GCS Bank model is moving towards achieving sustainable benefits for more than 30,000 farmers in 150 villages of 8 blocks of 6 districts of 4 states. The success of these efforts will pave way to benefit many more farmers across millions of hectares of rice fallows in India and other parts of South Asia.

### The GCS concept

The GCS Bank is an apex level body having representation of all sections of the village community, formed to take care of seed supply system (See Annexure 3 'Guidelines for formation of GCS bank'). This body primarily helps to resolve the issue of paddy and chickpea seed availability, plus, is open to help villagers for other seeds. This concept invites integration of marketing with seed supply.

The seed is given to the GCS bank as an one time grant and the project then expects to see continuity of seed purchase and distribution business, year after year. The project has worked out a ratio of seed vs. grain to be returned in lieu of seed. The estimate indicates that if the given Ashoka<sup>11</sup> variety of paddy seed is returned at a ratio of 1:4 then for the next season, the crop bank can purchase seed without external support. The estimate also indicates that if the grains of second season crop are returned at a ratio of 1:2 (seed:grain) then bank is in a position to buy more Ashoka seeds than the first season of year one.

The most conservative economy indicates that this model is viable and the GCS bank can expand their activities from second cropping cycle itself.

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11 Ashoka is a short duration paddy seed promoted by Gramin Vikas Trust (GVT)



## Economics of this model

Description	Quantity Seeds/grain (Kg)	Unit rate Rs/Per Kg	Total
Amount of Ashoka seeds given by project to GCS bank	1,000	20	Rs20,000
Amount of grain returned by farmers @ 1:4 ratio	4,000		
If same is sold in market , the bank earns		7	Rs28,000
Bank uses this earned money to buy chickpea seeds		70	400 kg
Bank gets back the grain @ ratio of 1:2	800		
If sold entire quantity		35	Rs28,000
Bank uses this money to buy next years' Paddy seeds		20	1,400 kg
Bank gets back grain in the same ratio as mentioned above and total grain returned by farmers are	5600		
Value of this grain in the market is		7	Rs. 39,200
Using this money bank can purchase chickpea seeds		70	560 kg

In this manner, year after year, season after season, GCS bank can improve their seed amount as well as their business, subject to following strict rules and regulation (Annexure 2 & 3).

## Success of GCS bank

This initiative churned out new strategies for sustainable seed supply to maximise the benefits to poor households:

- Farmer-managed 'GCS Banks' are found very effective with appropriate training and adoption of suitable market strategy. These are not community based grain repositories but banks in the true sense that generate and recycle capital. Farmers 'deposit' surplus grain that is then sold in bulk and new seeds are purchased. The ability to grow a second crop (chickpea) makes this innovation much more viable, because money generated from one crop is used to buy seed for the next.
- Farmers cultivated chickpea during the period November 2008 – April 2009 and deposited chickpea grain in the 'GCS Bank' using a 2:1



ratio. That grain was marketed and the proceeds were used to buy paddy seeds. The Grain-Cash-Seed Bank model is highly cost-effective requiring only a single injection of capital. It 'kickstarts' a virtuous cycle of economic activity based on the predominant rural enterprise of farming. Using a conservative estimate, farmers can get a net income of \$150–200 per ha per year while one-time-only cash injection from the bank brings in only about \$30 per ha in the first year. This represents very good value for money in financial terms. The recent crop cycle of CGS bank indicated that the bank has distributed seeds to both individual farmers and SHGs. All SHGs have grown Ashoka paddy collectively. The results indicated that farmers who were part of a group earned Rs1900 compared to the individual farmers who earned only Rs750. The same was reported for chickpea in which farmers who had grown Chickpea in a group earned Rs8750 per SHGs (Rs875–583 per person if SHG has 10 to 15 members respectively) while individual farmer earned hardly Rs560.

- GCS Bank system empowers resource-poor people and gives women, in particular, a central role in the decision-making surrounding cropping patterns. It also addresses the common constraint of scarce capital in these remote communities.
- Banks give a suitable platform to start marketing of other crops collectively. They help to address the income security of poor and vulnerable groups in the villages by offering plenty of opportunities to involve them in a value addition process.
- Sustainable adoption of improved RRC techniques depends on development of functional value addition chains, and increased understanding of market by farmers. It is planned to use a Business Development Services (BDS) approach and value chain analysis that involves mapping of linkages within the target agricultural sub-sector, identifying bottlenecks to value addition, and developing appropriate interventions to streamline the value addition chain. The most promising rainfed cropping system of paddy-chickpea needs to better integrate with other income generating agricultural enterprises, including agroforestry, horticulture, livestock, poultry and fisheries.

### **Environmental benefits and suitability**

The concept has many positive climatic and environmental benefits such as:

- Growing legumes that fix atmospheric nitrogen, such as chickpea, improve soil fertility and benefit both crops.





- SD paddy varieties increase productivity per unit area without using external inputs but respond well to extra nitrogen carried over from the chickpea.
- Increase in soil nitrogen use efficiency in the most natural way. The synthetic production of nitrogen (urea) is a significant contributor to global warming.
- The benefits of crop rotation are well known. In particular, rice alternating with chickpea or another rabi crop can break damaging pest lifecycles.
- Increased productivity reduces the pressure to increase the area under cultivation by using marginal land.
- The entire approach advocated is based on minimising risk, while maximising opportunities, in marginal environments. Chickpea is particularly well-adapted to drought. The varieties of paddy and chickpea used were selected because they perform better than existing varieties under drought-prone conditions, yet the rice varieties, for e.g., also respond well to higher inputs (such as extra moisture). This greater versatility of the new varieties increases the ability of farmers to cope with climatic variation.<sup>12</sup>

## Challenges Faced

- Gap between Ashoka paddy harvest and Chickpea sowing is very less. GCS bank faced difficulty in selling grains and buying seeds immediately after harvest of the Kharif crop. This led to delay in payment to seed supply agencies.
- Selling of chickpea was difficult because:
  - It was a new market
  - Poor prices in local/block/district market
  - Lack of value addition and quality issues such as grading, cleaning, etc.
  - Distance to big markets
  - Sizable quantity of produce which can attract big traders to come and buy products from villages.

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<sup>12</sup> Mukhopadhyay, S., Pangare, V., Garg, B.S. and Overton, J. (2006) Title II Development Assistance Program II (2002-2006). Final Evaluation, July 2006. Catholic Relief Services, India



- Market linkage and market information was flashed as biggest challenge in tribal communities located in remote areas. Need more exposure on collective marketing mechanism so that it can be implemented effectively.
- Market survey indicates chickpea is a new product in local and district level markets. Very few traders purchase chickpea but offer very less prices. However, market survey informed that prices of paddy in distant markets are higher compared to the local market.
- GCS banks face difficulty in timely collection of grain and implementation of BDP due to poor production of crops. Though community is organised and oriented on the concept of collective marketing but still timely collection of grain as well as uniform quality of grain are big challenges.
- Poverty, poor resource situation coupled with natural calamities like drought made the situation of farmers more vulnerable. Many farmers who took seeds in year one failed to return it due to poor rainfall and less or no production. This situation affected not only the collection of seed in time and in agreed quantity but also affected the next season crops.
- No support mechanism at GCS bank level which can help bank to mitigate any untoward event like climatic variations, low production, etc., to minimise the risk.

### **Future Suggestion and Recommendations**

- GCS bank can be effective if started from Kharif instead of Rabi.
- It is always good to complete all community organisation and capacity building activities before harvest of crop so that market linkage can be done easily.
- A good amount of hand holding is required for each GCS bank in order to make them function, as it required rigorous marketing and bookkeeping. Looking into the capacity of poor farmers it is important to have regular meeting, and strict monitoring of crop by producer groups so as to facilitate easy collection of product.
- Regular market assessment, value chain study and continuous strengthening of BDS along with effective market information system is essential for successful marketing of collected grain and buying of seed for next season crop.
- GCS bank may start with activities with short duration (SD) paddy and chickpea (SD) but gradually should include other crops in the village in order to maximise the corpus in the bank.
- All GCS banks should have a revolving fund which can be used after every Kharif harvest to facilitate immediate purchase of Rabi season crops.



- GCS bank should also start taking initial value addition process for each of their product based on the value chain study.
- Complete capacity building and community organisation are essential conditions for each GCS bank. This would facilitate profit from the very first cycle of sale. It requires patience and continuous hand holding which are essential conditions to maintain timely records and update all information.
- GCS bank bye-laws, agreement with farmers; and bookkeeping are very crucial for smooth functioning of the GCS body. Collective marketing is only possible when all associated farmers follow the agreed norms. Each bank should have small groups managing different responsibilities to perform various activities such as transportation, building market relationship, collecting market information, sharing them, and finally arranging finance from financial institution such as banks, cooperatives or SHGs. One small group will always be in touch with producer farmers so as to keep watch on the products and timely collection.

### **Conclusion:**

- GCS bank has a good system in place to ensure effective seed supply system in the villages.
- It is a self propelled system that requires minimum support cost and is swift in delivering results. It requires a total system approach of RRC to be adopted to gain quick outputs, beginning from introduction of SD Kharif and ending with Rabi crops. The system is easy to understand and encourages all members to participate.
- This is one of the best ways to achieve income security vis-à-vis livelihood security as the total system approach of RRC takes care of adverse climatic situation and ensures production in any climatic situation.
- The total system approach of RRC is environmentally sustainable and beneficial as it helps to improve soil health.
- The SD paddy varieties increase productivity per unit area without the use of additional external inputs but respond well to extra nitrogen carried over from the chickpea. This is important as it helps to avoid contribution to global warming.
- The entire approach advocated is based on minimising risk, while maximising opportunities, in marginal environments. SD paddy and SD chickpea are particularly well-adapted to drought-prone conditions. This multifarious versatility of RRC technology increases the ability of farmers to cope with climatic variation.



