

jeebika

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On-field aquaculture training to women SHG members - Balisugri, Kandhamal



Water harvesting through run-off management at Kodaldunguri, Nuapada



Secure water source for cattle at Kotmer, Kalahandi

Everyone knows that water is critical to nourishing and fostering life. Regardless of social and physical conditions, water is vital to the existence of all. That is why sound management of our water resources is imperative.

Development of integrated watershed programme is significant as it provides opportunities to the local communities to treat watersheds and conserve natural resources for improving their livelihoods. For managing and conserving water resources, the local communities treat watershed areas and construct rainwater 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. Insitu water harvesting is a key in watershed development which helps in increasing the soil moisture and productivity of vegetations. This also acts as drought proofing measure.

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 to reduce the speed and volume of runoff

and prevent soil erosion and downstream sedimentation. Water harvesting structures (WHS), farm ponds, and percolation tanks have been excavated to collect excess runoff, irrigate farm lands and recharge ground water. Pond water is used for irrigation and growing fish providing supplementary nutrition and income from sales. Farmers have cultivated pulses, vegetables and been practicing backyard farming. An impact assessment of WORLP by Sambodhi in 2008 reveals that almost three-fifth of the marginal farmers in the project watersheds have reported improvement in disaster coping capacity.

DEVELOPMENTS

Land Salvaged by Diversion Bund



Folded hills encircling Thuajharan MIP causing excess run-off in Chhindrapali fields of Gaisilat, Bargarh

Until a year back, more than 300 acres of land in Kantajhuda, Chhindrapali and the nearby villages in Gaisilat block of Bargarh district remained uncultivable due to soil erosion and lack of proper management of rain water. Despite good rains, runoff from the encircling mountains not only washed away fertile soil but also created gullies and ravines in the fields making it almost impossible for any cultivation. Per acre yield of paddy was only 7 quintals which was



Open surplus washed away by heavy run-off from Thuajharan MIP in Chhindrapali, Gaisilat, Bargarh

barely meeting the consumption needs of the villagers. Land-owners had to migrate to Bargarh and Hyderabad in

search of livelihood activities like crop cutting and brick making. All this was due to the heavy runoff from Thuajharan Micro Irrigation Project (MIP) at the base of folded hills in the periphery.



Diversion bund providing protective irrigation to fields in Chhindrapali, Gaisilat, Bargarh

During rainy season excess water of the MI project passed through an open surplus into agricultural fields of the villages downstream. In consequence, heavy sediments of silt used to get deposited in the fields. Fertile soil was washed away through ravines created by the torrent. Villagers approached the Maa Mohadasoni Watershed in Chhindrapali under Hariyali III of DPAP 11th batch, for helping them out. Under guidance of Sri Sanatan Mishra, PIA JSCO, Gaisilat, a 621 ft. long diversion bund was erected by the villagers at an investment of Rs.50,000/- from the watershed fund. The runoff was diverted through streams in three directions – one towards the village *kata* (a 100 year old pond) in south-east, one towards the north-east through a culvert across the road from Chhindrapali to Turcha and another in the north-west direction alongside the village. As a result irrigation of more than 300 acres of land has now been protected in the *kharif* season. Surplus water from the *Kata* has also irrigated the land beyond. The current yield per acre is estimated to be 30 quintals. Besides villagers of Chhindrapali have done pisciculture in the *Kata*. They have protected the diversion bund with grass turfs. Besides a guard wall is currently under construction to prevent the bund from



User Group members benefitting from Guard wall against heavy run-off in Ainlabhat, Gaisilat, Bargarh

being washed away by heavy-runoff. Loose boulder check dams have been constructed in the upper ridges to prevent silting in crop lands. More canals are being planned to irrigate lands of nearby villages.

Under Budharaja Watershed in Ainlabhata, another village in Gaisilat, farm fields suffered heavy loss due to runoff from the Khairpali Upper-ridges. A 70 ft. long guard wall has been constructed there to protect the field bund. About 40 acres of land which earlier used to be sand-cast due to runoff have now been recharged with ground water. Cross bunds have been built along the course of the canal to collect water and improve soil moisture of adjacent fields. Farmers have now got 10 to 15 packets more of paddy per acre because of the runoff management.

The villagers are now happy that the bund has checked soil erosion, prevented their lands from sand casting and provided protective irrigation. Barren uplands have turned fertile now and the villagers are cultivating vegetables there extensively. Their farm-based occupations have been stabilized due to ridge to valley treatments of land.

