THE LIVELIHOODS AND DEVELOPMENT MONTHLY

JUNE 2009
Volume 9 Number 6

NewsReach

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Buffalo Rearing and Dairy Intervention in Dholpur - II

SHOUVIK MITRA

From bleak poverty to self sufficiency, Mamta's journey reflects the progress that many like her have made, backed by the power of the SHGs and the support of Pradan professionals

THE PRODUCTION SYSTEM SCENARIO

Although the families are traditional buffalo rearers, many gaps exist in the production system. The entire feeding inputs come from the family's own fields—wheat and *bajra* as concentrate and wheat and *bajra* straw as dry fodder. The only expense is for purchasing oil cakes and molasses.

Balanced Feeding

Most families own 0.25 to 0.5 ha of land and the yield from their fields is often inadequate to sustain the animals through the year. They purchase dry fodder at high rates (Rs 3.5 to Rs 4 per kg). This reduces the margin of profit they make from the activity.

Green fodder is only available during the monsoons; the rest of the year the families provide grass, which has no nutritional value, from the nearby fields. Lack of minerals and trace elements result in various pregnancy related issues for the animals such as anoestrus, repeat breeding, milk fever, larger inter-calving period, prolapse, etc. This has great bearing on the entire viability of the activity (See Box 1).

BOX 1: DEFICIENCY DISEASES AND CONDITIONS

Lack of minerals, such as calcium, magnesium, phosphorus, sodium and chlorine, and trace elements such as copper, iron, manganese, etc. leads to:

- Anoestrus is a type of infertility in which the animal does not go on heat.
- Repeat breeding is a disease in which the animal cannot conceive after two or more natural/artificial services.
- Milk fever is a disease caused by the deficiency of calcium. Its symptoms are reduced milk yield and sub-normal temperature. The animal is unable to stand.
- The inter-calving period, that is, the period between one calf birth and the next, is ideally 13 months.
- Prolapse can be a uterine or a cervical condition. A uterine prolapse happens after parturition. A cervical prolapse happens before parturition. In both cases, the uterus/cervix comes out through the vagina.

The use of concentrate feed, mineral mixture and calcium is non-existent. There is a lack of awareness among the families about the possible benefits. The supply chain of these products is weak or non existent. Inputs like these, if available, are of very high cost or of inferior quality.

The community also stops giving concentrate feed to the animals during the dry period, hampering the growth of the foetus and the general health of the animal. Moreover, the heifers are not adequately fed; this results in late conception. A heifer, thus, takes more than five years to grow into a buffalo whereas it should take 3½ years.

Sheds

The animals are often tied in the open. During winter, they are sheltered in a temporary structure at night whereas during summer they are left outside under a shade. Efforts are being made to make the villagers tie their animals in hygienic places, clean the shed area by removing the dung at the earliest and, if possible, making a permanent flooring.

Animal health services

Although 14 Animal Health Centres operate in Dholpur, the services are pathetic. People usually depend on quacks for animal treatment. The cost of medication is very high—one call by a vet's assistant costs up to Rs 600. This deters the community from seeking timely medication for the animals. People wait or depend on other local treatment until the condition of the animal deteriorates severely.

Animals are seldom de-wormed. This results in the high mortality rate of calves (80%). With the death of every calf, there is loss of potential assets. Worm infestation also results in low milk yield by the animals. The animals in the area are highly prone to haemorrhagic septicaemia and black quarter (HS&BQ) and the foot and mouth disease (FMD). The department of Animal Husbandry does conduct yearly vaccinations against HS&BQ, but the animals of the poor are usually left out of the process.

Animal breeding services

A community called the Nats provide animal breeding services in the region. The Nats purchase bulls from Haryana and other nearby states and use them as breeders. However, because of the large profits, they force the bull to mate with 8 to10 buffaloes per day. This has negative consequences on the chances of conception because the sperm quality of the bulls deteriorates after the second mating. This is one of the main reasons for late conception; one cycle of heat missed means a loss of 21 days and there is no surety that the animal will conceive the second time. The community has no other choice but to use these bulls and their breeding services.

PRADAN'S INTERVENTION

Pradan decided on a multi-pronged approach in the area. First and foremost, the families were trained in scientific rearing and management practices. We decided to intervene in certain aspects that had a large impact on the yield and the reproductive cycle of the animal.

A two-day training programme in rearing and management was organized for all the rearers. The programme focussed on the clean stabling of animals; reducing calf mortality, using simple methods of umbilical cord treatment and de-worming; using mineral mixture and calcium as supplement in the diet of the animals, especially the pregnant ones; giving more drinking water to the animals and administering vaccination regularly against FMD and HS&BQ.

This training was bolstered by another two-day refresher training after a year of the induction. The focus of the training was on areas that the families thought needed to be strengthened. It sought to strengthen the existing knowledge base and motivate families to adopt new practices in the areas of feeding, management and milking. To deepen the effect of training, we introduced a pictorial self-monitoring format for the members so that the members could record the interventions and could also make an assessment of the impact.

Another part of the training was to train the members in disease diagnosis and medication. This was done by Pradan's vet consultant through pictorial brochures to make the members understand the symptoms of various diseases and also to administer basic first aid. Initially, each SHG and, later on, each member started keeping their own medical kit for first aid. The immediate effect of the training was that 20% of the members adopted the practice of using mineral mixture and calcium supplement for animals.

The next focus area was animal health care support. We decided to create a network of local youth, trained as para-vets, to provide animal health support services (such as regular de-worming, vaccination, basic first aid against mastitis, fever, diarrhoea, etc.) to the rearers at a reasonable price and also at their doorstep. This was to make the service both affordable and accessible to the poor. (See Table 1).

Each SHG cluster, after the initial dialogue, selected 2-3 youths from the nearby villages. After a written test, the selected youths were trained by a vet consultant for 21 days. This was followed up with extensive handholding of these youths so that the confidence and skill sets of the para-vets develop and the villagers get convinced about the efficacy of the para-vet services.

One para-vet was selected for five to seven villages, with an estimate that one para-vet would support 1,000 to1,200 animals (of both SHG and non SHG members). The para-vet could thus establish her/himself as an entrepreneur and earn his own living from this. During this period, 24 para-vets were trained, of which 17 continue to provide their services to the villagers. The para-vets are given a stipend for 8 months, initially Rs 1,000 per month for 4 months, which gets reduced to Rs 500 per month for another 4 months. It is expected that, in 8 months of intensive handholding, the para-vets will enhance their skill sets. At present, 11 para-vets have graduated. Their monthly income from the services ranges from Rs 1,000 to 1,500 per month during the lean months of winter to Rs. 2,500 to 3,500 in the busy summer and monsoon months.

To streamline regular de-worming and vaccinations, the community was mobilised to deposit an annual fee of Rs 150 per animal for three sets of de-worming and two vaccinations against FMD and HS&BQ. This was coupled with a plan for mutual insurance for animals, in which members deposited 5% of the cost of a buffalo to the common kitty. All these amounts were deposited in the central fund of the SHG federation. The fund was called 'Relief Fund'. Since the claim settlement with the local insurance service provider proved to be difficult, the federation decided to insure all the animals at the central level with HDFC bank, with the federation as the master policy holder. In case of any mortality, the claims were forwarded by the cluster leaders and the final decision was taken by the federation leaders. If the claim is sanctioned, the federation

deposited the amount (75% of the cost of the animal) in the bank account of the SHG and it was the responsibility of the SHG to purchase a new animal. The federation later raised the claim from the HDFC Chubb. However, the reimbursement form HDFC too proved to be difficult. The federation then decided to carry forward the mutual insurance scheme on its own. With a rejection rate of 10% (cases of mortality because of the negligence of the rearers were rejected by the leaders), the federation settled claims of 72 animals in 3 years.

During 2004 to 2008, 1,100 families were involved in the animal insurance. A total of 2,034 animals were insured once whereas 1,076 animals were insured twice. The total premium deposited was Rs 25.57 lakhs. The total payment made towards animal mortality was Rs 8.91 lakhs for 72 animals. The families also paid Rs 4.65 lakhs at Rs 150 per member per annum towards yearly vaccination and de-worming. This was a part and parcel of the product to reduce the mortality rate.

