

ORISSA

1.1. Unfolding the fruits of success

A Case Study from Nawrangpur, Orissa

Agriculture in rain fed conditions of tribal Orissa districts often lagged behind due to lack of proper irrigation. Farmer's land coming under the impact of heavy run-off suffered from soil erosion, gullies and ravines and thus, was not conducive for cultivation. Farmers followed traditional practices of cultivating a single crop i.e., paddy in small patches of land with water available during rainy season only. The rest of the year their land remained dry and unproductive. They suffered under acute poverty as their livelihoods got seriously affected due to drought like situations in their land. They often remained jobless and became victims of distress migration.

Fifty eight years old Banamali Sahoo belongs to Dhandasara-1 Watershed village of Umerkote block in Nawrangpur District under IWDP IV. Agriculture is his main occupation and only source of livelihood. Being a small farmer and having 2.5 acres of agricultural land, he pursued cultivation of traditional monsoon paddy. He undertook farming with green or black gram in a small patch of land with residual moisture during winter. He supported a big family of 8 members-his parents, wife and 4 children and often faced acute shortage of food grains. His family lived hand to mouth, as income from single crop was insufficient. He desperately longed for additional income from agriculture to feed his family.

Being motivated by field functionaries of the project, he excavated a small pond of 7 feet deep and 60x60sq.feet size with self initiative in 1998. In the very first year of the excavation of the pond and with an investment of Rs. 5,000/- he started cultivation of French bean, tissue culture banana and arhar on the bunds along with pisciculture in the pond. His efforts paid-off and he could harvest a huge quantity of banana and ar-har and earned satisfactory returns from sale of fish. Within a short span of time he could earn Rs. 7,000/- . This encouraged him and he dug his pond up to 12 feet depth in the very next year in order to harvest more crops.

The excavation of farm pond has helped Banamali in getting regular income besides creating productive engagements for his family members. They now lead a life of dignity and comfort .Vegetable growing has provided nutritional supplement to his family as a result of which, their health condition has improved, medical expenses has come down .

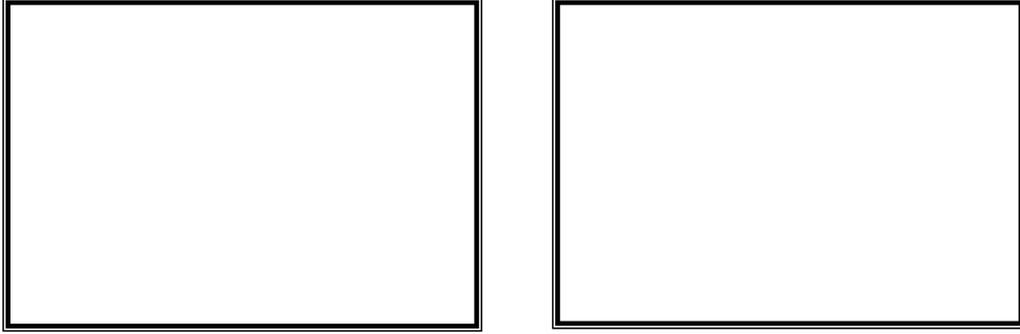


Photo 1 & 2: Increase in water table and enhanced productivity of Banamali's land along side a farm pond, Dhandasara, Umerkote Block, Nawrangpur

It is estimated that about 0.60 acre of his land has been covered under various crops such as tomato in 0.30acre, ground nut in 0.1acre, brinjals in 0.20 acre along with pisciculture in 0.30acre of land. His total earning is Rs. 27,000 per year now. From pisciculture alone Banamali has earned up to Rs. 7,000 in a period of 3 to 4 years despite the limited size and depth of his pond. During the last 3 years he has been assisted by the watershed committee in term of seeds, land, fertilizer and pesticides.

Visits of individual and officials to his ponds and cultivations have boosted his enthusiasm. He has been successful in combating drought and protecting the crops grown during monsoon. He has showcased himself as a role model for the entire community.