Source: Sri Toshabanta Sahu, WDTM Engg, PIA Gaisilat, Bargarh.

Farm Pond – Rejuvenating Vegetative Coverage in Rainfed Area



Rushi with his family – Tureikela, Bangomunda, Balangir

Rushi Behera is a 50 year old poor farmer in Tureikela village of Bangomunda block, Balangir district. He and his 5 brothers had 6 acres of land. However, scarcity of water foiled his efforts to carry out cultivation in his 2 acres share of land. With a large family of 4 sons and 3 daughters, it became almost impossible for him to look after them. He along with his eldest son had to migrate to Mumbai in search of livelihood. He took Rs. 2100/- loan from the landlord at Bhalumunda, a nearby village, at high interest rates for travelling to Mumbai. During stay at



Farm pond providing life saving irrigation to Rushi's farm – Tureikela, Bangomunda, Balangir

Mumbai they worked for 3 months in construction sites and earned Rs.10,000/-. They continued migrating every year for 4 years. Life appeared as a battle defeating all their efforts to eke out a living.

In 2008-09, the field staff of PIA Gram Vikash while implementing WORLP programme for developing rainfed areas of western Orissa sensitized farmers to adopt drought proofing measures. The PIA facilitated in excavation of a farm pond in the field of Rushi under Jaya



Mixed cropping with vegetables and maize in Rushi's farm - Tureikela, Bangomunda, Balangir

Jagannath Watershed Committee in convergence with NREGS. The pond is 3 meters deep and measured at 20 x 20 square feet area. A sum of Rs.48267/- was spent in the excavation of the farm pond. During rainy season the pond was filled with water up to its brim providing life saving irrigation to the nearby land. Besides *Kharif* crops, Rushi cultivated various vegetables and other *Rabi* crops in his land. This switch over of cultivation by Rushi from a single crop, i.e. paddy to several *Rabi* crops could be made possible by the farm pond enhancing his income remarkably. Besides paddy, Rushi has grown onion, ground nuts, maize intercropped with brinjal, tomato and cluster beans in his land. Last year he produced 2 quintals of *Arhar*, 20 quintals of paddy and 20 quintals of onion of N-53 variety. He expects to produce 500 kg of brinjal, 5 quintals of ground nut 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 800gm weight each and by April they

are expected to be above 1 Kg size. At the prevalent market rate of Rs. 100/- a kilo of fish, Rushi expects high profit from sale of those.

Rise in income has enabled Rushi to pay off all his debts and provide nutritious food to family members. He could also educate his children, get his daughter married last year organising a grand feast attended by 200 fellow villagers, purchase household assets like one cycle, one Godrej wardrobe and take one acre of land on lease for cultivation. 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.

Source: Sri Satyabrata Guru, CBT Livelihood, PD Watersheds Office, Balangir

Enriching Moisture Regime of Upland Soil



Run-off Management Structure improving arability of land in Bokrasil, Dharmagarh, Kalahandi

Chilidangari and Matimatal Dangari are the mountains in the fringes of two contiguous villages namely, Bokrasil and Kotmer in Dharamgarh 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 flowed down depositing

heavy silt over the crop lands. In the absence of any storage tank the farmers were unable to pursue cultivation whenever there was less or no rain in the region.



Cattle find source of water and fodder from around WHS in Kotmer, Dharmagarh, Kalahandi

In 2003-04, field functionaries of PIA ASCO, Dharmagarh, initiated under DPAP 7th batch implementation, the process of excavation of a runoff management structure (RMS) in about 1.5 acres of land at the base of the Chilidangari. With an investment of Rs. 1.66 lakhs, near about 400 farmers under Belpatinala MSW in Bokrasil contributed labour in digging the earth and it took 2 months to complete the Chilkurla RMS. Under the same Project in 2003-04 the Tentulikata bund was constructed at the base of Matimatal Dangari at Kotmer under Kusum Nala MWS. 4 to 5 acres of catchment 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 the villagers in the upper ridges. Renovation of the Kendukatta pond in Kotmer has benefitted the farmers immensely. Located in the upper

land and having water through out the year the pond serves in preserving moisture regime of soil enabling farmers to cultivate paddy in *khariff*. In *Rabi* they use the sluice to cultivate pulses. Pisciculture is also encouraged in this project. The pond also serves as a good source of water and fodder growth in the adjoining pasture for drinking and grazing by cattle of the village.