The entire buffalo rearing activity in Dholpur is embedded in the farming system. Therefore it is essential to work in agriculture also. We chose crops that had a direct impact on the cost of production of milk, for example, wheat and *bajra*, fed to the animals as concentrate, and the waste (straw), that is used as dry fodder.

Since most of the families are actively engaged in these two crops, we decided to intervene to increase the productivity. The package of intervention was to intervene in the PoP (package of practices), such as seed rate, plant and row distance, fertilizer dosage and timing, time of irrigation, weeding, etc.

The outcome of the intervention was an increase in production—1.5 quintals per *beegha* of *bajra* and three quintals of wheat. Since there are more tillers per plant, the straw amount also increased proportionately. This meant that the rearers had to invest nothing or very little to purchase dry fodder at very high costs. With a reduction in the input cost (to the tune of about a rupee per litre of milk), the rearers realised a better margin from the same sale price.

We also tried to intervene in breeding. Five para-vets were trained in artificial insemination in Bharatiya Agro Industries Foundation (BAIF), Udaipur. However, because of the lack of quality straw (frozen semen), the process has been held up. A demonstration with a breeding bull is also in the plan. However, more streamlining and detailing is required to make it a full-scale bankable proposition. We are now planning to come up with a comprehensive service pack for para-vets, including health service and breeding—both artificially and naturally.

TABLE 1: THE OUTCOME OF THE INTERVENTION THROUGH RANDOM SAMPLING

Parameters	Situation at the Time of Initiation	Present Condition	Expected Outcome
Milk yield (one lactation)	1,100 litres	1,250 litres	1,500 litres
Calf mortality	70%	50%	30%
Inter-calving period	18 months	16.5 months	14 months
De-worming	5% of animals	70% of animals	100% of animals
Vaccination	15% of animals	70% of animals	100% of animals

POST-PRODUCTION SYSTEM SCENARIO

Dholpur produces 3.5 lakh litres of surplus saleable milk per day. Before Pradan intervened, there were 14 private players in the district buying the entire milk supply. The private players would get milk from the villagers through the local *dudhiya*. They would advance the *dudhiya*s money; the *dudhiyas*, in turn, would forward this money to the villagers. Once this advance is accepted by a producer, as mentioned earlier, she/he is left with no option but to supply milk to the *dudhiya* at abysmally low prices.

PRADAN'S INTERVENTION

Pradan intervened in 2003 by marketing the milk only in the residential colonies. But with the volume increasing, we contacted the Rajasthan Cooperative Dairy Federation (RCDF) to restart their operations in Dholpur (RCDF had wound up operations here in 1996). In 2004, the RCDF re-started their operations in Dholpur. The SHGs promoted by Pradan started supplying milk to the RCDF en masse. However, with problems such as the lack of transparency and the unwillingness of the RCDF to operate vehicles in all the routes, the entire initiative was scrapped. Significantly, the federation, 'Saheli Sangathan', urged the producers to run their own vehicle for milk transportation and supported this by investing Rs. 1.5 lakhs from their own kitty for this.

When the RCDF initiative was totally scrapped, Pradan asked the Sir Ratan Tata Trust (SRTT) for support and linked up with NDDB-Mother Dairy. During 2005 to 2007, Pradan installed two Bulk Milk Coolers (BMCs), of 5,000 litres and 2,000 litres capacity, with support from the SRTT. The entire milk collection was done by Pradan to build the confidence of the producers as well as that of NDDB-Mother Dairy.

In 2007, when things were more or less streamlined, Pradan handed over the operations to Mother Dairy and decided to focus on productivity improvement and the development other support services. During 2007-2008, Mother Dairy expanded their operations in Dholpur. At present, they have installed 26 BMCs, with a total chilling capacity of 47,000 litres per day.

Mother Dairy rates—Rs. 18 per litres for 6.5% fat and 9% SNF—are also very lucrative. This intervention has also had an indirect effect, with the local *dudhiyas* offering Rs 14-15 per litre. Thus, a large numbers of rearers have benefited immensely.

IMPACT OF THE INITIATIVE

We tried to gauge the impact of the work done in the last four years by commissioning an independent impact study. Some of the major points are as follows:

- Current members of dairy activity are making an income of Rs 49,000 annually.
- Land purchase has been the biggest investment the villagers have made, followed by the purchase of jewellry, buffaloes and goats.
- Other purchases made include bicycles, radios, TVs, mobile sets, motor-bikes. The villagers have also invested in irrigation facilities such as buying pump-sets, deepening wells and initiating new businesses such as leasing out stone mines, opening grocery stores, etc.
- With regard to savings and indebtedness, 75% of the members saved Rs 40 each per month at the start of the group whereas only 10% saved Rs 80. At present, 40% of the members saved Rs 80 each month whereas 15% save Rs 40 per month; this implies that the savings have increased over time.

- Only 24% had *pucca* housing before the membership. As of now, 45% of the members live in *pucca* housing and the number of families in *kachcha* houses has dwindled.

There were other wider impacts that were seen among the members such as:

- Forty-five per cent of the members made decisions to buy resources on their own whereas a majority of them, that is, 54% of them are reported to have consulted their husbands.
- Seventy-eight per cent of the members made decisions regarding marriages in the family along with their husbands.
- Seventy-five per cent of the old members knew about *anganwadis* compared with 67% of new members.
- Participation in general meetings of panchayats has increased.
- Percentage of members participation in voting has increased.
- The knowledge of market, primary health centres, and percentage of visits to these places by members has also increased.

MAMTA: DECEMBER 2008

I went to meet Mamta in December 2008. In the interim, I was aware that Mamta had purchased two buffaloes from Rohtak, Haryana, with support from DPIP. However, one of these animals died of a snake bite. Later, Mamta took a loan from her SHG and purchased another buffalo from a nearby village.

Because of her good rearing practices, she was selected as a resource person for training other SHG members in animal rearing and management. She also started the milk collection unit for Mother Dairy in the village. With her persistence, the collection increased from 30 litres a day to 150 litres.

On reaching the village, I just could not locate her house. I was escorted by a small boy to her house. Mamta came out, and so did her 3-year-old son. I could now see some very obvious changes. The semi *pucca* house, where I had the last discussion was now a *pucca* structure. I saw four animals (including two heifers). Beside the door, I noticed the equipment for the dairy—the centrifugal machine, the test tubes, etc.

"I now run the dairy unit for Mother Dairy. My husband helps me. We get some commission. But, most importantly, the fellow villagers get a good bargain for the price of milk. With the last loan of Rs 15,000 plus adding a savings of Rs 15,000, we took a small plot for mining. My husband is not a labourer now; he is the owner of a small mine and his daily income has almost doubled."

The ring of a mobile phone interrupted our discussion. I hastily drew out my mobile, but it was Mamta's mobile, which was ringing. After she finished her conversation on the phone I asked her, "How have things changed in these three-and-a-half years?" Mamta only smiled. And so did her small son.

LEARNING FROM THE FIELD

This account is a description of my experiences and learning in the fields. Certain important issues needed to be sorted out before this activity is attempted or replicated.

I have been repeatedly asked the question "Is this activity a viable and bankable livelihood option?" The answer to this question is definitely an affirmation. There are a number of variables in the activity—the lactation yield, inter-calving period, number of lactation days, rate of milk, feeding pattern, rearing and management pattern, agricultural land owned by the family (or under share-cropping) and

"I now run the dairy unit for Mother Dairy. My husband helps me. We get some commission. But, most importantly, the fellow villagers get a good bargain for the price of milk."

productivity of the field. A family that has one buffalo that gives milk for 8 months with a lactation yield of 1,500 litres, an inter-calving period of 14 months, with proper feeding and a good milk rate (say an average of Rs 15 per litre) and with 2 *beeghas* of land (1 *beegha* in share-cropping) growing wheat and *bajra* (with a productivity rate of 5.5 quintals per *beegha* of *bajra* and 12 quintals per *beegha* of wheat) can make a margin of Rs 13,000-14,000 in 14 months.