1.2. Augmenting the moisture Regime of Upland Soil

A Case Study from Kalahandi , Orissa

Water is precious as it nourishes and fosters life. It is vital to the existence of all. Hence it is essential for proper and effective management of water resources. Development of integrated watershed programme is significant as it provides opportunities to the local communities to treat watersheds and conserve water for improving their livelihoods. With the intent of managing and conserving water resources, the local communities treat watershed areas and construct rain water harvesting and recharge structures. Water harvesting not only conserves the water which would otherwise have gone unused but also helps in recharging aquifers and tackles the problem of depleting water table in areas where ground water is under enormous pressure. In situ water harvesting is a key in watershed development which helps in increasing soil moisture and productivity of vegetations. Further it also acts as drought proofing measure.

Chilidangari and Matimatal Dangari are the twin mountains in the fringes of two contiguous villages namely, Bokrasil and Kotmer in Dharmagarh Block of Kalahandi district. Runoff from these mountains used to sand cast and form gullies in about 100 acres of land situated at the base of the mountains. Excess runoff flowing down, deposit heavy silt over the crop land. In the absence of any storage tank the farmers are unable to pursue cultivation whenever there was scanty or no rain in the region.

Inorder to improve upon the moisture regime of upland soil ASCO PIA, Dharmagarh in 2003-04 initiated the process of excavation of a runoff management structure (RMS) in about 1.5 acres of land at the base of Chilidangari under DPAP. With an estimated investment of Rs.1.66 lakhs, near about 400 farmers under Belpatinala MWS in Bokrasil contributed labor for digging the earth and it took around two months to complete the Chilkurla RMS. Thereafter, Tentulikata bund was also constructed at the base of Matimatal Dangari at Kotmer under Kusumnala MWS.

The pond serves in preserving moisture regime of soil enabling farmers to cultivate paddy during Khariff. In Rabi season the farmers use sluice to cultivate pulses. Moong production has also been taken up in larger scales. Pisciculture is also encouraged in the water body.

The pond also serves as a good source of water and fodder growth in the adjoining pasture which is used for drinking and grazing by cattle of the village. Increased crop harvests have resulted in major changes in the life styles of the farmers. They are consuming nutritious foods. Their children have received better and steady education. The agriculture products have found adequate market linkages enhancing their income from sale of farm outputs. Mobile phones are increasingly used by the farmers who take advantage of instant communication for gathering information on crops and markets.



*Photo 1: Runoff Management Structure
Bokrasil, Dharmagarh*



*Photo 2: Cattle Pond around WHS in
Kotmer, Dharmagarh*

Due to this RMS and bund, 4-5 acres of catchments area below the bund got inundated with water during monsoon providing seepage to 120 acres of farm land in the village round the year. Water from these ponds was channeled through open surplus and sluice to the lands beyond. These water bodies have been protected against silt deposit from runoff by loose boulder structures and guard bunds constructed by villagers in the upper ridges. An Impact Assessment of the project by Sambodhi in 2008 reveals that almost three-fifth of the marginal farmers in the project watersheds have reported improvement in disaster coping capacity. Community participation in integrated watershed management has resulted in better management of water resources. Different water management techniques have been adopted for conservation and use. Check dams have been built in all watersheds to reduce speed and volume of runoff and prevent soil erosion and downstream sedimentation. Farmers have cultivated pulses, vegetables and been practicing backyard farming. Livelihoods of the farmers are now secure with promise for a better future.



1.3. Rejuvenating Vegetative Coverage in Rainfed Area

A Case Study from Bolangir, Orissa

Water management is vital in fulfilling the demand of irrigation in drought prone areas. Storage of water in these areas is an integral part of any rain water harvesting system and it is necessary to harvest water from any source e.g. precipitation, perennial sources, roof water etc. in ponds and reservoirs for various domestic and agricultural purposes over a period of time.