Farmers have experienced tremendous growth in farm productivity. Farmers of Kotmer such as Ashok Bodek and his brothers have harvested 300 quintals of paddy from their 34 acres of land apart from rich yields of onion, pulses and *moong*. Anirudha Bodek having 9 acres of land has reaped 60 quintals of paddy and 2 quintals of *moong*. Assisted with mango grafts by the Watershed Committee, Gopabandhu Bodek has planted 50 *Amrapally* Mango grafts in the year 2007-08 and expects to get good yield in the coming year. Pursuing backyard farming farmers have reaped papaya, drumstick, *amla*, guava, custard apple, lemon etc. for their own nutrition and selling in the near by market at profitable rates.

Increased crop harvests have resulted in major changes in the life styles of the farmers. They have been consuming nutritious food these days. *Moong* production has been taken up in larger scales. Their children have received better and steady education. They have found better market linkages enhancing their income from sale of farm outputs. Mobile phones are increasingly used by the farmers taking advantage of instant communication and information on crops and markets. Livelihoods of the farmers are now secure with promises for a better future.

Source: PIA ASCO and Team members, Dharmagarh, Kalahandi

COMMUNITY CHRONICLE

Runoff Management Bringing Prosperity to Farmers

Productivity of farm land in Podapali village at Khariar block, Nuapada district was very low. The earth remained dry through out the year due to scarcity of water. A Water Harvesting Structure (WHS) excavated 15 years back by DRDA was too small to collect the huge runoff from the mountains. The surplus runoff used to wash away the soil and there was almost no seepage of water to raise water table. 72 small and marginal farmers of the village with

individual ownership of 2 to 4 acres of land could barely produce 7 quintals of paddy per acre. Unable to pursue any other crops due to lack of water they had to engage in labour works for earning livelihoods.

With the guidance of PIA SVA under WORLP a survey was carried out by the Gram Nirman Watershed Committee instituted in 2004 with 2 villages – Kurd and Kalan of Podapali. A spot named Halbahali was identified by the village watershed association for treatment. A user group of 7 farmers owning 20 acres of farm land near the WHS approached



Loose Boulder Check Dam protecting land from run-off in Podapali, Khariar, Nuapada

the watershed committee for expansion of the Halbahali WHS. They were named as Halbahali User Group. From engineer's estimates a sum of Rs.73,376/- contributed in the proportion



Cattle grazing on pasture alongside WHS in Podapali, Khariar, Nuapada

of 90% by the watershed fund and 10% by the user group was spent in the excavation of the WHS. It took 3 months time with contribution of labour by 60 farmers of Podapali to complete the work in February 2009. A massive 232 ft long bund was constructed in between the farmers' fields and the WHS. With runoff collected in the WHS ground water has been recharged. Bishnu Sabar, the committee secretary says that earlier he could get a yield of 1.5 quintals of paddy and 2 quintals of *moong* from his 2 acres of land. Now he has harvested 20 quintals of paddy, 25 quintals of *moong* from the same land. Besides, the WHS has been used for pisciculture by the villagers. Cattle of the village can now drink from the WHS and graze along the bank. Not only that, water levels of the well and farm ponds in the fields have also gone up due to seepage of water from the WHS resulting in cultivation by the farmers round the year.

Kodaldunguri, another village in Khariar, has 101 households depending mainly on cultivation of paddy for their livelihood. But scarcity of water and degradation of lands due to runoff were the major reason for low crop yields. Jharanmunda, a WHS excavated with assistance from the Soil Conservation Dept. in 2002, collected less water than required for cultivation and was used for bathing purpose only by the villagers. In the year 2007, farmers discussed with the PIA Sahabhangi Vikash Abhiyan (SVA) team (LSTs & WDTs) in Dhvajabandha WS committee meeting.



WHS recharging farm lands in Kodaldunguri, Khariar, Nuapada

They proposed that the structure would store more water if interconnected with streams. Accordingly, 6 loose boulder structures (LBS) and one open surplus were constructed at a cost of Rs.50,000/- of which 5% was contributed by the user group. This increased the volume of water in the WHS. The stored water of Jharan Munda WHS is now used to irrigate 10 acres land at the lower level. The farmers express satisfaction for having overcome the problems of water scarcity in their lands. Now they are harvesting increased crops. Gurubar Sabar, a farmer having 1 acre of land was reaping only 1 quintal of paddy. Today his output has gone up to 7.5 quintals. Similarly, marginal farmers like Sashidhar and Tigiram have experienced an increase of paddy by 30 quintals from their fields. With increased vegetative coverage farmers have tried with different crops like pulses, onion and vegetables. Besides, the WHS is used for pisciculture, duck rearing and livestock too. They have realized the potential of water conservation and with support from the watershed committee constructed 12 WHSs and 22 farm ponds in the village.