From there on, the system of simple unitary method does not apply, that is, rearing two animals will make a margin of Rs 25,000-28,000 does not hold true. There are various issues regarding this. First, there is little or no more scope to work on the physiological aspect of the animal such as milk yield, inter-calving period and number of lactation days. The price of milk has also reached the peak. A family with 2 *beeghas* of land will find it extremely difficult to rear the animals because there will a shortage in the basic feed (grain and straw) for the animal. The family will have to purchase all these materials from outside. And it will start calculating the cost (which it was not doing earlier).

With the assumption that all families have similar types of animals with similar productivity, similar physiological traits, similar feeding and similar price realization, the activity (see Table 2) is viable only if all the factors, including the family context and resource base, are taken into account.

The second question that is usually asked is, "Can the existing system of grants be replaced by bank loans in this activity?" The answer is, "Why not? But it should not be expected that the rearer will repay the amount from the activity margin only." This is because one buffalo today costs something between Rs 20,000 and 25,000. Assuming that the amount is Rs 20,000, even at an interest rate of 12% per annum reducing and with a minimum monthly principal repayment schedule of Rs 500, the rearer has to give Rs 24,750 in the first year, Rs 20,100 in the second year, Rs 12,500 in the third year and the Rs 3,250 in the remaining five months. Obviously, a person who is earning Rs 13,000 from an activity can not repay Rs 25,000 from the activity income.

Finally, my opinions regarding the activity of buffalo rearing along with intervention in diary is as follows:

- The flow of credit in the sector for asset

TABLE 2: THE ACTIVITY IN RELATION TO FAMILY CONTEXT AND RESOURCE BASE

Family Type	Land Holding	No. of Animals	Activity Margin (total of all animals)	Remarks
Family A	2 *beeghas*	1	13 – 14,000	Optimum utilisation of resources
Family A	2 *beeghas*	2	15 – 17,000	Excess feed and fodder purchased from outside.
Family B	3 *beeghas*	1	13 – 14,000	Under utilisation of resources
Family A	3 *beeghas*	2	25 – 27,000	Optimum utilisation of resources

creation needs to be streamlined. Poor people will continue to build assets regardless of whether bank loans are available or not. They will buy animals out of their own savings (which will be a positive trend); or they borrow from moneylenders or most probably the *dudhiya*. With the *dudhiya* in the system, the same vicious cycle will start once again, which we have long been fighting against.

- We need not be rigid about the repayment to be made from the income of the activity, as long as the repayments are being made.
- The focus needs to be more on developing the calves into mature buffaloes within the shortest time period so that the old assets can be replaced. Once the home-grown heifer starts giving milk, all the returns remain with the family (with the assumption that the loan will be repaid within that time frame).
- There is need to create strong village-level financial institutes, specifically SHGs, which can extend working capital loans to the members for the activity. With time, the rearer with 2 *beeghas* may opt for two animals and also take on more land for share-cropping. The SHG, in that case, could provide the extra resources needed.
- Moving ahead from the level of asset creation, there is need to design an entire package with the family, starting with the productivity of agriculture crops and the animals, the enhancement of skill sets of the rearer, the development of business support services such as animal health care and insurance products. And last but not the least, there is need for a strong system of transparent, remunerative, milk marketing option.

Only then can we make many a Mamta smile!

Vermi-compost: A Sustainable Livelihood for the Poor – I

BINOD RAJ DAHAL AND SANTOSH KUMAR PATRO

Producing compost in a scientific manner has proved profitable for villagers of Salgatand, whose entrepreneurial skills serve as a model for nearby villagers

INTRODUCTION

Pradan is engaged with more than 6,500 families in about 235 villages across six blocks in Godda district. Pradan has initiated various activities in Godda such as the Self Help Groups (SHGs), the tasar pre- and post-cocoon activities, the promotion of agriculture both for food security and for the enhancement of incremental income, horticulture promotion, dairy development, the creation of infrastructure for land and water development and the promotion of vermi-compost.

Salgatand village is located 29 km from the district headquarters Godda. The village falls under the Sakri Phulwar panchayat of Poraiyahat block and is about 8 km away from the block headquarters. The village has three hamlets, namely, Kankati, Ranganaia and Salgatand.

The main occupation of the people here is agriculture; migration to other states such as Delhi, Mumbai and Gujarat as wage labourers or for jobs is another option for earning money. There are no pucca houses in the village except for the Tasar Reeling Centre promoted by the Central Silk Board (CSB) through Pradan and the school building. Pradan started work in the village in 1994 with the promotion of women's Self Help Group (SHGs).

The Salgatand hamlet has 42 households that have organized themselves into three SHGs. Twenty-six of these households have been engaged in vermi-compost production since 2006. Agriculture promotion, mainly paddy, was the initial livelihood intervention of Pradan in this village. Gradually, the families adopted vegetable cultivation because it promised to be lucrative. Establishing a reeling centre in 2005 was another livelihood intervention.

VERMI-COMPOST: THE INITIATION

The decision to promote vermi-compost came up because the Pradan Dumka team had already promoted vermi-compost in Gandhragpur village in around 2003. Deep Joshi, the then Executive Director of Pradan, had visited Dumka and Godda during that period. He had spoken of his very positive impressions of vermi-compost production and its use in vegetable production in Gandhragpur. The cow

ABOUT GODDA

Situated in the north-eastern part of Jharkhand, Godda was one of the sub-divisions of the Santhal Parganas district of Bihar before the state was divided. Godda district has a total area of 2,110 sq km, which is about 2.65% of the Jharkhand's geographical area. The population of the district is 10.5 lakhs (Census 2001) with a growth rate of 21.6% over the past decade. The population density is 496 per sq km. Godda is divided into eight community development blocks. The primary occupation of the people in the district is agriculture. The Census 2001 records the number of agricultural labourers as 2.02 lakhs. The average annual rainfall in the district is about 1,128 mm; however, the region receives 80% of the rain during the three monsoon months from July to September. The district town is 95 km away from the main Howrah–New Delhi rail route.

The net sown area of the district is 37%. Less than 10% of the sown area has irrigation facilities. Almost 83% of the cultivated area is mono-cropped and rain-fed. Of the total geographical area, the current fallow land constitutes about 30%. Of the total cultivable area, 80% is under kharif paddy and 15–20 % cultivable land is homestead land.

Similarly, the livestock population of the district mainly comprises buffaloes, cattle, goats and pigs. To enhance the productivity and sustain it regularly, a linkage between livestock and agriculture is necessary and inevitable. The average per capita livestock population in the district is 4. Though there is no practice of hybrid cattle rearing, local cattle are kept by almost all the agriculture families. Cattle are mainly used for draft purposes and for compost manure; milk production as a livelihood activity is not prevalent. Goat is primarily used for meat. Buffaloes are the major source of milk production in the district.

dung produced in the house is the critical input for the activity and is processed either in pits, *machans* or *pucca* tanks. At the preliminary stages of promotion, production initiation was the main focus. Its advantages were indubitable and very suitable for the rural poor families.

OBJECTIVES OF PROMOTION: INITIAL DAYS (2003–2005)

Pradan's main purpose in starting vermi-compost as an activity was to enhance the production of the existing cultivated lands, to put cow dung to optimum use and to make some profits by selling the produce. Initially, the villagers were hesitant to accept this activity because it was totally new for them. However, when the idea was discussed with the villagers of Salgatand, six people were willing to visit Gandhragpur, Dumka, for an exposure visit. The objective was to enhance their understanding of the activity through first-hand information and direct interaction with families engaged in vermi-compost production. They saw that 30 families were engaged in vermi-compost production and that it did not require much investment. The material required for the activity, such as the *machan* made from bamboo and cow dung, was available to them at home and free of cost. Labour was another requirement.

Each of the families from Gandhragpur had produced around 2-3 quintals of vermi-compost per cycle. They had already done 5-6 cycles. The average return per family per cycle was Rs 4,000 to 6,000. Many families had even procured rice from the money

ADVANTAGES OF VERMI-COMPOST

- It is rich in all essential plant nutrients.
- It has an excellent effect on the overall plant growth; encourages the growth of new shoots/ leaves and improves the quality and shelf life of the produce.
- It improves soil structure, texture, aeration and water holding capacity, and prevents soil erosion.
- It is rich in beneficial micro flora such as fixers, P-solubilizers, cellulose decomposing micro-flora, etc.; it also improves the soil environment.
- It prevents nutrient losses and increases the efficiency of chemical fertilizers.
- It is free from pathogens, toxic elements, etc.
- It minimizes the incidence of pest and diseases.
- It enhances the decomposition of organic matter in the soil.
- It contains valuable vitamins, enzymes and hormones such as auxins, gibberellins, etc.

earned out of the sale of vermi-compost in the local market. The biggest market at that time for vermi-compost was Pradan itself because a huge quantity of vermi-compost was used in the tasar plantation under the SGSY project in Dumka. Once aware of all these direct benefits, five of the six villagers from Salgatand engaged in the activity on their return from Gandhragpur.