## Annexure - 1

Table 1: Estimates of paddy area during kharif 1999 and rice-fallow area during rabi 1999/2000 based on satellite image analysis for major paddy-growing states in India

State	Kharif-paddy area ('000 ha)	Rabi-fallow ('000 ha)	Rice-fallow area as % of kharif rice area	% of total rabi-fallow area
Andhra Pradesh	2,657	305	11.5	2.6
Assam	2,234	539	24.1	4.6
Bihar	5,974	2,196	36.8	18.9
Gujarat	469	83	17.7	0.7
Haryana	1,109	0	0.0	0.0
Karnataka	984	182	18.5	1.6
Kerala	241	0	0.0	0.0
Madhya Pradesh	5,596	4,382	78.3	37.6
Maharashtra	1,762	629	35.7	5.4
Orissa	3,879	1,219	31.4	10.5
Punjab	2,498	0	0.0	0.0
Rajasthan	214	25	11.7	0.2
Tamil Nadu	1,695	20	1.2	0.2
Uttar Pradesh	6,255	353	5.6	3.0
West Bengal	4,617	1,719	37.2	14.8
<b>Total</b>	<b>40,184</b>	<b>11,652</b>	<b>29.0</b>	<b>100.0</b>



## Annexure 2

### Rules of GCS Bank

1. GCS bank will have at-least equal male and female members.
2. Bank will have members from all part of village.
3. The selection of a member will be done by inviting and involving SHGs and other existing groups from the village. More members will be taken from existing SHGs and then representatives from other groups such as VDC, forest committee, health committee and education committee, etc.
4. The existing groups (SHGs, VDC etc.) will nominate their representatives for GCS bank. Nomination will be done democratic based on the capability of the member and voting in his/her favour. However, before nominating the member, villagers may look for the following qualities:
  - a. The Member must be interested and show his/her willingness to work for the GCS bank.
  - b. The Member should have good knowledge and understanding of agriculture issues in the village.
  - c. The Member should have some knowledge of government programmes and market.
  - d. The Member should have good relationship with villagers. He/she should be non-controversial and well respected in the village.
  - e. The Member should be honest and trustworthy and consider the well-being of villagers.
5. GCS bank will receive one time grant from RiUP project.
6. Bank will distribute seed to all villagers and the preference will be given to socially backward and excluded groups in the village.
7. Seeds will be given in equal quantity not in bulk as it will guarantee the grain return from all farmers. Committee/bank will distribute either 2/5/10kg seeds equally to all farmers and would never encourage giving seed of more than 10kg in the initial stage to any of the farmer.
8. All farmers have to sign a contract/agreement with the bank to ensure time, quality and quantity of grain at the time of return. Farmer who will not sign the agreement will not be given seed.
9. All farmers will have to return the grain on the given date in the agreement form.
10. The date of the return of seed will be decided by the bank in consent with all members looking into the market assessment. This would be decided by committee and all members have to abide the decision taken by the committee.
11. In case of delay in return of grain, the bank will charge extra grain @ 1kg per day OR money equal to the amount of 1kg grain of given seed.
12. All issues and disputes will be solved by the bank jointly with farmers and the decision will be taken in a participatory manner, which will be abided by all parties.



13. Bank will have right to give seeds to any of the farmers within and out of the village. The decision will be at the discretion of the bank committee.
14. Seeds given by the bank are the property of the bank and therefore the bank will decide the rate and mode of return of seed to the bank.
15. Each recipient farmer will return the paddy (ASHOKA) grain in-lieu of seed at the ratio of 1:5 while for chickpea and other Rabi crop he/she will return the grain in-lieu of seed at the ratio of 1:2.
16. GCS bank will maintain all record and will keep it open for social audit at the end of each cropping season OR after two months of seed distribution.
17. To expand the business, bank may take loan from SHGs (first priority) and then for more fund bank may approach national banks and nearby cooperatives.



## Annexure 3

### Guidelines for formation of GCS Bank

- Conduct a village meeting and discuss the different agriculture related issues with the villagers. Once they bring the problem of seed, ask them for the probable solution to overcome the problem.
- Explain them the concept of GCS bank by giving an example of a seed sufficient village. This village adopted the GCS bank concept that involves one time grant in the form of seed and then takes back grain at the ratio of 1:4 for Paddy. All returned grain will then be sold in the market. The earned money will be used to purchase Rabi crop seed (chickpea). After harvest of Rabi crop, GCS bank will take back grain of chickpea at a ratio of 1:2. This cycle will be continued as long as villagers want it to run.
- Once farmers are convinced with the concept, ask them to form the group which has representation from all the sections of the village.
- To form the groups, list down all the group (CBOs) of the village and ask the groups to choose two persons from each group as their representative in GCS bank (see the criteria listed in model Bye-laws of GCS Bank for selecting representative for GCS bank). All groups then go back and democratically nominate two members for GCS bank.
- Once the selection of members of GCS bank is over, ask members to select president, secretary and treasurer of GCS bank.



## Rags to Riches: A Company That Uplifts the Powerless Through Employment and Achieves Economic and Environmental Sustainability

*Behzad J Larry and Pooja Sarvaiya*

### Introduction

In August 2008, under the leadership of Arbind Singh of Nidan,<sup>1</sup> 1606 rag pickers and waste workers raised Rs100 each and formed Nidan Swacchdhara Private Limited (NSPL) to bid for solid waste management work from the Patna Municipal Corporation. What began with empowered waste pickers now operates in over 10 wards of Patna, serving over 15,400 households and over 200 institutions. Along with its municipal contract in Patna, the Jaipur Municipal Corporation and the Steel Authority of India at Bokaro have also had contracts with NSPL for managing their solid waste. As this study culminates, NSPL is also beginning door-to-door collection in Delhi.

Prior to the inception of NSPL in 2008, Patna shot to notoriety with headlines such as 'City of waste' and news about the spread of dengue, encephalitis and other diseases due to rampant waste openly out on the streets and clogged in drains.<sup>2</sup> The city went from once being the capital of the country to the capital of Bihar to being the capital of poverty, filth and disease.

This lack of waste management, however, is a need that must be met in every part of India, and must be met as fast as possible. With the rapid rise of consumerism in India due to various economic and social factors and the movement of the burgeoning middle class towards a more Western, mainly American, model of linear product consumption there is a substantial shortfall in the efficient, timely and systematic disposal of waste in cities across India. The increased consumption of products,

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1 Nidan was established as a society in 1995 by Arbind Singh ('Social Entrepreneur of the Year for 2008 in India' - Khemka/Schwab Foundation/UNDP) in Patna to develop organisations and businesses for informal and asset-less workers. According to *Outlook: Business*, Arbind Singh has "spawned 20 businesses, 4,618 self-help groups, 75 market committees, 19 cooperatives, two societies and one company." (*Outlook: Business, Web of Development*. September 5.)

2 Article: *City of Waste*



the influx of rural populations into urban environments coupled with an inadequate understanding of the problem will undoubtedly turn into a massive crisis in the coming years. A change must be made in the antiquated processes in place all across India for the disposal of municipal solid waste. However, these must be properly customised as per the needs of India and its waste. Thus, these systems cannot be imported unchanged from western nations.

Alarming, over 39 million tons of solid waste is generated in urban areas daily, of which about 60% is collected daily. This leads to waste accumulating and decomposing in open public areas, posing a significant health hazard. Waste is processed in very few cities; with most cities opting by and large to dispose all collected waste in dumps.<sup>3</sup>

Rather than most case studies that focus solely on the widely apparent problem of garbage disposal and the right for a clean community, this case study finds a focus on best practices to eradicate waste, poverty and disease in a burgeoning metropolis far more relevant. Accompanied by government support, adequate funding and community awareness through education, the study reviews NSPL's conception of a waste management programme to tackle all of these interconnected issues. Through this study one can see how scale, sustainability, replicability and the processes that make NSPL a viable public-private-community-partnership can be spread to other parts of the country. This study tries not to go into too much detail about what Nidan, the NGO, did to uplift the waste workers, but rather discusses details more connected to the operations and feasibility of the market-led NSPL.

## Perspective

Nidan Swacchdhara Private Limited is a public-private-community-partnership in the truest sense. It has transformed outcasts into entrepreneurs and stockholders. It has uplifted and formalised livelihoods while redefining a corporation's responsibility to its employees, stockholders, society, and the government. This study focuses on Nidan's economic and environmental sustainability, its creation of markets for waste pickers throughout Patna, the successful replication of its model in other cities, and its scalability.

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3 Chakrabarti, *Urban crisis in India: New initiatives for sustainable cities*, 262

## Setting

Patna produces around 400gms per capita per day of waste.<sup>4</sup> That amounts to roughly 720mt of waste per day for the entire city.<sup>5</sup> Proper sanitation is crucial to the well being of a city and its people. Patna's municipal corporation cannot and does not meet expectations when it comes to collecting the waste generated in the city daily. Neither does it dispose it off in an environmentally sustainable manner.