Source: PIA SVA Team, Khariar, Nuapada

Livelihoods Supported by Farm Pond



Delighted children of Nedipanga bathing in farm pond - Phulbani, Kandhamal

Nedipanga and Kutibari in Sraki, a village in Katringia GP, Phulbani block of Kandhamal district consists of 120 households in total. The residents are mostly small and marginal farmers depending on agriculture for their sustenance. Due to inadequate management of water resources, except in rainy season, the lands of these farmers used to remain dry during rest of the year. They could produce only 30 quintals of paddy and about 10 quintals of potato in a year. Following traditional means of irrigation they were lifting water by hand lifting device made of wood that was insufficient to collect adequate water for purposes of cultivation in dry season. The male



SHG members practicing pisciculture in farm pond at Nedipanga - Phulbani, Kandhamal

members had to engage in labouring and the women in leaf plate making and selling to earn their livelihoods.

The farmers approached Nedipanga Watershed Committee and discussed about how to secure water supply for cultivation. Under implementation DPAP 12th batch the Committee formed a user group consisting of 9 members of them. In 2007-08 a sum of Rs. 1 lakh was sanctioned under the Project for construction of a farm pond measuring 100ft x 100ft x 10ft size. The pond was excavated with contribution of labour by 32 farmers of Sraki under guidance of Sri P.K. Jena, Soil Conservation Section Officer, Phulbani and was completed in 3 months time. It contained 2400 cc water volume and provided life saving irrigation to 10 acres of farm land in its surrounding. Farmers could take up *Rabi* crops and vegetable cultivation and are getting 3 quintals more than their past yields. Besides irrigation, the pond is also used for pisciculture by a women's SHG consisting of 12 members of the village. The group has released 3000 fingerlings in the pond. The fish have grown up to 250 grams now and are expected to be of 1 Kg weight upon harvest which will fetch them good financial returns from the market. They have taken protective measures to safeguard growth of fish. Villagers are also using the pond for bathing purposes. Cattle of the village come to the pond for drinking and grazing in the pasture surrounding it.

Having realized the impact of the pond on livelihoods, the villagers plan to maintain it by increasing its depth, concretizing its bunds and acquiring more land in its vicinity for cultivation. They also look out for excavating one more farm pond so as to increase their vegetative coverage area. Women members have planned to take up goatery and approached the watershed committee for assistance.

Source: CBT Members, PD Watersheds Office, Kandhamal

EVENTS AND NEWS

Onion Growers' Co-op. Society Inaugurated:



Office of Maa Bastarni Onion Growers Cooperative Society composed of 215 onion growing farmers of Komna, Nuapada was inaugurated by Shri G. Bhaskar Reddy, IFS, Director, Orissa Watershed Development Mission on 18.01.2010 at Kendubhata, Nuapada. The Society got established under implementation of SPF, WORLP. It has been promoted by PIA CPSW with the objective of empowering farmers to take ownership and management of onion production and marketing as a sustainable livelihood option.

National Conference of PDs, DRDA:



The National Conference of all DRDA Project Directors in India was held at Vigyan Bhawan, New Delhi on 20-21.01.2010. On behalf of Orissa Watershed Development Mission, Sri Niranjan Sahu, PSU Coordinator, WORLP, presented a case study on success with WORLP initiatives in reducing distress migration and ensuring food security of poor families in watershed area. The presentation was highly appreciated by about 600 PDs, DRDA. The Conference was organised by Ministry of Rural Development, Government of India. Among dignitaries who addressed the Conference were Shri Sharad Pawar, Hon'ble Minister of Agriculture and Dr C. P. Joshi, Hon'ble Minister of Rural Development, Gol.

One-day Workshop on Fish Federation, Bargarh:

Fish farmers from watershed areas of Bargarh district were oriented on functional aspects of Fish Federation in one-day workshop at WUAC, Diptipur, Bargarh on 23.02.2010. Dr. Ambekar E. Eknath, Director and senior scientists of CIFA together with Shri Pravash Sahu, MC and Mr. S. N. Naik, PD Watersheds Bargarh met farmers of three blocks of the district and addressed the workshop.