The technology adopted then had, however, not yet been proven. For easy access, the Salgatand villagers started the activity in the pits they dug near their cattle shed. This led to the problem of water collecting in the pits in the rainy season, making it even more difficult to reduce the percentage of soil and sand in the vermi-compost produced. The quality of the produce thus suffered.

Once the quality started deteriorating, there was no further market for the vermi-compost. However, fearing that production would stop completely, we encouraged farmers to use it in their homestead land when cultivating vegetables. To everybody's surprise, the quality of leaves, stem and tubers showed distinctly different features than the vegetables they used to produce. The vegetables were healthier and tasted better than before. More villagers were motivated to engage in the activity and the numbers increased from 6 to 25 farmers. It paved the way for vermi-cultivated crop intervention in the hamlet of 26 households.

The activity was commenced through the SHGs. After brainstorming in the team, it was decided that the promotion of vermi-compost would be done with as many SHG families as possible. The positive experience in Salgatand gave us the courage to conduct the activity on a commercial scale. Many SHG members showed interest in producing quality vermi-compost, as per the recommended technique. They understood the importance of maintaining quality. In 2005, the team planned the vermi-compost production in a bamboo *machan* instead of pit in the ground. Around 150 families from in and around Salgatand adopted the technique. The vermi-compost was used in the tasar plantation in the same block, at an input price of Rs 300 per quintal. The quality produced was better than that produced in the pits. However, all the vermi-compost produced did not have a uniform quality because there was no standard system of management. We had no long-term perspective, then. Rather, we started linking it for use in tasar plantations only. It did not grow further. The numbers grew where eri cultivation had taken place

Now, the villagers of Salgatand use only vermi-compost in their cultivated fields and sell it to others as well. On an average, the villagers produce five to six cycles a year and in one cycle, they get at least four quintals of vermi-compost.

under the Special SGSY project on tasar. Eri and vermi were, in a way, a composite package to the farmers because eri by itself did not yield the desired income. The project ran only for a year.

The high target of tasar host trees plantation of nearly 225 ha within the team ensured the team members and the community about the sale of the vermi-compost they produced. Hence, the expansion and production of higher volume was directly related to the demand within the team itself. The vision for promoting vermi-compost, therefore, was short-sighted. Marketing of the product had completely stopped in 2005 due to the lack of proper quality control. When strict quality control was adopted later and the same price was offered, it discouraged the famers, and production gradually collapsed. Only very committed farmers, who were not bothered about the cash returns, continued with vermi-compost production.

Pradan explored various options and encouraged the villagers to adopt new techniques for vermi-compost production in order to ensure better quality. In August 2005, Akhileshwor Singh, a community service provider (CSP) was selected by the villagers to receive scientific training in vermi-compost production. He was sent to Deoghar to Subhashree Fertilizer, a bio-fertilizer company, for value addition in this activity. On his return, he shared the new technique with the villagers. They showed keen interest in the technique. They converted the *kaccha* vermi-pits to semi-*pucca* by using bricks and soil. This technique, with its higher utility and low cost, was accepted very well by the people because it yielded better results than the earlier one.

Now, the villagers of Salgatand use only vermi-compost in their cultivated fields and sell it to others as well. On an average, the villagers produce five to six cycles a year and in one cycle, they get at least four quintals of vermi-compost. They get an additional income of Rs 6,000 to Rs 8,000 per year through this activity. In 2008, the Deputy CM of Jharkhand visited the village and applauded the people's efforts in promoting the activity in the region. People from the nearby villages have been showing keen interest in the activity. A few local NGOs have also visited the village to learn about vermi-compost production from the villagers.

MID PERIOD (2006–2007)

World Vision, an international non-governmental organization (INGO), started its operation in this village around that period. Seeing the villagers struggle with the infrastructure required for vermi-compost production, the INGO decided to support them by building permanent vermi tanks. The total investment per tank was around Rs 4,300 in 2006. World Vision constructed the tanks without any contribution from the beneficiary. Seven hundred chimney bricks were used for the construction of the tank. The size of the tank was 10′x 3.5′x 3′with 10″ thick cement walls. Once the tank is in

full use, it can produce up to six quintals of vermi-compost in a cycle. The concern is whether a family will be able to provide the entire raw material at one time, especially when the production of cow dung is low. In such a case, the tank can be divided into two parts and used alternately.

Some of the families also have such partitioned structures to facilitate smooth production as per the availability of cow dung and local material. The 26 families have been producing vermi-compost since then but the number of cycles has varied. One of the very regular and active members, Akhileshwor Singh, spouse of SHG member Puspa Devi, produces vermi-compost round the year and has adopted this as a significant source of livelihood. Vermi-compost production requires earthworms, which multiply rapidly. The sale of these earthworms is an additional source of income. Akhileshwor has sold a large number of earthworms not only around the villages but in other blocks of the district as well. People have visited the village from other blocks and district towns to purchase the vermi-compost because of its high quality compared to what is available in the market. Clearly, ensuring quality is most important, in order to establish a market for the sale of any produce.

Despite the very good experience of vermi-compost production in Salgatand, the team could not spread the activity to other areas except for some scattered intervention in Poraiyahat block. The reasons for this limited growth were two-fold. First, the Pradan team wanted to focus on its own consumption of the produce rather than expand production for commercial sale. This made the villagers back off from this activity. Second, the team wanted the villagers to contribute fully for the construction of the *pucca* tank, even at one-fifth of the cost that World Vision had invested in Salgatand village. People were not ready to invest despite the fact that they would have got back what they invested in a single cycle within a month or so. However, during this period, the importance of vermi-compost for their own consumption was always highlighted. The reform in vermi-compost production took place at the third phase of its development.

To be continued….

Reviving Aspirations

ASHIS CHAKRABORTY

Intervention on a large scale means conducting research, strategizing, facing setbacks and finding the resources and solutions to tackle these to make tasar rearing in Kuchai a profitable and viable occupation

It has been almost two years since 2007 that I undertook the responsibilities of anchoring the team at Hazaribag. But it seems like it was just yesterday that I was working with families in the Kuchai block of Saraikela Kharsawan District in Jharkhand as part of the West Singhbhum team and the Special SGSY project to popularize non-mulberry silks. To say that those years as an anchor for the tasar pre-cocoon activity in the team have left a mark on me would be an understatement. Today, as I look back, reminisce and write, the events of that time come back to me like a dream. I can hear the villagers Jalsingh and Ajambar, who became successful entrepreneurs, voicing their concerns, their angst, their frustrations and their delight during the various stages of my involvement with them. I remember all of it with a great sense of happiness and satisfaction.

My experience in Kuchai is important for me because it helped to actualize my desire to revive the traditional vocation of tasar rearing amongst tribal families. Ever since I joined Pradan in October 1999, my endeavour has been to promote livelihoods with the poor smallholding families on a large scale.

I do not need to give a statistical review of our country to validate my point when I say that a huge proportion of our population lives in abject poverty. Unless we are able to reach a large number of families with our livelihood activity prototypes, we will not be able to make a significant dent in the situation. These ideas of implementing a livelihood intervention on a large scale had always been on my mind even while I was in Godda, where I worked initially from 1999 to 2004 as a fresh Pradan professional. In 2004, when I joined the West Singhbhum team and I visited Kuchai the first few times, I knew that I finally had the opportunity to grapple with the issue of intervention on a large scale. I have always believed in 'doing' before 'theorizing and intellectualizing', and this propelled me to intervene in Kuchai.