The agriculture production in Tureikela village of Bangomunda block, Bolangir district was very low due to erratic rainfall and paucity of water. Poor villagers hardly made two square meal per day for their living. Every year more than hundreds of farmers in Tureikela village migrate to Mumbai in search of employment. Rushi Behera, a 50 year old poor farmer of Tureikela village could not carry out cultivation in his 2 acres of shared land due to scarcity of water. With a large family of 4 sons and 3 daughters, it became impossible for him to look after them. He along with his eldest son had to migrate to Mumbai in search of livelihood after taking a loan of Rs.2100/-from the landlord of Bhalumunda, a neighbouring village at high interest rates. Like Rushi Behera hundreds of villagers continued migrating every year. Life appeared as a battle defeating all their efforts to eke out a living.

In 2008-09, the field staff of PIA Gram Vikash organised sensitization programme for farmers on various drought proofing measures. The PIA with the support from NREGS facilitated the excavation of a farm pond measuring 3 meters deep and covering 20 x 20 square feet area. The excavation of the farm pond located in the field of Rushi Behera under Jagannath watershed committee cost around half a lakh rupees.

The farm pond facilitates in providing life saving irrigation to the nearby land. Apart from Khariff crops, Rushi Behera cultivated various vegetables and other Rabi crops in his land. He switched over from a single crop, i.e. paddy to several Rabi crops like onion, groundnuts, maize intercropped with brinjals, tomato and cluster beans in his land. Rise in income has enabled Rushi to pay off all his debts and provide nutritious food to his family. With the flow of additional income, his children are getting better education and he could also get his daughter married off last year with a grand feast, attended by 200 fellow villagers. His standard of living has gone up with purchase of assets like one Godrej

wardrobe, one cycle. Health condition of his family members has improved and medical expenses have come down.



Photo 1 & 2: Farm pond providing life saving irrigation and Mixed cropping in Rushi's farm in Tureikela, Bangomunda, Bolangir

Last year Rushi produced two quintals of Arhar, 20 quintals of paddy and 20 quintals of onion of N-53 variety. He expects to produce 500 kg of brinjals, 5 quintals of groundnut this year. He had released 400 fingerlings (grass carps) in the pond and has already harvested 15 kg. of fish. Now the fish in the pond have grown up to 800 gm weight each. At the prevalent market rate of Rs.100/-per kg of fish, Rushi expects high profit out of it. He attributes the progress attained in his livelihood to the farm pond and the promises it has for stabilizing agricultural operations. He aims to buy a pump and irrigate more land for higher volume of farm outputs. Rushi's success is an example for others in the community to emulate. Other farmers are now getting interested for digging farm ponds in their field and migration has been prevented to a great extent in the village. Training from Watershed Mission has enabled farmers to adopt improved agricultural practices.



1.4. Group Initiatives for Securing Livelihoods

A Case Study from Bargarh, Orissa

Long-term livelihoods development of resource poor community largely depends on their self confidence, independence and interest in pursuing different livelihood options. DPAP has imparted several training and orientation programme to improve the knowledge and skill base of primary stakeholders based on their collective needs and aspirations. The programme has also supported revolving funds and grant funds to groups as well as individuals for promoting sustainable livelihood.

Sadanandapur village of Paikamal Block in Bargarh district comprises of 107 households and 7 women self help groups. Women of this village were very poor and were aspiring for profitable ventures to sustain their livelihood through group approach. The Chanchala Devi SHG is one of the women's SHGs formed in 2007 consisting of 13 members in the age group of 25 to 40 years. With the intervention of watershed project under DPAP the SHG members participated actively in the PRA exercise. Subsequently, they have been assisted to undertake Goatery as a means of livelihood. Unfortunately out of 12 goats bought in June 2008, 6 died of Goat pox. However the remaining goats are still alive to generate required supports for their livelihood. Unperturbed by the loss, the members were in pursuit of alternative livelihood options.

In the first week of February 2009, a seven days training on dry food processing was organized as an income generation activity for this group in coordination with PIA, DPAP, Paikamal. The members learnt the process of making various dry foods namely, papad, rice and lia badi, badam pakora, potato chips, coconut sweets etc. under the guidance of Ms. Jyotsnamayee Senapati, a resource person from Berhampur. Thereafter the group started dry food preparation with an initial investment of rupees six hundred.