New Collector in Bargarh:

Sri Bhabagrahi Mishra, O.A.S joined as the Collector and Watershed Mission Leader, Bargarh on 08.02.2010 by taking over charge from Sri Suresh Prasad Padhy who retired as Collector Bargarh on 15.01.2010. The Project Director, Watersheds, Bargarh welcomed and apprised him of the ongoing watershed projects in the district.

Use of High Science Tools in IWMP Workshop in New Delhi:

Sri Sailendra Narayan Naik, Project Director, Watersheds, Bargarh participated in the workshop on "Use of High Science Tools in IWMP" organized by ICRISAT, Hyderabad on 01-02.02.2010 at NASC, New Delhi.

Bargarh PRI Members visit BAIF:

29 Zilla Parishad Members and Panchayat Samiti Chair persons of Bargarh district with facilitation by Sri S. R. Behera, APD (LH) & Sri B.C. Dash of Watershed Mission, Bargarh visited Tiptur centre of BAIF, Karnataka during 22-28 Feb'10. The PRI members were exposed to tree-based watershed activities, water conservation measures, dry land farming, SHG Marketing and Federations.

Kalahandi Ghumura Festival 2010 Celebrated:

The Kalahandi Ghumura Festival 2010 was celebrated during 14-17.01.2010 at Bhawanipatna. 12 stalls on behalf of Watershed Mission had been opened. Growth in crops and vegetables production, livestock and forest produce due to successful management of water, land, forests and capacity building through training in mushrooms production were exhibited.

RDC Monitors Watersheds in Kalahandi:

Mr. C. S Kumar, IAS, Revenue Divisional Commissioner (Southern Division) along with Collector, Kalahandi, line department officials and PD Watersheds Kalahandi visited Purunagumma Watershed on 3.02.10. He discussed with the SHG members and beneficiaries about the watershed activities and support.

Defence Personnel visit Watersheds in Balangir:

Defense personnel from National Defence College, New Delhi visited Bhuanpada village of Sri Jagannath MWS and Tentelkhunti MWS Gudvella block, Balangir on 29.1.2010. They visited plantation programmes, water conservation initiatives, livelihood initiatives and interacted with the beneficiaries.

Recruitment of WMT members in Kandhamal:

A walk-in interview was conducted for recruitment of Watershed Management Team members in different disciplines of Micro Enterprises, Social, Engineering and Livelihood during 16-17.02.2010 for implementation of Integrated Watershed Management Programme (IWMP) in five blocks of the district such as Khajuripada, Raikia, Chakapada, Tikabali, and Daringbadi. A Selection Committee chaired by Project Director – Watershed and Subject Matter Specialists of Kandhamal conducted the screening process.

Director, OWDM visits Kandhamal:



Sri G.B Reddy, IFS, Director OWDM, visited Kilabadi Micro Watershed Project under DPAP- 8th batch on 18.02.2010 to review the progress of watershed works and JEEBIKA activities in the district. He interacted with SHG and FIG Members of Kilabadi micro watershed with PD, Watersheds, CBT- NRM, and CBT- Monitoring and Evaluation, Kandhamal. Inspecting soil and water conservation activities such as diversion bund, small masonry water bodies etc., he discussed with the field staff for furthering implementation of the Project.

New Additional Director in OWDM:

Dr. Sarat Chandra Behera has joined as Additional Director in OWDM on 01.01.2010. Earlier he has served as PD Watersheds in Nuapada district.

New PD in Watersheds, Nuapada:

Mr. Susanta Kumar Mallick, M.Sc (Ag) joined as Project Director I/c, Watersheds, Nuapada on 14th Jan, 2010. Earlier working in several capacities he has proven efficiency in implementing watershed projects under various Government schemes. Under his leadership the watersheds development programme of the district is expected to get a good mileage.



Nuapada Watershed members' exposure:

92 poor and very poor youths from watershed villages of Nuapada district during their visit to the 15th National Youth Festival 2010 from 8th to 12th Jan10 at Bhubaneswar, had exposures to different activities and institutes like mushroom unit at Sakhigopal, CIFA, Khandagiri silviculture nursery and Ekamra Haat.

Tableau by Nuapada Watersheds Awarded:

Tableau on watershed model displayed by the Project Director, Watersheds, Nuapada on the Republic day 2010 in Nuapada district has been awarded first prize. 26 members from two SHGs of Chhindpani Watershed also participated in this programme.

Kotmer, Dharmagarh, Kalahandi



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