KUCHAI AND TASAR

Jharkhand is the largest producer of tasar silk in India. Kuchai block is part of the traditional tasar-rearing belt in Singhbhum, which contributes a major part in the total production of tasar silk in the state. Kuchai has many primary food plants,

ABOUT KUCHAI

The Kuchai block is part of the recently formed Saraikela-Kharsawan district, the 22nd in Jharkhand.

The block is located in the western part of Saraikela-Kharsawan and shares its boundary with two important districts of Jharkhand, namely, W. Singhbhum and Ranchi. It is between 21°58′ and 23°56′ North of 85° and 86° East. The total area of the block is 40,738.74 ha; the topography of the block is undulating. The total forest cover of the block is around 70%, with mainly sal (*Shorea Robusta*) and asan (*Terminalia Tomentosa*) trees. The block comprises 10 panchayats and 100 villages.

The annual rainfall of the Saraikela-Kharsawan district hovers around the 1,400 mm mark, the average landholding is 1.5–2 acres, and the food sufficiency of the people off their own lands is for a mere 6 months or at times even less. As a result, there is widespread migration to nearby urban centres in search of work during the lean months. Rain-fed agriculture, combined with very primitive practices, is the most prevalent source of livelihood for the tribal population. The farmers of the block

Block	Villages	Area (Ha)	Population			Scheduled Caste	
			Total	Male	Female	Male	Female
Kuchai	100	40,738.74	53,801	27,083	26,718	22,878	21,490

According to Census 2001, the total population of the block was 0.53 lakhs, of which 82.5% were tribal families. The literacy level in this block was pegged at a meagre 28%.

The major tribes in the block are Ho and Mundari. These tribes have different dialects, religion and culture. However, their food habits and economic activities are quite similar.

are also involved in lac cultivation and tasar rearing to supplement their income. Besides the tasar and lac activities, a majority of the people earn money from the forest by collecting firewood and non-timber forest products (*mahua, kusum, etc.*).

namely, asan (*Terminalia tomentosa*), arjun (*Terminalia Arjuna*) and sal (*Shorea robusta*), of the tasar silkworm. Although tasar silkworm rearing has been a traditional vocation in these regions for centuries, during the last decade, most of the families had given up on it. Many reasons have been cited for this. Primary amongst these was the uncertainty associated by the rearer about the returns from the activity. Due to lack of good quality seed or eggs, not many farmers could earn a decent living from rearing silkworms. Often, the worms would be contaminated with pebrine and other viral and bacterial diseases and would die even before the cocoon stage; the rearers suffered losses every year. Environmental factors such as untimely or prolonged rains and frost added to their woes. There were no credit sources for the rearers and, therefore, they had to depend on the local moneylenders, who lent money at exorbitant rates and demanded that the farmer's produce (cocoons) be given to them.

In a nutshell, lack of good quality inputs, an exploitative system and the vagaries of the weather made the farmers reluctant to engage in tasar silkworm rearing. The vocation, which

Although tasar silkworm rearing has been a traditional vocation in these regions for centuries, during the last decade, most of the families had given up on it.

at one time was major source of cash inflow for the tribal families living in forests of Jharkhand, was dying a slow death.

In May 2004, during my initial interactions with the officials from the Raw Material Bank (RMB), Chaibasa, and others in Basic Seed Multiplication and Training Centre (BSMTC), I was given some figures, which were very ambiguous. On the one hand, I was told that there were about 6,000 families, engaged in tasar rearing in the villages of Maranghatu, Chota Segoi, Gomiadih, Buruhatu, Rugudih and Rolahatu blocks. I was told that these farmers bought the eggs from various sources such as the Kharsawan BSMTC, Directorate of Sericulture, Jharkhand, and the local *haats* in Chaibasa and Hatgamharia, They then incubated the eggs and reared them. On the other hand, I was also given figures, for example, only 31,000 DFLs had been distributed to 500 families in the area and double the number of that (around 60,000 DFLs) were sourced by the rearers from other local markets such as Hatgamharia and Chaibasa. The total reel-able cocoons bought from the area were pegged at around 15 lakhs. My difficulties were compounded by these two differing lines of information from various sources. If this information were true, it made for a very abysmal situation on the ground.

With really nothing to choose from, in terms of information about the ground realities, I decided to stay in some of the villages for a few days to get a first-hand experience of the area and make a correct estimate of the number of families involved in the activity and the extent to which the activity is practised in the area.

INITIAL VISITS TO KUCHAI

There are 30 villages in the area and I decided that I should spend time in as many as possible. I found out that there were five villages that were centrally located with respect to the rest of the villages. These were Dango, Sigirda, Toklo, Punibudi and Kundiamarta.

After having stayed in different villages for about a week or so, I discovered that there were just 150 to 200 families associated with this vocation. The continuous failures had led to a lot of despair and a resultant alienation from the activity. The older generation did not want the younger generation to take up this activity because of the uncertain returns. The farmers were plagued by recurring losses due to larvae dying of diseases such as virosis, bacteriosis, pebrine, etc. There was a distinct lack of transfer of technical knowhow and the farmers were not aware of how to avoid such losses. Primitive methods of rearing prevailed in the community. The saddest part was that asan, despite being available in plenty to the families, was being used as timber and felled regularly; at least 5 to 6 truckloads of asan timber passed through the Kuchai bazaar every day. As it is, the food sufficiency in the area was very low; with the slow death of tasar sericulture in the area, people had resorted to migration.

I remember villagers such as Ajambar Soy from Punibudi telling me that rearing tasar was not going to work; the eggs from BSMTC were bound to fail because they were '*farmwala keeda*' (DFL), which were weaker than the '*desi*' (natural) ones. There were others who asked me to forget what I was

trying to do there and told me not to disturb the peace of the village. There were still others who questioned my credibility by saying that I had come to push the farmer further into credit and take away whatever little they had. Yet, there were also some who said that if told of newer methods about rearing, they would take it up and give it another try. They said, "After all it is something that we have been doing all these years. It is something that we were good at!" That gave me hope. In the Kuchai cluster, tasar sericulture was a traditionally practised vocation and there was a huge host flora base, RMB and markets and *haats* in the vicinity for rearers to sell their produce. This motivated me to initiate attempts at rejuvenating the tasar pre-cocoon activities on a large scale.

PLANNING FOR THE PLUNGE

After my visit, I knew that our intervention would have to be based on providing a better transfer of technology to the farmers as also good backward (good quality DFLs, nylon nets, disinfectants, etc.) and forward linkages (*mahajans* would have to brought into the villages and RMB camps would have to be

TRAINING MODULE FOR COMMERCIAL FARMERS

The training module conducted comprised the following aspects.

1. Introduction
2. Expectation mapping with the participants
3. Sharing of experiences of farmers on tasar rearing and why they think it failed
4. Discussion on the old practices and the problems faced by the farmers, and what the new technology recommended for the same. Each stage of rearing would be discussed separately, namely, pre-rearing (preparation of *addabari*, disinfection, etc.), rearing (hatching, brushing, care against predators, nylon net establishment, transfer of larvae, care during moulting, preventive measures against diseases, etc.) and harvesting (care during harvesting, storing of cocoons, etc.)
5. Selection of the correct place to brush the newly hatched tasar worms. This is a very important step because it involved all the families interested in tasar rearing and was demonstrated on a few plots so that people could understand and do some selections on their own. This not only ensured that the correct sites were selected but also that the farmer capacities were enhanced in selecting the appropriate sites.
6. Selection of the *Sampark Karta*, or service provider, who would be the bridge of information between Pradan and the farmers. The qualities of such a candidate and the criticality of the functions of such a person were explained to the farmers before they made the selection.
7. Discussion on the purchase of the DFLs. The farmers were encouraged to appreciate the need to save money in the group so that they would have ready cash when the time came for buying good quality DFLs.
8. Formation of the Tasar Vikas Samiti (TVS) in the village.

This two-day training was held at the village. The villagers arranged for all the things such as the space for the training, refreshments, etc. We covered 1,749 people over 3,498 training days from September 2003 to February 2004.

organized for the sale of cocoons). The confidence of the farmers had to be enhanced to help them return to the traditional vocation, and successfully so. One false step would mean that the families would be pushed back into further despair. We would have to design a training module that had its roots in the modern package of practices (PoP) and that would also draw on traditional practices so that the farmers can relate to it. It was quite a tightrope walk but it had to be done.