This is where Arbind Singh, the Executive Director of Nidan, stepped in to collectivise waste pickers in Patna and to help them create a company through which they could serve Patna and themselves. Nidan, as an NGO, worked with these safai mitras (friends of cleanliness), organised them into self-help groups (SHGs) to help them collectivise and develop a viable business model to successfully tackle Patna's solid waste management problem. Nidan, already an established hand at working with the urban poor employed with the informal sector, continues to provide an array of crucial services that go a long way in helping raise standard of living for these safai mitras and their accessibility to important social services.

Before Nidan enabled the waste pickers to become shareholders and create NSPL, these waste pickers worked through Nidan itself. Supported by grants from the American India Foundation, Nidan was able to guarantee each safai mitra a formal monthly wage along with the benefits of insurance, credit and the creation of identity.

Now, as a private limited company, NSPL guarantees to every safai mitra the basic necessities of modern life: a formal employment, access to health, property, disability, and life insurance; access to credit through Nidan's micro-finance operations, and access to free quality education for every safai mitras child.

## Markets, Structure and Security

Solid waste management (SWM) is a crucial public service that qualifies for state funding and has been the prerogative of the State and local governments in India in the past. However, as can be witnessed throughout

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4 Central Statistical Organization's Compendium of Environmental Statistics 2007 states that Patna produces 370 grams/capita/day, which has been adjusted for time.

5 According to the 2001 census, Patna's population was 1,697,976 and its projected increase by 2011 is 2.2 million. To calculate the daily average production of waste, a conservative figure of 1.8 million people is used.

India – the government is not entirely capable of handling the tremendous amounts of waste that are generated daily. This demand for proper SWM creates a market for a company like NSPL to enter. The informal waste industry is the easiest way for a poor migrant to make a livelihood by collecting recyclables that can be sold. This low job entry threshold, and the large number of people employed in this area make it the perfect match for the great demand for proper SWM.

As it is currently positioned, NSPL has created four main markets for its more than 216 safai mitras to benefit from. Door-to-door collection generates Rs30–Rs50 in revenue from each household and provides the safai mitra with Rs50–100 in the form of saleable recyclables from their collection routes daily. Organic waste from households, institutions and local dairies is vermi-composted to create saleable organic manure that is sold for Rs15/kg. Lastly, NSPL operates a material recovery facility (MRF) that purchases recyclables from safai mitras as well as other waste pickers and scavengers not connected to NSPL. The MRF then sorts and sells the recyclables to wholesalers, creating another revenue stream for the company. The profits enable the company to grow, tackle other neighbourhoods, and most importantly, to ensure that they can steadily increase the monthly income of its employees.

This is what the process chain looks like. Income is generated at the household level, at the MRF level and the vermi-composting level.

The waste is collected from the households and institutions by cycle carts, or vans, depending on quantity. The households are provided two separate containers for organic and inorganic wastes to ensure segregation at source for maximising efficiency. Once full, the vehicles go to local transfer stations where the waste is transferred to higher capacity vehicles for transportation to MRF, composting, or landfill/dump sites, depending on the types of waste.

Each *safai mitra* earns a basic salary of Rs2000 a month which is structured to increase to Rs4000 a month as revenue along with profits increase. Along with the basic salary, each safai mitra receives structured incentives based on how many households they cover. Each *safai mitra* should cover on an average around 150 households. Along with the sale of recyclables, they take home around Rs3000 a month.

The 30 organisers, at a pay grade slightly higher than the *safai mitras* manage between 5–8 *safai mitras* and around 800 households. Each organiser collects dues from their neighbourhood and is the first point of contact for a customer. Multiple organisers are coordinated by a ward in-charge (10 total), and an *aanchal* manager (2) coordinates multiple ward in-charges.

While creating this market for the poor, NSPL also forges a better relationship between the downtrodden waste pickers and the community at large. Access to a formal job, a uniform, and an identity card; all play a role in elevating the *safai mitras'* self-confidence and affirming their positive role in society. Thus being employed in the formal sector with a stable income, this increases their perceived value in society, resulting in lesser harassment from the police.<sup>6</sup>

NSPL is currently branching out into other ways of providing sanitation to Patna. It is undertaking surveys of every single police station within Patna to understand daily drinking water needs, current toilet facilities, sewerage systems and waste management. It hopes to be able to partner with these police stations and supply them with clean drinking water, create and maintain sanitary toilet facilities and provide the stations with proper waste management.

Through its PPCP, and its association and utilisation of Nidan's resources, NSPL is targeting every single UN Millennium Development Goal.<sup>7</sup> Since the company connects its employees to Nidan's initiatives in micro-finance, micro-insurance, education, healthcare, public awareness programmes and an array of self-help groups, which creates a safety web for the *safai mitras* that could not have been possible as informal waste pickers.

The *safai mitras'* children are provided free of cost education by Nidan's education programme and thereby tackling the huge problem of illiteracy among this economic class. Educating these children in Nidan's more than 24 schools has a direct and perceptible effect in uplifting the entire community. Nidan's legal team is also accessible to NSPL's employees. This support provided to one of the most underprivileged segments of Indian society has a tremendous role in elevating these poor while giving them access to markets.

## Revenue

NSPL's first year turnover was around Rs1,600,000 in 2008–2009 and the projected turnover for this fiscal year is Rs80,000,000. However, there is a considerable amount that is owed to NSPL by the Patna Municipal

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6 340 million (92% of the country's working population) work in the unorganised informal sector, contributing to 60% of the national output. *The Arjun Sengupta Committee Report- 2006.*

7 *The goals are: To end poverty and hunger; universal education; gender equality; child health; maternal health; combat HIV/AIDS; environmental sustainability; and global partnership.*

Corporation (PMC) (Rs5,000,000+) and by the Jaipur Municipal Corporation (JMC) (Rs10,000,000+). Both of these municipal corporations signed multi-year, multi-crore contracts with NSPL for waste management in several city wards, however due to the delay/non-transmission of payments by both corporations, work had to be suspended for those particular contracts. NSPL is currently litigating against the JMC to have its funds released. It has successfully completed a contract with the Steel Authority of India in Bokaro, and is set to renegotiate and re-sign a new contract. NSPL is continuing work in other PMC contracts that have been paid on a timely basis. The company is also expanding its foothold in Bihar by bidding for other tenders for SWM in the State. It recently bid for a tender to handle all of Muzaffarpur's SWM (about 128 metric tonnes/day) for a 7-year contract, with the result of the bids being announced on October 5, 2008.

Vermi-composting targets a little more than 50% of the waste NSPL collects. Currently, the company processes around 30mt of domestic waste a day, giving it almost 15 tonnes per day of compostable material.<sup>8</sup> However, due to land restrictions, its monthly output is currently limited to 10 metric tonnes of vermi-compost worth Rs150,000/month. It's theoretical output; if it gets enough land (for the same number of households) would be 225mt per month, worth Rs3,375,000. Thus it has tremendous potential at scale.

NSPL's Material Recovery Facility (MRF) processes around 12% of total collected waste. Recyclable waste such as plastic bottles, cans, paper, rubber, milk packing, etc., are purchased, sorted and sold. The facility currently purchases material collected by waste pickers throughout the city at market rates, sorts the commodities and then sells them to wholesalers at profit. As revenues increase, NSPL plans to process recoverable goods at wholesale quantities higher than those currently being processed in the city, thus giving it direct access to end processors of material. This will cut out middlemen, and allow NSPL to pay the waste picker a higher amount for the recyclables collected since it is getting a higher price from the end processor.

### **PPCP Roles, Scalability and Replication**

It is important to define the roles that each party plays in creating and maintaining a successful partnership between the private company, the government and the community.

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<sup>6</sup> Organic matter, once composted, is roughly half its former weight, thus 15 tonnes a day of organic waste would result in 7.5 tonnes of compost after a 45 day cycle of composting.

NSPL, as the private company, is providing an essential service to community. A service that is crucial to maintaining the health of the city. Its responsibilities are to ensure that waste is removed systematically from every area it operates in, that it processes, handles and transports waste in an environmentally conscious way and in compliance with the Municipal Solid Waste Handling Rules 2000. It also ensures that it retrieves as much as possible from the waste stream to ensure environmental sustainability while benefiting its employees with the additional sales of recyclables and compost.

Of course, NSPL is in existence because of the huge market created by the demand from the community for proper waste management. The community's role is to properly segregate waste at source, to enable NSPL to efficiently process organic and inorganic waste; to cooperate with NSPL by not dumping waste on the street and instead giving it only to NSPL's door-to-door collection teams. They must also ensure timely payment for the services provided.

The government has the largest financial role in this partnership since the city's waste management falls under its responsibilities and is entrusted with the task of maintaining cleanliness. However, due to bureaucratic challenges, inefficiency, and the lack of motivated waste management employees, the city cannot handle waste management on its own. Thus, it creates a market for NSPL. The government provides NSPL with the mandate to clean various wards and remunerates it.

Why is this model scalable? NSPL's model is scalable because it fulfills a crucial demand of both the community and the government for SWM. And it does this in a way that is suited to India, and also uplifts and empowers the poor that must work with the waste. NSPL has already demonstrated its scalability and replicability by successfully begging operations in Jaipur and Bokaro. It is also currently beginning operations in Delhi.

## **Sustainability**

The most important factor when analysing a socially conscious enterprise such as Nidan Swachhdhara Private Limited is to ascertain its sustainability. These are the major categories of sustainability that concern NSPL:

- Social sustainability
  - Can NSPL continue to be a social guardian and uplift its employees?
  - Can the process of market growth for the urban poor be sustained?