The dry food business has fetched extra income for the group. Due to attractive packaging and affordable rate, children love to eat fried nuts prepared by the group. The products have got popularity in local market as well as in the community due to sealed polythene packs and preparation under hygienic conditions. Excellent returns from this dry food business have enabled the group to repay the revolving fund and apply for fresh RF to expand their business and support their families. One encouraging aspect is that the male members of the women's family assist them in marketing and encourage them to try for

other viable livelihood options. With additional family income, their children are getting good education, and purchases of household assets like bicycle, motor cycle and agricultural equipments have enhanced their social status and security.



Photo 1: Chanchala Devi SHG members in a meeting.



Photo 2: Dry food making by SHG

The group's initial investment of Rs.600/- has now reached to a profit of Rs.3000/- per month. Dry food packets are sold in the community at a cheap rate of Rs.1 per pack, attracting small children and young mass. High demand and quick sales of the products encouraged the group members to increase volume of output so as to establish marketing linkage with urban agencies like Sea-shore marketing agency at Bhubaneswar.

The group in future aspires to acquire training in mixture preparation which would fetch them tie up with local marketing outlets like Gujrati Hotel, a mixture wholesaler in Paikamal. Their success is laudable and inspires women of nearby villages to realize the significance of skill enhancement in improving livelihood.



1.5. Ensuring Food Security

A Case Study from Kandhamal, Orissa

People in rural Orissa depend largely on agriculture for their sustenance. Their efforts in cultivation have often been thwarted by uncertainties of climatic conditions and uneven social structures. Erratic rain fall, unequal distribution of rain water and rain fed conditions of farming are the major hindrance in their efforts to secure productivity of land. In the absence of rain water management soil fertility is often lost in heavy runoff. Besides, frequent dry spells have resulted in crops loss leading to drastic down fall in agricultural produce and consequent scarcity of food and nutrition in farmer's families. Majority of them being very poor and land less, there is little respite from agricultural operations. With out any alternative lots of people from the villages often migrate to outside regions or states in search of livelihoods. Many work as labourers in the filed of rich landlords. Their earnings have seldom been adequate to look after their families. The consequence is poverty, malnutrition, loss of health, hygiene and education of children.

Due to rainfed conditions and inadequate irrigation facilities, the residence of Kilabadi village in Daringbadi Block of Kandhamal District in Orissa pursued cultivation of under developed crops like rasi (til), niger and minor millets only. Food habit of the villagers was devoid of any nutrition as they consumed these crops at home. Poor health conditions leading to anemia, weight loss, poor eyesight etc was prevalent. Majority of them were below the poverty line and thus unable to fetch a square meal for a day. The main cause of their poverty was attributed to lack of irrigation rendering lands unproductive. The Lindurgi water reservoir at the upper ridges surrounded by three mountains viz , Adigaju, Jargisaru and Rightsaru was the only source of water. During rainy season heavy runoff from these mountains used to wash away the earthen bunds constructed by villagers for irrigation purposes. The streams ran down through valleys to lower regions with out contributing to irrigation of farm lands at Kilabadi. How ever with the intervention of DPAP, people of Kilabadi village have witnessed remarkable development in land based activities ensuring their food security.

Guided by the project functionaries, the watershed committee decided to divert the flow of rain water from upper ridges to the farm lands at Kilabadi. It started with a social wellbeing analysis and identified poor and marginal farmers. These farmers were formed into three Farmer Interest Groups(FIGs) each having 12 to 15 members. A diversion weir and 900

mtr. long canal was constructed at project cost of Rs. 1.5 lakhs. Members of the farmers groups contributed labor in construction, subsequent maintenance and repairs of the canal. In 2009 each of the FIGs was assisted with revolving fund of Rs. 15,000/- by the watershed committee. The members have also got the trainings on vegetable cultivation from the project.