Important aspects of the interventions such as choosing the right spot for *chawkie* rearing (rearing under nets) and late age rearing, spots for brushing the larvae, etc., would have to be done with the participation of the community so that it demystifies the technique of rearing and helps the families understand what the technology is all about. The training had to demonstrate that science and technology were not divorced from reality and that the training is based on the experiences of the practitioner so that it helps the person to improve her/his returns.

There were long nights of debates with my tasar theme professionals within the Chaibasa team. We questioned each others' analyses of the situation, having always agreed to disagree. Following many arguments, disagreements, debates and tiffs, we evolved an overall strategy to revive tasar as a financially viable activity for the families living in the Kuchai cluster. We thought that we had something that we could try out in the field. I shared my plans with Shamshad Alam and Satyabrata Acharyya, two of our experts in tasar, to get a feedback and more suggestions on the overall idea.

We planned to start off by having very intensive training programmes for farmers interested in taking up commercial tasar silkworm rearing again. They would then be taken for exposure visits to the Santhal Parganas in Godda and Dumka to see the processes of grainage, plantation, rearing, etc. The TVS that was formed would serve as a platform for initiating savings by the families for buying DFLs during the commercial season. As far as the source of DFLs was concerned, we were confident that in the first year, we would be able to provide these from grainages in neighbouring Hatgamharia and from Central Silk Board (CSB) sources within and outside the state.

Initially the grainage owners operated like individual entrepreneurs. The TVS was developed on the lines of an SHG. The assets were owned by the TVS and used by the grainage owner to produce DFLs. Members of the TVS save Rs 10 every week, which eventually helps them to buy DFLs. This also allowed for peer pressure, peer learning and mutual help and support in the activity. I wanted to build the stake of the people by having a very strong TVS in the area. This could happen only by strengthening the TVS members under the guidance of professionals.

It was decided that a professional would attend all the meetings of the TVS in the first year so as to 'handhold' and support the people in establishing this new initiative. The idea was to shift from the concept of an 'individual entrepreneur' to a 'business group'. We knew that, in the beginning, some of the roles would have to be played by us. So we assisted the TVS in setting its norms, processes and systems, developing business plans, record keeping, training people on technical rearing, indent preparation, etc. Later many of these roles were taken over by the members themselves. And as the farmers enhanced their capacities

and started taking the forerunner's role in organizing and conducting the meetings (calling everyone, setting agenda, taking decisions unanimously, etc.), the professional would take a backseat, letting them ease into their new roles. This seemed a tall order and we knew that it would take time but we were committed to it.

A strong TVS would also mean that there would be monitoring by the villagers themselves as to whether they have been able to complete the tasks laid out in the initial training/workshop to ensure a good crop or not. It would ensure that all the essential micro-practices, which were a part of the PoP, are ensured at all levels by the villagers themselves. A strong TVS was very necessary in Kuchai because a successful programme in the first year would mean a multiplier effect in the number of families that would take up tasar sericulture in the coming years. Peer energies needed to be harnessed to help them get a better deal from the outside world and to ensure that certain levels of discipline (in matters such as sourcing of DFLs, use of only tested layings, etc.) would be maintained and things would not be allowed to drift as they had before the intervention.

With time, the TVS in a village would give the farmers the necessary economies of scale to pay up for the services provided to them by the *Sampark Karta*.

Establishing the commercial rearing was a very big challenge for us and we followed up the intense training with an exposure visit of about 30 farmers to the Santhal Parganas. This was done so that people could see for themselves how successful an activity tasar rearing can be; also it would aid in developing a vision of the farmers. We conducted training programmes in almost 15 villages in the first year and were able to motivate almost 1,450 rearers to agree to take up commercial rearing, using our model and not the traditional one. April and May were just spent in training farmers in different villages. We would go to new villages, talk with the farmers, fix trainings and return to conduct the trainings. We did this in all the villages.

We were able to form 72 TVSs in 4 clusters of villages in the first year. What was very heartwarming was the fact that the farmers started to save for their DFLs right from the beginning. I have always believed that no training is going to give miraculous results by itself. Successful training requires follow-up and support by the trainers or the professionals. More so for us because we were dealing with a client group that has historically been subjected to social economic and political oppression. Their confidence needed to be enhanced in such a manner that they did not take a huge leap in one go but took rather a series of small and manageable steps to enhance their capacities. Extending support to the newly formed TVSs kept me on my toes.

Despite all the preparations on the farmers' part and our part, we were faced with a huge problem of the supply of DFLs. The assured supply of DFLs from Hatgamharia yielded nothing because all the grainages had to be closed after an outbreak of pebrine. The failure of the BSMTC to provide us with DFLs for commercial use meant that we were in dire straits and that the hopes and aspirations of 1,450 farmers would all go up in smoke. Finally, we managed to organize DFLs for only 750 farmers; these were sourced from various places such as the BSMTCs in Chinoor and Rampachoravaram, private grainages in Pradan projects and the Regional Extension Center (REC), Hatgamharia.

But our problems did not end there. Almost half the DFLs from Rampachoravaram and Chinoor were a total disaster. They were of very bad quality with a minimal hatching percentage. I remember that our office was filled to the brim with a steady line of rearers, who had come to share their grievances about the quality of eggs. Jalsingh from Dango village had this to say, "*Sir, agar is andey se keeda nikal aaya to mai aaj ke baad free me aapke liye tasar palunga. Ham to pahle hi acchey they, aise sapney dikha kar aisa anda to na milta!"* (Sir, if these eggs produce worms, I will rear tasar worms for free for you. We were better off earlier; if you had not shown us such dreams, we would not have got such eggs). And he was not the only one who thought that way.

I was dejected that a whole year's efforts had come to nothing. What made it worse was that the farmer had attached so much importance to the efforts. Self doubt began creep into our minds as to whether we did the right thing in pushing the farmers into something, which had resulted in such a sham.

BORN AGAIN!

When everything around seemed to be crashing down on us, we received some good news! The DFLs from BSMTC Baripada Pali, Pallahara and some private grainages of Pradan projects had yielded results of more than 40 cocoons per DFL, which was a record as far as the rearing standards were concerned. This meant that somebody, who reared 200 DFLs, would get a yield of 8,000 cocoons. This came as a shot in the arm and helped us regain our composure and our self belief. We visited the rearers and the villages where the rearing was in full swing. We realized that where stringent measures (microscopic examination and selection, washing, etc.) had been taken in the preparation of DFLs, the rearing had succeeded. We discussed this at length in the team meetings and in the thematic meetings and decided that one of the non-negotiables would be the quality of DFLs. After lengthy internal meetings in the team, we decided to give it another try; only this time we decided prepare our own DFLs instead of being dependent on external sources. We changed our strategy of blindly buying the DFLs and put up a system in which some selected farmers tested the DFLs for diseases and then we bought them.

Stock taking meetings were held in the community. Farmers shared their angst and disappointment about the failure, discussed the results of the successful farmers and realized that indeed it was the dependence on DFLs from external sources and the lack of control over the quality of DFLs that had led to the failure. The rearers decided to select and train a few expert rearers, who would go to the various BSMTCs, test the DFLs for diseases and then buy them for the seed crop, and also run grainages in Kuchai cluster itself.

We began afresh with renewed vigour. The energy shown by the farmers lifted all of us from the stupor that had descended on us. Each TVS selected two people as Graineurs and one person to assist them. New age grainages were created with grants from the special SGSY and contributions from the community.

The ownership of all the grainages, though built on private land, remained with the TVS. And it was the TVS that actually delegated responsibilities and tasks to the members. The coordinated efforts finally resulted in a total of 45 such grainages being built. The seed

crop zone for each TVS was demarcated so that the chances of infection were minimized to the greatest extent. Being a new concept, it was not readily received. After rounds of debates within the TVS, all the farmers agreed to take up the step. The trained individuals went to the BSMTC and a total of 28,400 DFLs were bought after microscopic examination and distributed among 120 odd seed crop rearers. We crossed our fingers and this time the seed crop was good with a yield of more than 40 cocoons per DFL. The grainage performances were even better; the tested DFLs for seed crops ensured that all the grainages were pebrine free and gave excellent results. In fact, it had such a positive impact on the people that two TVSs decided to build grainages even without grants in the subsequent year; in 2005-2006 we were able to prepare 1.11 lakh DFLs from our own grainages.