- Financial sustainability
  - Can revenues be generated sustainably to create regular profit?
  - Does NSPL have opportunities to continue sustaining the growth and spread of its business?
- Environmental sustainability
  - Can NSPL continue to function within the bounds of MSWHR2000?
  - Can NSPL sustain growth in compost and recyclable turnover in terms of tonnage?

The answer to all of these questions is: 'Yes it can be sustained'. As NSPL grows, and hires more safai mitras, it extends its reach in the lowest economic rungs of society, allowing more people to attach themselves to the company and climb out of their current dreary situation. More people collecting waste means the widening of the recyclables and composting market, which in-turn allows the company to grow financially as well.

Revenue generation is perhaps the most important aspect, as it is a requirement for the overall sustainability of the programme. Due to the enormous demand for proper waste management in urban expanses across India, revenue collection from households is an assured fact. What must be worked on is NSPL's ability to bid for municipal tenders to spread the programme to other parts of the company. NSPL has already established a track record for getting contracts in other cities, such as Jaipur and Bokaro. Any failures with regard to municipal contracts have been due to the municipal corporations themselves not releasing funds on time. Yet, NSPL's success has been in its approach in turning wards where cleaning was paid for by municipal corporations to wards where the cleaning is resident-funded. This shows that in the event of a municipal corporation failing to uphold its end of the bargain, the company can still generate revenue by developing a symbiotic relationship with the community it maintains.

NSPL plans to maintain its environmental sustainability by investing some of the profits generated by composting and recycling back into the expansion of those facilities to other areas.

## **Challenges, Solutions, Strengths and Weaknesses**

The Ninth Plan Working Group estimated that an annual investment of around Rs280 billion would be needed annually for ten years in the sectors of water supply, sanitation and roadways, to stave of an urban crisis.

This urban crisis is the result of years of neglect by urban administrators. The concept of sustainability is not the key factor around which decisions are made. Years of bureaucratic interference, extraneous party politics, and cheap populist measures kept and still keep the municipalities from functioning as a united body of citizens willing to take decisions that create sustainable infrastructure.

As a start-up company, balancing its position between the community and the government, NSPL has its share of problems. Nearly all of which can be overcome with better operation of the local government. NSPL has received media coverage, letters of support from the local government bodies that contract it, and public support. The problems faced are not due to a lack of appreciation of the work that NSPL does, but rather because of the slow bureaucracy involved in the release of funds from both PMC and JMC. The municipalities are encumbered with bureaucratic lethargy; inefficiency and the often-encountered problem of officials wanting to receive a percentage of the funds in return for processing the file. Thus, payments that should be made in a timely manner to ensure the proper disposal of waste through the city are held up, necessitating the ceasing of services that NSPL provides contractually. In sight of this non-cooperation in releasing funds, NSPL has re-worked its revenue source from a municipal contract to the household itself. So in wards where the PMC has reneged on their legal obligation to pay NSPL for its services, the company is continuing to provide essential services by charging each household between Rs30-50 a month. This strategic restructuring demonstrates that NSPL's system works even when a slow, corrupt, bureaucratic process hampers the flow of a steady revenue stream. It also demonstrates scalability by being able to continue work when the largest financier – the government – is slow in funding. It exemplifies a solid community partnership, as the company ensures proper sanitation for the public, which the public in turn appreciates by remunerating the company.

Some of the land for both the MRF and the vermi-composting has been provided to NSPL by the PMC. However, more land is required to create transfer stations, as well as other MRF and composting sites in the city to better handle the flow and processing of Patna's waste. Thus the dearth of land is a problem and NSPL is trying to tackle it by starting discussions with the Secretary for Urban Development as well as the Patna Municipal Corporation.

Patna does not have a sanitary landfill; the only provision the city has made for the disposal of municipal solid waste is to demarcate 20 acres of land 20km away from the city. To not have an environmentally safe disposal site is of tremendous concern for NSPL and efforts are taken to minimise



the negative impact of this. NSPL is rapidly ramping up its material recovery facilities to remove as much recyclable waste as possible from the stream. Combined with its expanding vermi-composting facilities, the company is trying to remove as much as 65% of the daily production of waste from ending up at the disposal site.<sup>11</sup> The PMC, on the other hand, is dumping 100% of what it picks up from the city. Thus, NSPL is facing this challenge and being a steward of the environment by removing, recycling, and composting all that it can.

There is one thing all humans do regardless of race, religion, gender, age, size and shape – and that is generating waste. What the public is not aware of are the consequences of this waste. Trash is more than just unattractive; it is a critical health issue. The improper management of waste poses a serious threat to the well-being of Patna residents. Other than being endemic to the habit of paan-chewing, Patna is also endemic to kala-azar and lymphatic filariasis and frequently visited by dengue fever, encephalitis and other vector-borne infectious diseases spawned by none other than defective sanitation. In order to encourage compliance and participation among the community, upper-level management of NSPL with the help of the American India Foundation through funding and its Clinton Fellowship endeavours an awareness-building and educational campaign. NSPL tries to educate its customers about the need for proper segregation of waste at source. This is done through meetings held with neighborhood committees, through organisers talking about segregation to the people in the households they oversee and organising events where children can be reached. This is another way in which a private company reaches out to the community and helps develop both a relationship and a partnership.

For various problems that the safai mitras face, such as alcoholism, domestic violence and drug-abuse, NSPL partners with Nidan to set them up with self help groups who can provide them a way out.

Daily fleet and collection tracking is a challenge that is being worked on by providing mobile phones to all organisers and ward in-charges so they can better coordinate routing and collection. Research is being conducted on developing an interactive map of the areas covered that can provide better fleet tracking and logistics control.

Above all, the biggest challenge to any start-up business in waste management is capital to invest in infrastructure, mechanisation, land and

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<sup>11</sup> According to the Central Statistical Organization's Compendium of Environmental Statistics 2007, Patna's waste is on average: 51.96% compostable, 12.57% recyclable and 35.47% cannot be reclaimed.

public awareness programmes. To meet these needs, outside investors and loans are being considered.

NSPL's board currently consists of one managing director and eight other directors, seven of whom are safai mitras. While the board is strong in the sense that the company's employees have a say in how the company is run, it is also weak because the safai mitras do not have skills that are assets to the board room. NSPL is remedying that by searching for board members that can be assets to the organisation.

## Conclusion

Long before the genesis of NSPL, it was evident that the government of Patna was unable to provide adequate sanitation and cope with the critical health and environmental issues caused by inefficient and unsatisfactory solid waste management. Partnering with the administrative sect and the community, NSPL enacted procedures that the municipality alone failed to execute: residential waste collection, separation, composting, recycling, and continuing to voice the urgent need for the construction and operation of a sanitary landfill.

NSPL demonstrates scalability and replicability by already having spread its wings in Jaipur and Bokaro, while currently beginning groundwork for operations in Delhi. It has successfully created multiple markets for the poor while providing them with social security in the form of various insurances, credit and legal aid.

The establishment of effective tripartite partnerships between the government, private and civil society sectors shows a tangible difference in the city, namely; better waste collection and sanitation in poor settlements as well as other residential communities.

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Research was conducted first hand on the ground in Patna- including multiple conversations at every level of the company from the managing director down.

## TATA-AIG's Innovative Distribution Model – Extending Micro-insurance to Rural India

*Parul A, Sanghamitra P, Parul K and Priyanka R*

### Introduction

#### Micro-Insurance – An Overview

What happens when a poor family's breadwinner dies, when a child in a disadvantaged household is hospitalised, or the home of a vulnerable family is destroyed by fire or natural disaster? Every serious illness, every accident and every natural disaster threatens the very existence of poor people and usually leads to deeper poverty. That's where 'micro-insurance' comes in. The social protection systems in majority of the developing countries are under-developed and cover only those employees who have some formal employment. People in the rural areas are left to their own contrivances and rely heavily on their own community. Micro-insurance is a tool that would help to fill this gap. Micro-insurance is defined as, 'the protection of low-income people against specific perils in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved.'

#### Micro-Insurance Distribution Models – An Exciting Way to Make Markets Work for the Poor

Micro-insurance is an instrument that has been specifically designed to cater to the needs of the poor in terms of delivery, coverage, terms, and premium, and help them manage their risks. It is a market-based mechanism that promises to support sustainable livelihoods by empowering people to adapt and withstand stress. It, thus, helps the micro-insurance providers like TATA-AIG, ICICI Lombard, Allianz, etc. 'make their markets work for the poor'.

Making the market successfully work for the low-income families would require a completely different distribution channel and a new approach to marketing and contracting because a micro-insurance policy is not merely a low-premium policy, as is usually perceived in India. This is because the poor are more susceptible to risks, cannot afford the same defences as

the urban clients, are illiterate and unaware of the concept of insurance, have minimal exposure to the formal financial institutions, and have high policyholder transaction costs.

A reduction in the prices of the present insurance policies is not sufficient. Intensive work and innovation, much beyond the existing concepts, is required to design a micro-insurance policy. To reach the poor is still a difficult task for the private players alone due to infrastructure and cost considerations. The partnership model uses a synergistic approach that involves collaboration of the public sector banks, Microfinance Institutions (MFIs) and the community, including the self-help groups (SHGs). They help promote marketing of the product, premium collection, and claims, and hence, provide the required infrastructure.