The impact of this construction has been tremendous in providing irrigation and enhancing production in about 60 acres of lands. Farmers have now been self sufficient in securing their food consumption. They don't have to buy vegetables from the market anymore. They are able to attend to their children's education in schools comfortably. Enhanced income from profits of selling their agricultural produce has enabled them to buy valuable assets. Many of them have renovated their houses. Most of them have opened saving accounts in the bank.



Photo 1: Profuse yields of cabbage in Kilabadi



Photo 2: Farmer renovating his house

In December 2009 farmers of Kilabadi harvested huge quantities of cabbages. Each farmer could harvest about 90 quintals from 3 acres of lands. The yield was sold at Rs.3 to Rs. 5 per kilo in the near by market. With an investment of Rs. 5,000/- in cabbage cultivation each farmer could earn a net profit of Rs. 18,000/- from sale of cabbage. Besides, harvest of other vegetable like potato, brinjals, drumsticks and papaya added to their profits from sales in addition to meeting nutritional supplement of their families.

Moreover Kilabadi has become an exemplary village for the neighboring villages of Tilori and Samabadi in the district. Residents of Kilabadi are now regarded with great respect by other villagers in the vicinity.



1.6. Departure of Distress Migration

A Case Study from Kalahandi, Orissa

Migration of community members in pursuit of livelihood options in far-flung areas across regional and state boundaries has been a subject of considerable debate and research. Availability of skilled manpower from the villages at economic rates has always lured contractors to take community members regularly to work in brick kilns, factories, transportation and construction sites. The contractors strike a deal by paying lump sums in advance to the community members who in anticipation of assured income, better standards of living and utilization of their skills accept the jobs. On the other hand unavailability of jobs in lean periods, lack of off-farm livelihood options, inadequate food and absence of social security are the reasons compelling the poor and landless populace to migrate to outside state areas. These people are distress migrants who are generally very poor, unskilled and in recurrent debt traps. In the process of migration they get further impoverished, suffering from health hazards, exposed to inimical work conditions, malnutrition, inability to educate children and deterioration of their self esteem and confidence.

Sukalsai Senapati is a resident of Rekhpur village in Narla Block of Kalahandi district. At 20 years of age, he lost his father and had to shoulder the responsibility of looking after his family. He was poor and landless. Burdened with debts since his father's times and the requirement of feeding his family, he started to migrate along with his wife to far away places like Mumbai, Waltair, Gujrat and Talcher for livelihood. They engaged as labourers in arduous construction works. Sukalsai earned upto Rs.70/- and his wife Rs.55 a day. With the passage of time they gave birth to two children. In- sufficient income coupled with insecure habitations made it difficult for them to properly bring up and educate their children. They used to visit their native place very rarely. During one home coming Sukalsai was identified as a very poor house hold by Maa Patadeo watershed committee through a well being ranking exercise in Rekhpur in the year 2005.

Sukalsai was assisted with livelihood support under DPAP 10th batch implementation. He opted for a pair of bullocks and also undertook goat rearing. The watershed committee provided a grant of Rs.3000/-to him. He rented the pair of bullocks @Rs.100/- to Rs.150/- for cultivation or carriage of wood by the villagers. He took 1.5 acres of land on share and cultivated paddy and cereals.

Soon his condition started to improve. Due to financial stability Sukalsai felt much relieved and dropped the idea of migrating any more. His children are getting good education. He has released himself from the debt trap. With increased income he hopes to buy land and continue with agriculture as a source of livelihood.

In the last season Sukalsai could harvest 12 quintals of paddy and received 7 quintals after giving landlords share of 5 quintals .Besides, he resumed his ancestral occupation of bamboo crafts making and in a month produced 6 cages (thapas) used for housing poultry and catching fish. Each thapa was sold at Rs.15/- in the nearby markets of Narla, Balipada and Rupra fetching him around Rs.100/- every week.

Sukalsai's sincere efforts amidst all adversity have reaped the fruits of success. He has been the source of inspiration to many in the community and now others are also following his footprints.



Photo 1: Sukalsai resuming livelihood from making bamboo crafts, Rekipur, Narla, Kalahandi