For the first time the commercial crop of the farmer crossed the average conversion rate of 30 cocoons per DFL in the area (for the record it was 32!). The average earnings for a farmer from tasar sericulture went up to Rs 4,500 — a huge jump from a situation in which families were moving away from the vocation.

The same Ajambar Soy today beams with happiness when he talks about how he has earned Rs 50,000 out of running a grainage. He talks of employing more people in his grainage and expanding his business so that he could earn a lakh of rupees from the same vocation, which was impossible just two years ago. When I had first visited the area, only the old men would speak wistfully about their experiences with tasar. The young men kept away. In 2009, we have an army of about 23 Sampark Kartas, who are young and confident. They want to bring more and more tribal families into this trade, which has got, and has given them, a new lease of life.

Sometimes I wonder what would have happened if we had given up. Today, the tasar sector is alive and blooming in remote areas such as Kuchai; it provides the remote and poor tribal families a bigger share of the pie as far as benefits from tasar rearing go. I can only think of one thing: a failure is a failure only till such time we think it to be. The day we see it as a feedback, the failure transforms into another opportunity.

COMPARATIVE ANALYSIS OF THE TASAR ACTIVITY IN KUCHAI

Particulars	2003-04	2004-05	2005-06	2006-07
Seed crop rearer (00)	0.45	0.45	1.41	1.44
Seed DFL (0000)	1.08	1.07	2.84	2.82
Net average earning per rearer (000)	5.90	1.50	3.20	4.50
Commercial DFL (0000)	4.39	3.93	14.73	13.10
DFL:cocoon	7.00	18.00	7.00	4.00
Net average earning per Graineur (000)	-0.40	0.70	8.70	12.98
Commercial rearer (00)	2.21	3.43	9.36	11.09
DFL per farmer (00)	2.00	2.07	1.57	1.26
Cocoon per DFL	12.11	14.80	32.00	48.00
Net average earning per commercial rearer (000)	1.40	2.70	4.50	8.32

Renewed Hope

TUHIN KUMAR DAS AND MADHABANANDA RAY

Determination, hard work and support from the family, SHG and Pradan transforms the lives of many villagers, who find self-sufficiency in the traditional activity of tasar yarn making

Joba Das, a 33-year-old woman, mother of a teenage son and two teenage daughters, lives with her husband, Abhimanyu (37), and mother-in-law, Tulsibala (62), in Gandharakpur of Shikaripara block. Gandharakpur is a remote village in Dumka, Jharkhand, comprising about 150 households. The families here mainly belong to the Ray community, with a few of the families belonging to the Mirdha, Bengali, Nowa and Muslim communities.

Abhimanyu is a painter, who whitewashes walls and paints pictures on them, a very popular art among the Santhal communities. He earns Rs 80 to Rs 100 a day as and when he finds work. Abhimanyu and Joba have only 1.5 *bighas* of cultivable upland. There is no irrigation source; paddy is the only crop, which again is highly uncertain. They do not have a draught animal but own two goats. During the agricultural season, Joba transplants paddy in other farmers' fields and earns Rs 25 and a meal a day for herself. Her family, unable to bear the uncertainty of the paddy crop, ultimately mortgaged the land for a yearly cash income of Rs 500 per *bigha*. They depend on moneylenders for their small credit needs.

When Pradan started its intervention in Gandharakpur with the promotion of SHGs, Joba and 15 others readily became members of the Maa Tara Mahila Mandal, started in 2002. So far, the group has saved Rs 27,070, with Joba's savings amounting to Rs 1,920. Gandharakpur now has six SHGs, which includes about 78 families.

In 2004, when the idea of tasar yarn making by reeling was introduced by Pradan, the women of Gandharakpur showed keen interest, stating that they did not have much land for cultivation and some of them had no land at all. The options of finding work outside their village were also very limited. They felt that tasar yarn making would be a good way of earning from a business that would be their own and would keep them in their village.

Joba and 20 other women from the village went for an exposure visit to a village named Phitkoria in the adjacent block. They were very excited at seeing the yarn

making activity in progress there under the guidance of Pradan. The training for skill transfer was conducted in a temporary shed (thatched with palm leaves) by experts from the Central Silk Board (CSB), who stayed in the village for a month during the training period. Joba spent sleepless nights during the training, "I was tense because I was not sure whether I could learn the skill. If I failed to learn, I would miss a chance to earn for my family and to send my children to school, which has been my dream."

Joba's house was adjacent to the work shed where the training was organized. She used to wake up very early in the morning and go to the work shed much earlier than others to get some extra time with the trainer in order to learn faster and better. Peddling the machine for long hours was difficult and tiring, but her husband and her mother-in-law encouraged her to continue. Joba started with 20 to 30 cocoons a day in her training days and targeted at increasing it by one cocoon a day. She has now reached to 300 cocoons on an average day!

Joba does her household chores and comes regularly and on time to the centre to reel. Joba's elder daughter, Mamta (13), studies in Std. VI in the village school. Joba has trained Mamta to reel the yarn and her daughter supports her with the activity at times. Mamta is faster than her mother, and after school, she works on around 100 cocoons. On Sundays, because of Mamta, Joba takes around 450 to 460 cocoons. Mamta used to take up any vacant machine in the centre when anybody was absent. A few neighbours advised Joba to take a separate reeling machine for her daughter but Joba does not want Mamta to spend her full time working; she wants her to study.

Joba's consistency in earning has influenced all the other producers of Gandharakpur.

Abhimanyu and their son, Utpal (17) also help Joba by reeling the yarn that she extracts. Abhimanyu cooks sometimes if he is at home. Joba's mother-in-law does whatever household work she can so that her daughter-in-law can spend more time in reeling. Abhimanyu recently got a temporary job of a helper (*munshi*) with the local contractor and earns Rs 500 per month.

Joba is increasing her efficiency every year. In 2007-2008, she used 31,935 cocoons and extracted 31.27 kg of yarn, earning Rs 15,084. Last year (2008-09), she used 46,660 cocoons and extracted 47.40 kg of yarn and earned Rs 22,617. Joba is now more confident and has set a target for herself of producing 50 kg of yarn this year (2009-2010).

Joba is an elected representative of her reeling centre to the General Body of the MASUTA — a producers company with a membership of more than 2,500 producers. Last year, when she went to Deoghar to attend the General Body Meeting, she was sure that she was among the three highest earners. When she found out that she was in the sixth position, however, she shared, "I was disappointed to find myself in the sixth position. I am determined to come among the first three top earners next time."

In 2007-2008, the total production of yarn in the centre was 386 kg; last year (2008-09) the same centre produced 490 kg of yarn. Joba's consistency in earning has influenced all the other producers in Gandharakpur. Her