### **TATA-AIG's Micro-Agent Model: History and Background**

TATA-AIG was the first insurance company to introduce the concept of micro-insurance in India. The primary reason TATA-AIG ventured into micro-insurance was to obtain a licence to sell insurance in the country. However, the company soon realised the potential of micro-insurance to accomplish corporate social responsibility, get the brand into a new market, and promote better relationships with the Indian insurance regulator, which the other insurance companies did not. TATA-AIG also realised that micro-insurance would require innovative thinking because insurance products for low-income households are not just normal insurance with lower premiums and benefits.

Initially, their social and rural teams decided to work in partnership with MFIs using a partner-agent model. The MFIs functioned as agents who sold and serviced the products in exchange of a commission income. However, due to the absence of adequate number of good MFIs to go around, most of the insurers failed to develop relationships with microfinance institutions. This reflected the shortcomings of the partner-agent model. So, their teams developed a unique 'Micro-Agent Model', an initiative of Vijay Artherye. This model features special Rural Community Insurance Groups (CRIGs), managed by rural organisations such as churches, NGOs or MFIs. CRIGs are a partnership firm formed of five women from a SHG.

The micro-agent model works as follows:

TATA-AIG obtains recommendations from NGOs that have good relationships with the local community in an area targeted by TATA AIG.

In return for a fee, the NGO provides suggestions on members of the community who could be good agents for micro-insurance policies - the micro-agents.

- If these micro-agents accept, they are then asked to form into groups of peers.
- The group, referred to in the TATA-AIG model as a CRIG (Community Rural Insurance Group), operates in a similar fashion to an insurance agent's firm.
- The agents are trained by TATA-AIG, which help for the CRIG leader to obtain an agent's licence.
- The NGO may play additional roles such as aggregating the premiums, allowing the agents to use their offices to conduct business, paying the benefits in public ceremonies and training the micro-agents.

Thus, the unique distribution mechanism, the micro-agent model, adopted by TATA-AIG was an innovative step towards extending its market to the poor. It was a step that not only alleviated the bottlenecks of the capital market, but also helped in revamping the socio-economic profiles of the rural communities in India. Due to the low value of micro insurance premium, the cost-distribution is a major concern in micro insurance. Though this new and innovative concept of the micro-agent model, introduced by TATA-AIG, is very promising, it is too early to proclaim it as a success or a failure.

### **Public-Private-Community-Partnerships - How Did TATA-AIG Make the Model Work?**

As many multinational corporations faced several difficulties in entering the developing Indian market, AIG was forced to find a local partner to get a license to do business in India. However, its final choice of TATA, a group with an excellent reputation in community development, made an invaluable partnership. TATA-AIG always saw micro-insurance as a marketing opportunity and a promising way to promote their brand in the market.

Although TATA-AIG had a popular local brand, it did not have a strategic banking alliance with domestic banks or branches in smaller towns to promote micro-insurance sales in these areas. Therefore, in order to penetrate rural areas, the distribution strategy was developed around other partner organisations, such as the NGOs that are able enough to serve the remote and poorly connected locations. As TATA-AIG had contributed to community development in the past, it was not difficult for it to do so.

Currently, TATA-AIG has NGO partnerships with over 50 NGOs. More than 14,000 social sector policies were sold through the partner-agent model. However, beside this NGO/MFI partner model that performs the

sales and servicing functions, the other two models, namely the business associate model and the CRIG model, account for the sale of the remaining 21,000 policies.

### **Micro-Agent Delivery Model Implemented in Andhra Pradesh**

The most interesting and innovative aspect of TATA-AIG's work lies in the development of the micro-agent delivery model which is being tested in the southern State of Andhra Pradesh.

There are essentially two types of micro-agent models. One is that of groups of micro-agents called CRIGs and the other of individual micro-agents. Both are supervised by NGOs (termed business associates) who perform a range of tasks including the recruitment of agents, frontend administration, and mentoring. The central building block of the group micro-agent model is the Community Rural Insurance Groups, a partnership firm registered under the Andhra Pradesh Societies Act consisting of five women, of whom the leader is licensed as an agent.

### **Purposes Served By External Partnerships**

- *Lobbying*

In India, the views of the development agencies and the donors have a special influence over the development activity. Therefore, in order to create a good PR and a favourable disposition of potential partners, lobbying such development agencies is beneficial. To make their micro-insurance distribution models work, TATA-AIG has lobbied the Small Industries Development Bank of India (SIDBI) which funds several MFIs.

- *Additional Fund-raising*

In order to reduce the need for in-house funding in the development of the micro-agent distribution model, TATA-AIG opted for the DfID grant (grant from an international development agency), which not only acted as a catalyst, but also helped improve the status of the model by encouraging several NGOs to contribute in the project. "DfID put out the bidding process for its Financial Deepening Challenge Fund, a matching grant for which the private sector could bid based on innovative ideas to reach the poor. TATA-AIG bid for an assistance of £89,500 (\$1,68,620) and committed matching funds to the tune of £1,04,000 (\$1,95,520). The FDCF grant is being used for product development, capacity building, and physical and communication infrastructure like vans and the Internet portal."

- ***Outsourcing***

The model's front-end processes, such as selling and servicing the products, are done by two agencies: NGOs and micro-agents. Usually, the NGOs collect premiums from several agents, aggregate them, and deposit them in the accounts of the company. In this way, outsourcing helped to cut down the costs significantly.

- ***Lending Credibility to Sales Operations***

TATA-AIG's NGO partnerships have also lent credibility in a market where many low-income clients are suspicious of multinational companies in general, and insurance companies in particular.

### **How Does TATA-AIG's Model Promote SHGs, NGO, and CRIG members?**

The CRIG members are typically women who work with, and come from, self-help groups (SHGs). An SHG is a group of 15 to 25 people (usually women) selected from a broadly homogeneous socio-economic background. They are formed and assisted by NGOs, banks or government agencies. The members are encouraged to collect regular savings on a weekly or fortnightly basis and lend the deposits to members of the group. Often a savings account is opened at a local bank, enabling the bank to learn about SHG members and eventually allow them to graduate to individual accounts. After good performance with their internal loans, the SHG can be eligible for larger external loans from the bank. The CRIG is supervised by a nearby rural organisation, like an NGO.

For every policy sold, the NGO gets 10% in the first year. The member of the CRIG who sold the policy gets all the commission income due to them except for 5% of the commission in the first year, which they give to the CRIG leader for the extra work she does to prepare and submit the policy. Generally, the CRIG commission per policy is 26 to 30% of the premium for the first year, and between 5.5% and 6% for the 2nd and 3rd years. From the 4th year onwards commissions vary between 4 and 5%.

In addition, there are various bonuses and incentives. CRIGs that build a client base of 600 policies get a bonus of Rs10 000 and the NGO gets Rs5,000 bonus. There are also incentives to SHGs to subscribe in greater numbers to the programme which reduces the collection costs for the agent.



**Current Micro-insurance Policies Offered by TATA-AIG**  
*An Attempt to Revamp the Life of the Poor*

Name of the Policy	Key Features	Details
Navkalyan Yojana [7]	A regular premium payment Micro-insurance Protection Plan, especially for the rural population who seek life insurance protection without any maturity benefits.	<ul style="list-style-type: none"> <li>• Coverage Limits : Minimum Death Benefit (Sum Assured): Rs.5,000, Maximum Death Benefit (Sum Assured): Rs.50,000</li> <li>• Premium payment frequency : Monthly, quarterly, half yearly &amp; yearly</li> <li>• Death Benefit : Sum assured to the policyholder's nominee</li> <li>• Maturity benefit : None</li> <li>• Rider: Option to attach Accident Death Benefit Rider for issue ages 18 to 55 years at a nominal extra charge.</li> </ul>
Ayushman Yojana	A single premium plan where the policyholder pays a single premium at the beginning of the policy term. This is especially useful for those rural people who have a seasonal income.	<ul style="list-style-type: none"> <li>• Policy Term : 10 years</li> <li>• Coverage Limits : Minimum Death Benefit (Sum Assured): Rs.5,000 Maximum Death Benefit (Sum Assured): Rs.50,000</li> <li>• Death Benefit : Sum assured to the policyholder's nominee</li> <li>• Maturity benefit : On survival, 125% of the single premium paid</li> </ul>
Sampoorna Bima Yojana	A low cost insurance plan where the policyholder receives all the premiums paid during the policy term upon survival until the term of the policy. Premiums are payable for only 10 years, while the coverage is up to 15 years.	<ul style="list-style-type: none"> <li>• Policy Term : 15 years</li> <li>• Coverage Limits : Minimum Death Benefit (Sum Assured): Rs.5,000, Maximum Death Benefit (Sum Assured): Rs.50,000</li> <li>• Premium payment frequency : Monthly, quarterly, half yearly &amp; yearly</li> </ul>

### Sumangal Bima Yojana

To encourage regular long term savings from those who prefer to set aside some money and get periodic returns, while enjoying the benefits of insurance protection. It is a limited premium pay money back plan. In this plan you have to pay premium for 10 years and you get insurance protection for 15 years. Enjoy total guaranteed returns of 120% of the total policy premium at specified intervals during term of the policy.

- Death Benefit : Sum assured is paid to the policyholder's nominee
- Maturity benefit: At the end of the 15 years, all the premiums paid will be returned to the policyholder.
- Policy Term : 15 years
- Premium Paying term : 10 years
- Coverage Limits : Minimum Death Benefit (Sum Assured): Rs.5,000. Maximum Death Benefit (Sum Assured): Rs.30,000
- Premium payment frequency : Monthly, quarterly, half yearly & yearly
- Survival Benefit: We shall pay you the survival benefits as below, if you have paid all due premiums.

## Characteristics of the Target Community

### Socio-Economic & Geographic Profile of the Target Clients

Approximately 74% of Indian households are in rural sector. The annual household income of nearly 80% of these is less than US\$1800 (Rs 81,000).<sup>2</sup> TATA-AIG's micro-insurance policy targets clients with following characteristics:

- A typical rural household consisting of 5 or more sharing income and access to financial services.

#### *Implications:*

A single member of the family may have access to micro-insurance. The policy can be bought by one member who has access to the insurer on behalf of another household member.

- The main source of income is agricultural labour.

#### *Implications:*

Much of the income is irregular and seasonal. Households engage in multiple livelihood activities and off-farm income forms a component of the total income. The premium collection must take into account the particular variances of this market's seasonal income.

- The prevalence of poverty in the target market presents a higher than average risk profile for many types of insurance. The lack of proper sanitation facilities, unavailability of clean water, perilous working conditions and poor nutrition, all contribute to diseases and high death-rate.
- On the other hand, presence of better internal surveillance in small rural communities in comparison to the large urban areas provides opportunities for controlling frauds.
- The literacy levels being low in the target market implies that marketing needs to be done through film, radio, street theatre and word-of-mouth.
- Difficulties in connectivity faced by the rural poor due to poor road and telecommunications infrastructure increases the costs of selling and servicing policies.

## Brief Overview of the Characteristics of the Target Community

Characteristics	Details
Target groups/community	Rural poor, low-income, landless adults
Age	18–45 years (55 years with a lower sum assured for one-term product)
Key economic activities carried out by target people	Daily waged labourers, petty traders, and milk producers.
General economic situation of clients	Monthly household income less than \$100. Some households also had income less than \$50. Nearly 80% had no insurance policies.
Percentage of clients working in the informal economy	Almost 100%
Social characteristics of target community	Lower and lower-middle income persons in rural villages with population less than 5000
Geographic characteristics	Well dispersed

### Social Impact of TATA-AIG's Micro-Insurance Policies on the Poor

Demand for micro-insurance in India so far has remained low, in large part because of a severe mismatch between services offered by insurers and the needs of the insured. The present outreach of micro-insurance is around 5 million people, covering only 2 per cent of the poor in the country. The rural poor not only want insurance to be affordable, but also to protect against high-frequency risks such as serious ill health, accidents, harvest failure and fire. The capacity of households to cope with a shock depends in part on risk source, correlation, frequency and intensity.

The risks which are insurable are as follows:

- **Death:** Most household members contribute to household income, except those too old, young or infirm to work and their loss of life would drastically affect the household earnings.
- **Critical illness:** This affects the household earnings, labour and also increases the expenses incurred due to the treatment of the illness.
- **Sickness:** Decreases the number of productive hours and hence results in decrease in income.
- **Old age:** The elderly have very few income options. In addition to this, there is a decreasing trend of the younger generation taking care of the older one.

- Risk of lowered agricultural productivity or returns because of failed monsoons and natural disasters such as drought, floods, etc.
- Loss of Assets, specifically those which are used to generate income.

The rural poor generally access credit for their livelihood and lifecycle needs. The inability to repay loans leads them into a debt trap that is passed down through generations. Under the circumstances, micro-insurance plays a significant role in providing access to credit that enhances income-earning opportunities, and delivers savings services that build up resources for utilisation in case of emergencies. It is believed that long-term micro-insurance strategies, covering the different risks that poor people are exposed to, can be one of the answers to sustainable social-uplift programmes in the developing world, especially in situations where citizens lack a state-sponsored social security net.

TATA-AIG held extensive discussions with organisations working in rural areas and with low-income individuals to formulate its micro-insurance strategy. Instead of recruiting a regular sales-agent force, TATA-AIG decided to take an innovative path. With the aid of non-government organisations, it identified women from low-income households. They recruited women with a basic level of education and decent communication and leadership skills and put them through 100 hours of insurance and product training. Thus, these rural women were transformed into agents of change.

The company soon realised that the delivery and servicing of micro-insurance programmes can be sustained only through grassroots community enterprises in villages. On completion of training, groups of five women were helped to form 'rural community insurance groups' (CRIGs) that were registered as a partnership company. The women, through this company sell policies, collect premiums and settle claims for rural communities in which they reside. In return they earn commissions for the services they render.

CRIGs has a two-way advantage. The service is cost effective for those at the receiving end and it delivers a livelihood opportunity to those rendering it. The company has also trained the women on how to use computers and the internet. A recently launched portal aimed at The CRIGs initiative, now a year old, has been successful in meeting targets on policy registration and premium collection (TATA-AIG has covered over 22,000 lives through this method in 2003-04).<sup>6</sup> Almost 40 per cent of the company's trained rural advisors are women who belong to self-help groups. TATA-AIG has forged partnerships with more than 30 organisations working in rural areas to mentor and monitor the progress of this rural workforce.

TATA-AIG's rural thrust has embraced nine states so far. Several new initiatives launched as part of the project are being replicated or scaled up in other parts of India. The company is also exploring opportunities to market its products through rural channels such as farmer training centres, welfare trusts and fertiliser distributors.

## Conclusions

### The Overall Impact And Outreach Of TATA-AIG's Micro-Insurance Distribution Model

The Micro-insurance concept of TATA-AIG has been a success as it not only helped the poor improve their lives but also helped the company to extend itself to the rural market. The entire community of landless poor has been benefitted from micro-insurance policies. These have helped improve the living standards, educational standards and reduce child labour and child marriages. 'Career Building' is one such campaign that was launched by TATA-AIG in this regard. 4000 children are utilising the policies for education of which 50% are girl children. Insurance helps to manage weather risks and related issues. The company had realised Rs18 million by May 2007. The overall CRIG earnings per month vary between Rs34 to Rs3,688. On an average, CRIG members earned Rs400-800. The women were trained to be part of this community-based model. The medical benefits to the poor also involved free treatment in public hospitals and maternity care under the NSAP. There are pension plans for physically challenged in some States. Old age pension plans were provided under the NSAP and State governments for the destitute poor. The scheme of pension for women in each State has helped raise the status and life of women in India, making them independent and adding to the household income.

### The Sustainability Aspect

The micro-agent model creates an insurance distribution network in villages and among the rural poor. In addition, it creates a new profession, that of a micro-agent, with new livelihood opportunities in his/her vicinity. Because the position is a commercial one with financial incentives, TATA-AIG believes that it will last in the long term, facilitating the sale of long-term products. Also, in the long-run, CRIG members would become independent enough to directly interact with TATA-AIG and no intervening body would be required.

NGOs and MFIs are often dependent on the goodwill and public recognition of aid flows, and so their long-term existence is precarious. CRIGs, being

registered firms, chances are that they will survive in the event of a member or leader dropping out. The leader could be replaced by another from the community, thus mitigating the risk of orphaned policies. In the event that a CRIG disbands, the orphaned policies can be taken over by another CRIG that operates under the same NGO. **In a country like India, where overall wealth in both rural and urban areas increases significantly every year, the present-day micro-insurance policy holder can be a potential high-value customer for the future.**

### KEY INSIGHTS - Problems and Possible Threats to Sustainability

A major problem that TATA-AIG faces is in its expansionary plans in the new rural markets in India. Even today there are largely two types of people in rural India which pose a serious challenge to the providers of micro-insurance:

- Those who have little or no knowledge about insurance
- Those who have had a negative exposure to insurance which has led to a kind of prejudice amongst their minds.

If TATA-AIG has to expand to larger and newer markets in rural India a lot still needs to be done to remove all the doubts amongst the minds of poor who still consider insurance to be a non-feasible option for them. In other words, TATA-AIG's micro-agent model will have to work a lot towards building trust amongst the poor and making efforts towards retaining them as customers in the long run.

Like all direct marketing schemes, CRIGs face the problem that after a certain point of time the agents will have approached everyone they are familiar with and then need to approach new clients. The clients often live in places which are further away and this raises the costs of selling. To address this issue, TATA-AIG plans to open up branch offices in 'new' areas with a permanent vehicle. This vehicle would be used by CRIGs to sell policies outside of their immediate area.

Micro-insurance being a high-volume low-cost business, a lot needs to be done to ensure a cheap and effective distribution model.

Another important threat to the sustainability of the micro-agent model could be due to creeping in of social vices, like corruption into the model at the community level. The model relies on NGOs for finding out the right agents to do the work. There is a possibility that the NGOs due to some reasons may act in a biased manner and may not suggest the right kind of people who are fit for the job, thus adversely affecting the outcome of the model. Periodic checks need to be done to minimise such instances.

All possible efforts should be directed towards improving upon the efficiency and effectiveness of the model so as to strengthen the distribution channel which forms the heart and soul of the model and is responsible for the huge success of the micro-agent model.

## Replicability

Mangat Ram, a farmer from a village in Allahabad, was not prepared for the unseasonal rains. As his crop rotted in the flood waters, his only source of income remained clogged. Left with few options, he was forced to draw from his precious savings in the local branch of the regional rural bank. True, the money had been tucked away for a rainy day, but with the unrelenting downpour, 45-year-old Ram wondered how long his savings would last.

Luckily for him, however, the introduction of rural insurance in his village provided him with a timely answer. The micro-insurance is one such tool that can be easily introduced in different parts of the country as all households in different States face similar problems. The rural insurance market is expected to touch Rs7,800 crore by 2015 from the current Rs1,950 crore. There are 156 crore rural households across 63.8 million villages in India of which only 8–10% are covered by insurance. In rural India, there are 20 crore people, who are earning well from professions beyond traditional farming and are looking for alternative ways to park their earnings.