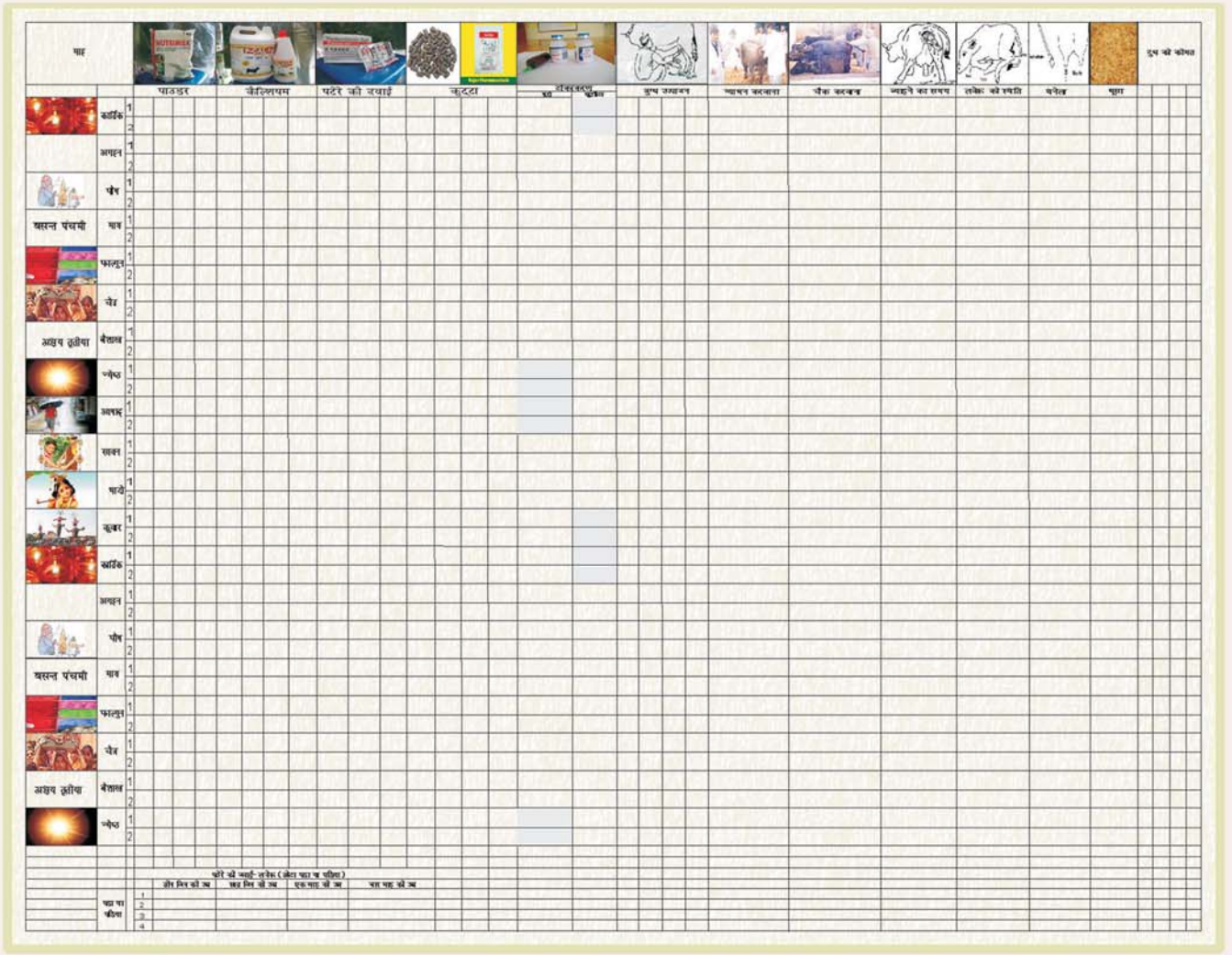
Joba feels proud of being a regular cash earner in her family. She has also got her mortgaged land back from the moneylender.

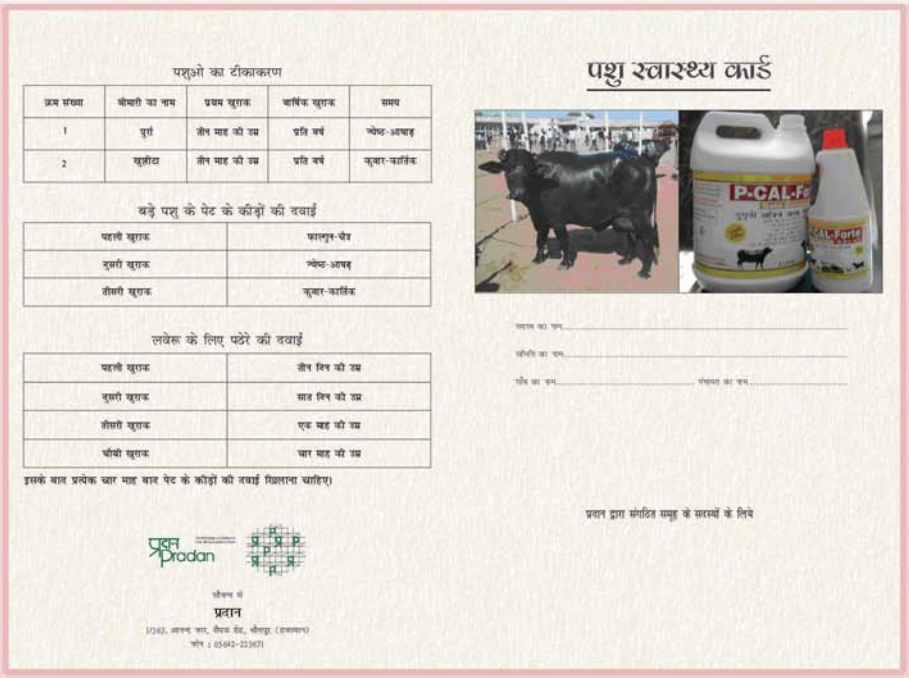
performance has influenced her neighbours, who are now reeling around 200 cocoons a day regularly.

Kunti says, "My husband who was earlier discouraging me is asking me to train my daughter, who has grown up now. He also helps me now in reeling and cooking. I am really surprised to see his change and for that I thank Joba."

Joba feels proud of being a regular cash earner in her family. She has also got her mortgaged land back from the moneylender. She is able to send her children to school and purchase clothes for herself, her mother-in-law, husband and children. Joba and her husband are planning to renovate their house by adding brick walls. Joba has opened a savings account in the post office and saves Rs 100 every month. Her total savings at the post office at present is about Rs 4,500. She is known as a good producer by all yarn producers in Dumka and by the bank manager of her block, Shikaripara. In 2009, the Birsa Agriculture University organized a state-level Agrotech Kisan Mela at which they awarded Joba for being the 'Best Reeler'. She received the award from the Governor of Jharkhand, who handed her a certificate and a memento.

Joba says, "We have our company (MASUTA) that supplies us cocoons, sells our yarn, pays the profit at our doorsteps and gives cards for free treatment of our family members. What else do we need to fight poverty?"





पशुओं का टीकाकरण

क्रम संख्या	चौपाई का नाम	प्रथम खुराक	वार्षिक खुराक	समय
1	पूरा	तीन माह की उम्र	प्रति वर्ष	ज्येष्ठ-आषाढ़
2	खूजीदा	तीन माह की उम्र	प्रति वर्ष	कुवार-कार्तिक

बड़े पशु के पेट के कीड़ों की दवाई

पहले खुराक	फाल्गुन-चैत
दूसरी खुराक	ज्येष्ठ-आषाढ़
तीसरी खुराक	कुवार-कार्तिक

लवेरू के लिए पटेरे की दवाई

पहले खुराक	तीन दिन की उम्र
दूसरी खुराक	सात दिन की उम्र
तीसरे खुराक	एक माह की उम्र
चौथी खुराक	चार माह की उम्र

इसके बाद प्रत्येक चार माह बाद पेट के कीड़ों की दवाई खिलाना चाहिए।

प्रदान

प्रदान द्वारा संगठित समूह के सदस्यों के लिये

To deepen the effect of training, we introduced a pictorial self-monitoring format for the members so that the members could record the interventions and could also make an assessment of the impact. Another part of the training was to train the members in disease diagnosis and medication. This was done by Pradan's vet consultant through pictorial brochures to make the members understand the symptoms of various diseases and also to administer basic first aid.

Extract From Buffalo Rearing And Dairy Intervention In Dholpur – Part II. Page 1

PRADAN

Pradan is a voluntary organization registered in Delhi under the Societies Registration Act. Pradan professionals work through small teams in selected villages across seven states. The focus of Pradan's work is to promote and strengthen livelihoods of the rural poor so as to enhance their well being and sense of agency, especially the women. It involves organising them, enhancing capabilities, introducing ways to improve incomes and linking them to government programmes, banks, markets and other economic services. Pradan professionals use their knowledge and skills to help remove poverty by working directly with the poor. News*R*each, Pradan's monthly journal, is a forum for sharing thoughts and experiences of Pradanites working in remote and far-flung areas in the field. It fulfils the need of every Pradanite to reach out and connect with each other, the development fraternity and the outside world. News*R*each has been supported earlier by Sir Dorabji Tata Trust and Ford Foundation.

News*R*each is published by the National Resource Center for Rural Livelihoods housed in the Pradan Research and Resource Centre. The publication is supported by the Aga Khan Foundation through the European Commission co-financed SCALE Programme.

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Supported by the Aga Khan Foundation through the European Commission co- financed SCALE Programme