**The Low-Income people can use micro-insurance as a business model for the intervention and upliftment of their society.** While focusing on promotion of economic development as a strategy to achieve the targets, experts also have to recognise that profits can be lost when the vulnerable households experience a crisis. Hence, the need is to enhance productivity as well as provide protection. Micro-insurance can help reduce child mortality, improve maternal health, and combat HIV and AIDS and other diseases. Health micro-insurance provides immunisations, trains birth attendants and helps women affordable transport and hospitals. Some schemes provide valuable information and resources for risk prevention. Micro-insurance can also assist in promoting gender equality. Long-term saving schemes enable the poor to accumulate assets that can be used to pay for the education of their children.

## Recommendations

### Developing New Policies

Designing micro-insurance policies requires intensive work and not just reduced prices of existing insurance policies. It requires among other



things different marketing, distribution, and servicing channels. Life micro-insurance is the easiest and widely offered cover. An insurer would need to create a very attractive policy if they want to stay with life micro-insurance. It is worth exploring other types of micro-insurance as a means of attracting good partners. Crop insurance has by and large proved unsuccessful. Health insurance is difficult because of the lack of private hospitals in poor rural areas. Weather indexing is proving a possible insurance option.

### **Marketing micro-insurance**

Public reimbursement of claims is important. Also important are careful, well-managed rejection of claims where the reasons are made clear to all the villagers. Finally, as with high premium insurance, monitoring of customer satisfaction is critical, especially with respect to lapses and non-renewals.

### **Supporting Micro-Insurance Innovation**

As resources are limited and (credit) life insurance is a rather simple product, assistance is required to develop the following products: endowment policies, health insurance, weather-based insurance and other suitable insurance packages. A crucial area of involvement is the provision of technical assistance to insurance companies prepared to provide innovative products. This has been done, seemingly successfully, by DfID, which supported TATA-AIG in its development of the micro-agent model.

Banks that work with SHGs are important potential partners. It would be useful to create awareness of the potential among State banks and help build their capacity to deliver micro-insurance to SHGs.

### **Gender and Micro-Insurance**

It is difficult to understand the gender-specific demand for micro-insurance in India owing to lack of tools. It is significant to analyse the expectations of women from micro-insurance and what they are willing to pay for as it is vital to mull over the benefit package. In health insurance, it is crucial to make sure that the entire family is covered rather than just the women, as in such households, the women are usually in a weak position.

As majority of the concerns of women, like the maternity costs, are not easily insurable, combining insurance and savings would make more sense. In this way, a woman could use her savings to cover the cost of a normal delivery, and her insurance to cover the cost of unexpected complications.

### Micro-Insurance Awareness

The regulator as well as the company should take the responsibility of creating awareness among low-income people of micro-insurance, as it is for the public good.

### Establishment of a Micro-Insurance Council

A council of micro-insurance representatives, regulator and government could be established which should meet on a regular basis to discuss the issues and strategies to develop the sector. This would help to formulate regulations and also develop better relations with the insurers.

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## Waste Management, Environment Conservation and Employment

*Madhumita Puri*

*My share of the work may be limited, but the fact that it is work makes it precious. When indeed shall we learn that we are all related one to the other, that we are all members of one body?*

**-Helen Keller**

*If we are to maintain a strong social fabric, then we will have to see that its holes are darned.*

**-Madhumita Puri**

### The Disability-Poverty Dyad

*'... disabled people are also more likely than other people to live in grinding poverty. More than 1.3 billion people worldwide struggle to exist on less than [US]\$1 a day, and the disabled in their countries live at the bottom of the pile.'*

**-James D Wolfensohn, former president of the World Bank, 2002**

Disabled people struggle to find employment. Vocational training opportunities are limited, tend to be in urban areas and are not generally linked to gainful employment. Because they are seen as presenting a high risk, disabled people are also usually denied access to micro-credit schemes.

For decades the international disability movement has been saying that disability is a cause of poverty, that poverty often leads to disability and that disabled people are among the poorest of the poor in any country. However, it is only recently that a solid platform has been found from which to advance this argument. This has come about through the promotion of the UN Millennium Development Goals (MDGs), which have prioritised poverty reduction in developing countries, and the establishment by the World Bank and International Monetary Fund of various new aid instruments and procedures, also built ostensibly around reducing poverty.

Within this disability paradigm lies the most vulnerable population of all. Persons with Intellectual disability have been traditionally regarded to be

incapable and hence have been largely excluded from programmes that address education and employment. Furthermore, they are not permitted by law to enter a contractual agreement, which makes even the simplest of institutionalised micro-finance scheme difficult. There is only one organisation providing such a loan, the National Handicapped Finance and Development Corporation, under the Ministry of Social Justice and Empowerment.

An analysis of the present scenario reveals that when provided with appropriate opportunities such persons are able to achieve their potential, impacting in the process the quality of life of the entire family. Over the past decade, school education has been addressed, but with no employment prospects, and this education has remained directionless and accessed by very few.

It is believed that in order to create immediate impact, efforts have to be oriented to demonstrate top down – ie, showcase models of employment to (a) eventually encourage more parents to ensure that their children have access to suitable education and goal oriented training at the appropriate age, and (b) create an advocacy tool.

## Background

The Society for Child Development (SFCD), founded in 1992 by Dr Madhumita Puri, entered the development sector with the challenge of creating a dignified space for persons with intellectual disability. It was envisioned that access to quality education would create that space as it would enable the individual to eventually earn and be valued as a result of that earning.

When the organisation started its work, efforts were made to provide educational services within the communities where children reside. At that time schools (mostly special) providing educational services for the mentally retarded were located in South Delhi. Thus, in view of the great distance the children had to travel, it only seemed fair to start the process by establishing a facility in an area where none existed.

As the children grew into young adolescents, the organisation embarked on its second phase, i.e, that of demonstrating that economic viability was a possibility. The Vocational Training Centre and Employment programme was started in 2001 with a group of 20 youngsters, mostly severely disabled with little functional skills. Their parents agreed to send them to a vocational skill development centre so that they continued to be outside the home, whilst they (the parents) worked themselves – either at home or in a job.

## Devising a Plan

The specter of creating a market driven facility with a clear mandate of ensuring economic viability loomed large, especially as the working group consisted of an administration that had specialised in healthcare management, trainers who were used to dealing with children with intellectual disability, but with the confines of a school environment, and trainees who were non-verbal and barely able to care for their own needs. In addition, the popular view that the goal was unattainable meant that financial support was nil, and infrastructural support was ridden with barriers governed by the general belief that organizational revenue was being generated in the name of empowerment.

Since there were no examples of sustainable employment practices with this group to model upon, it was left to the management to develop a strategy. Logically it appeared that it would be desirable to develop:

- a training facility with a manufacturing endpoint that utilised the strengths of this group:
  - Ability to learn and carry out simple repetitive tasks
  - Regular attendance (their parents were keen they left the house to enable them – the parents – to carry out their own economic activities)
  - Deep conditioning in obedience
  - Eager to please.
- products that utilised basic manufacturing processes that were endemic to the region
- raw material that was low-cost, widely available and easy to procure
- a product line that had a unique quality
- master trainers who were easily available.

The challenges were many, with the lack of financial resources topping the list. With no money to purchase raw material, training was difficult as the inevitable wastage of raw material led to financial losses. Given the fact that persons with intellectual disabilities are very slow to learn, it was estimated that procurement of raw material without any output would not be sustainable given the economic landscape of the organisation. Thus, the choice naturally narrowed to the use of material that could be donated by other manufacturing units regularly, such as their unused and unusable leftover stocks to fabricate handmade items for personal, household and office use. As the programme progressed, techno-trash generated in homes

and offices also joined the list of raw material. This programme was aptly titled the Trash-to-Cash Employment Programme.

### Temple flowers added to the List

Temple flowers were added to the list of raw material about five years ago. *It so happened that the irate priest of a little temple located at the boundary wall of the Vocational Training facility was at his wits end with the daily service of devotional garlands adorning the idols of the deities in his temple. He hired a young man to dispose them in the Yamuna nearby. The young man in question was a lazy one and stored them in an alcove in front of our facility everyday and then carried out the jal-pravah in the Yamuna only once in 10 days. In the interim, the garlands would decompose, letting out an odor that belied its previous status. In the meanwhile, the trainees and workers at the facility, tired of persuading the lazy young man to carry out his task regularly, approached the priest to seek permission to do it themselves...*

**And so began the journey of Avacayam** (-verb: Gathering flowers; Origin: Sanskrit) from a humble beginning to keep our own premises clean to a manufacturing unit offering employment to 572 young adults with intellectual disability, a manufacturing output of 3000 kgs of holi colour less generating gross sales of Rs6,00,000 in 2009. Besides, 10,00,000 kg of flowers from nine 5-star hotels and 72 temples were recycled and thereby stopped from being dumped in the Yamuna the same year.

### Avacayam - An introduction

Avacayam provides a platform for persons with disability, especially those with intellectual disabilities to participate in issues of concern to mainstream society, contribute to their resolution and in the process help themselves become a part of this mainstream by being economically viable. The strategy revolves around the ecological problem faced by the difficulty faced in disposing off waste flowers, especially the vast quantities that are generated by temples and other religious sites. The process is simple and uncomplicated involving the collection and recycling of these flowers into dyes, rangoli and colors for Holi. Other organic matter is vermi-composted (composting utilising various species of worms) to yield organic manure for local use.

The entire initiative has also utilised this as an example to educate different groups of students and adult populations about their individual responsibility towards environmental care and acceptance and tolerance of the many variations nature has to offer.

In fact, it is these aspects together that have optimised the economics of the initiative that has now grown to be a programme for the livelihood of the most vulnerable and rejected sections of the population.

Avacayam serves in large part to fulfill the vision of SFCD, i.e, the dream of a world where every person with intellectual disability will have the same access to opportunities and services such as education, healthcare and employment; the opportunity to use and develop their inherent talent to the fullest potential; the opportunity for respect for their capacities and be valued for their efforts, thus enabling them to be viewed as equal members of society.

### **Public-Private-Partnerships**

Avacayam is not about livelihood alone. The Ministry of Environment and Forests has acknowledged its contribution as an environment educational tool. The Ministry thus supports an initiative called the 'Clean Yamuna Temple Flower' project that works with the eco-clubs of 100 government, private and special schools to work towards cleaner waste disposal practices around the River Yamuna. In this programme students clean the river banks, educate the people residing around the river, suggest innovative methods of preservation, and most importantly work together – able and disabled alike to make this happen. The programme has been operational since 2005 and has worked with over 50,000 students. A newsletter 'Eco-Tarang' is published twice a year and is distributed to 16,000 eco-clubs across 5 north India states – Delhi, Haryana, Punjab, Himachal Pradesh, Jammu & Kashmir.

### **Unique features of the case**

#### **The People**

About 15 years ago, there were only 9 schools, located in South Delhi providing educational facilities for this group. Today, a decade and half later there is only one institution addressing the issue of sustained employment in the entire region of NCR.

Fifteen years ago, most children were hidden at home, as the stigma and consequent social consequences were high. As a result, most of the population – children then, remained underexposed, under-stimulated and illiterate. As many of them grew older, families kept them engaged in household chores, which was done gladly, not as a matter of choice, but since there was nothing else. Some accompanied their fathers to the family-owned store, or their mothers to the market. In both excursions,

their ignorance largely due to the lack of any manner of organised education led them to be burdensome and in need of vigilance. Parents fretted over what would happen in the event of their own demise and in response residential homes for lifelong care were initiated, but only a miniscule considered skill development and employment as a means of sustenance, however limited it may have been economically. The value of gainful engagement in routine tasks was glossed over, leaving the group maladjusted and resigned to unproductive lives.

I once asked a young man, training with us, what he wanted out of life? *He said that he wanted to wake up in the morning, eat breakfast and leave for work. In the evenings, he said that he wanted to drink a cup of tea when he returned, watch a bit of TV before dinner and retire early. He added with a smile on his face that he would like to watch a movie in a theatre on Sundays.* I reflected long on his simple description of what we would refer to as an ordinary life, when it occurred to me that that was what he really wanted – just an ordinary life – nothing special – just ordinary, like everybody else!

**Challenges:** Young adults with intellectual disabilities have the same needs and desires for self-actualisation as their peers but with the lack of quality inputs early in life, and as a result of the nature of their disability, they do not have a toolkit in place. Thus, services that involve their participation have to factor this aspect into their strategies, and at the same time provide lateral inputs to develop capacities. Unfortunately, such involvement on the part of the employer or the service provider also means that each organisation could only reach out to a handful of potential employees.

**Solution:** The Avacayam programme worked to rectify that by developing a cooperative approach to the procurement and manufacturing process.

### The Avacayam Co-operative

This cooperative approach was undertaken in 2008 after it was firmly established that the entire strategy was an economically feasible one. The key points that led to this conclusion were:

- Raw material – procurement was throughout the year
- Manufacturing process and equipment – was low-cost and hence replicable and sustainable
- Market outlets – were assured. The Ministry of Environment as well as the Delhi State Department of Environment supports the initiative by setting up sales outlets in government departments and in Dilli Haat.
- Demand - was high, especially since organic colors were strongly recommended by environmentalists



- Profit was good – with a manufacturing cost (inclusive of packaging and transportation) of Rs 80, and a sale price of Rs250.

The cooperative approach involved:

- Other institutions who were already providing services and facilities for the care and education of children and young adults with intellectual disability. These institutions had been associated with the Society for Child development through two of its other development projects, namely training in sex education, and provision of leisure and recreational activities. During each of these programmes, school staff was trained in the process of flower recycling.
- Families of young adults were interested in setting up a home-based facility. This was in fact encouraged in instances where travel to the centre was difficult or if the youngster was already out of school.
- Mentoring and support in procurement of flowers from nearby temples was facilitated for as long as required.
- All dried petals were then purchased by SFCD @ Rs100 per kg. About 10kg of fresh flowers yield 1kg of dried petals. 1kg of dried petals yield 2kg of colour.
- The compost generated from the remaining plant matter was utilized in-house by all Institutions and home-based facilities.

Thus, each Institution/family contacted the SFCD field staff for:

- Quality check of dried petals
- Weighing and recording of output.
- Payments which were monthly.

The dried petals are then stored in the Vocational Centre and processed a month before Holi. The final colour was packaged and sold back to the Institution/family at a nominal rate covering the cost of processing and packaging. This was done with the express objective of:

- Maintaining quality and uniformity of the end product
- Introducing the Institution/family to the nuances of selling
- Providing an opportunity to the workers to be a part of the business strategy.

In March 2009, SFCD generated a revenue of Rs6,00,000.

## Outcome

The Avacayam Co-operative demonstrates that it is possible to ensure that persons with Intellectual Disability receive the opportunity to earn an income.

## Impact and Outreach

Using the Cooperative approach, this strategy has the capacity of reaching out to extremely large numbers of people with intellectual disabilities and in the process impact the attitudes of the larger society. The perceived value of an income-generating individual is well-recognised especially if it was generally believed that the person would never be economically viable. With this value comes respect and family welfare. The numbers educated will improve, and the doors to more opportunities will naturally open as people will believe that with appropriate positioning, planning and strategy, this seemingly burdensome group is useful.

Though the programme reached out to only 572 young adults in its first attempt to introduce the cooperative strategy for employment with this population, it is believed that this effect will have a concentric reach to many more in other regions in India. As mentioned earlier, religion is everywhere and flowers are used regular in its practice. Holi is celebrated in most parts of the country, and in places where it is not celebrated, the market could be for *rangoli*. With the procurement and sale points secure, the market is secure too.

These colours were for many years made from harmful chemical dyes, which were strongly condemned by environmentalists. As more and more manufacturers switch to organic colours, prices will reduce, but consequently the number of buyers will also increase.

Flowers will no longer pollute our waters – they were never meant to, the rivers will be cleaner, our children will learn to preserve and conserve and the planet may just survive longer.

## Sustainability

The product is made from waste flowers that otherwise would have been a pollutant, it is low-cost and simple to manufacture. It is widely used. Its sustainability and replicability lies in these factors.

## Challenges

As with any product, maintaining quality is a challenge. However, given the low manufacturing cost it is assumed that since adulteration will only increase costs, it will be a deterrent.

## Key insights

- The NGO sector is not attuned to the business of selling and commercialisation. Most administrators of NGOs are not trained in manufacturing, marketing, procurement and supply.
- Administrative mechanisms of institutions will have to re-orient their accounting systems to take into account the mechanics of the business.

## The Way Forward

Besides Delhi, Avacayam has also been introduced in Pune, Vrindavan and Jaipur. In Pune, partners (Ecoexist) have expanded the programme to include rag-pickers and women prisoners. In Vrindavan (Friends of Vrindavan) are working with widows as well. In Jaipur, the programme is being developed in association with the office of the State Commissioner of Disabilities.

Each out-station organisation will be co-branding the product (due to roll out in Holi 2010). Efforts are being made to upscale the program to all temple cities in India.me

## Annexure 1

### Some Facts

- I Of the 21 million persons (very conservative estimates) disabled as a consequence of mental, physical or sensory impairment, 2 million are those identified to have an intellectual disability, i.e., where the mental cognitive capacity is below chronological age.

About 99% of persons with Intellectual disability are without any form of employment and 98% without any education (NSSO 2002).

These figures refer to India, often described as an emerging superpower.

- II The river Yamuna enters Delhi at Palla village 15km upstream of Wazirabad barrage, which acts as a reservoir for Delhi. The Wazirabad barrage lets out very little water into the river.

Scientists state that with the flow of water, pollutants (especially organic pollutants) degrade to a large extent. But at every step, this purified water is abstracted, and ever larger loads of pollution make their way into the river.

Because of spiritual faith the religious activities, e.g. offering flowers into the river water further increase organic loading in the river. For biodegradation, this organic waste requires oxygen, causing significant depletion of dissolved oxygen in river water.

The oxygen depletion not only affects the biotic community of the river but also affects its self-purification capacity. This problem is critical in the river stretch between Delhi and confluences of river Chambal. In the Delhi stretch, the load of organic matter is so high that it consumes the entire dissolved oxygen available in river water. The organic matter after biodegradation releases nutrients in the water and contributes significant load of pathogens in the river water making it unsuitable for drinking.

Organic pollutants accumulate near the source during dry seasons and get mixed with river water posing a threat to aquatic life during monsoon or percolated to ground water and making water unfit for human consumption.

Further, the once glorious river has lost its aesthetic appeal affecting greatly tourism. (Central Pollution Control Board, 2006).