

JHARKHAND

D.1. Setting an example

(Tyma watershed proves to be an example for others to follow in Jharkhand)

Introduction

Tyma is well known for its rain water harvesting structures, mango orchards, teak plantations, *tassar* silk rearing, drip irrigation, multiple cropping, people's participation and cooperative farming. A decade back the area was drought prone, single cropped, and poverty ridden with people depending on forest for livelihood and migrating to nearby towns for employment.

The transformation took eight years to happen. It was made possible through adoption of watershed approach. National Bank for agriculture and Rural Development (NABARD) sponsored the watershed development project in four villages of Auradih, Sangrampur, Hulu, and Sarlakala. The NGO, Professional Assistance for Development Action (PRADAN) facilitated the Project that was implemented by the people themselves.

Dubbed as the river of sorrow for its ruthlessness in carrying top soil and severity in causing erosion, Tyma is a small riverlet in the catchment area of Bhairavi which finally joins Damodar River. The Tyma watershed is located nine kilometers from Gola block in Ramgarh district in Jharkhand state. The Watershed is spread over an area of 1016 Ha and comprises of 35 per cent forest land, 33 per cent net sown area and 21 per cent of cultivable but undulating wasteland. There are 632 households in the watershed of which 61 per cent belong to tribal community. About 64 per cent families live below the poverty line (BPL) and only 33 per cent families have year round food security.

Forest is the major source of livelihood for most of the families who depend on it for fodder, fuel wood and non-timber forest produce (NTFP). It is mainly the women who collect fuel wood from forest and carry it as head load to sell at the block headquarters. While migrating for work, families left the old and disabled behind in the village. Farmers could grow only a single crop and when monsoon failed then food scarcity prevailed in most of the families. This situation existed till the year 2000.

The same year saw the watershed project being started in Tyma. The activities began with a baseline survey and awareness campaigns. Various stakeholders were trained and detailed project report was prepared by 2001. The implementation of physical activities began in 2002 and was completed in 2008. The total budget of the Project was Rs 80 lakh. Of this, NABARD provided Rs 62.64 lakhs, people contributed Rs 6.79 lakhs while bank loan amounted to Rs 10.57 lakhs.



Photo1: Satellite image of treated area of Auradih

Objectives and Processes

The main objective of the Project was to improve the overall living condition of the people through watershed approach. The process and methodology to achieve this objective was evolved by PRADAN.

To begin with ten opinion leaders from the village were identified with the help of the people and taken to Purulia, West Bengal to see similar watershed works. The impacts of watershed approach at Purulia inspired the visitors from Tyma. A “WE CAN ALSO DO and WE CAN ALSO CHANGE” attitude took root in their minds. Mr. Bahudar Tanti, one of ten people in the visiting team convinced everyone in Tyma about the need of the watershed approach in Tyma and the benefits that could follow from such an approach.

Hamlet level watershed development committees (WDC) and user groups (UGs) were formed. Self help groups (SHGs) were formed to involve women in the planning and implementation process. Resource as well as land use mapping exercises were conducted by PRADAN together with the people and intervention maps overlaid with family based plan were prepared. Activities were prioritized looking at the need and available budget. Roles and responsibilities were divided among the various institutions of the community.



Photo 2: People preparing resource maps

The NGO trained the members of the WDC on technical design and layout, measurement of works and payments, maintenance of books of accounts. Besides, farmers were trained to adopt improved technology. A pool of community resources persons were created and trained to deliver various livelihood services including marketing, to the community.

Results and Impacts

The Jharkhand State Watershed Mission under the Rural Development Department is the nodal agency for managing all the watershed

projects in the state. The mission coordinated an evaluation of the impact of the watershed project in Tyma in 2010. The teams consisted of mission officers and staff, technical experts and members from specialist organisations. The evaluators included the chief executive officer (CEO) of the mission, technical experts, project managers and staff from the watershed cell cum data centre, members from WASSAN consortium¹. The evaluation brought up several encouraging results. (See fig 1 for pre and post watershed situation).

¹ The consortium is formed with the support of Jharkhand State livelihood Promotion Society (UNDP-GoJ). It consists three leading NGO of India WASSAN, PRADAN and Central India Initiative (CINI)- a cell of Sir Ratan Tata Trust (SRTT).

Fig. 1. Changes: Pre & post watershed treatment

S. No.	Particulars	Pre-Treatment	Post-Treatment
1	SHG promotion	0	54 (782 members)
a	Net owned fund	0	Rs. 18.79 lakh
b	Total credit disbursed	0	Rs. 48.27 lakh
c	Bank linked SHGs	0	44
d	Bank loan mobilised	0	Rs. 23.08 lakh
2	Crop cultivation		
a	Net sown area	428.50 ha	625.25 ha
b	Area under double cropping	60 ha	309 ha
c	Cropping intensity	115 %	160 %
d	Orchards	0	10.57 ha
3	Physical infrastructure		
a	Water harvesting tanks	13	40
b	Renovation of old WHTs	-	9
c	Land husbandry	0	177.19 ha
d	Plantations & pasture development	0	33.71 ha

The topography of the watershed was undulating in several patches. Such patches were first levelled and divided into plots of 30x40 feet and pits of 5x7x3 feet dimension were dug to conserve moisture. About 24 Ha of undulating lands were treated in such manner.

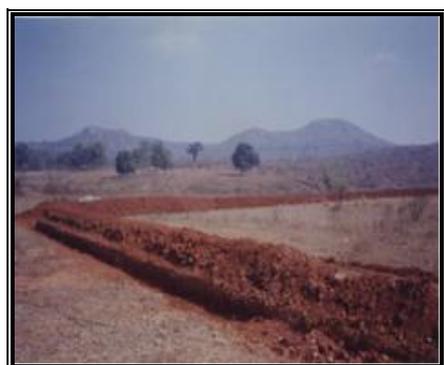


Photo 3: 30x40 ft bunds



Photo 4: loose boulder structure

In another 133 Ha a series of recharge pits along with field bunds were constructed. To harvest the rainwater, the Project built 27 new water harvesting structures (WHS) and renovated nine of the 13 pre-existing structures. Water absorption trenches measuring 1484 running meters were also constructed. In addition, agro forestry plantations and pasture development was taken up in 33.71 Ha and an orchard of mango was developed in 10.57 Ha.



Photo 5: mango orchard at the initial stage



Photo 6 & 7: Vegetable gardens in the project area

Water harvesting structures and ponds were used for agriculture and fisheries. As a result, agriculture became the main source of livelihood which hitherto was largely dependent on wage labour and forest produce. The farmers who provided lands for ponds and WHS were compensated by being given rights to harvest fish. Out of 40 ponds 36 are perennial and hence were used for fish farming. The owners of ponds earn an average of Rs. 10-15,000 per pond per year from fisheries. SHGs and rural youths have taken up *tassar* silk processing as a livelihood activity.



Photo 8 & 9: Tassar silk processing machines

The watershed project also brought about social changes in villages of Tymba watershed. The enrolment of children in primary school increased by 82 per cent and the 38 per cent more girl children are now retained at the middle school level. *Jungle Bachao Samiti* has protected and rejuvenated forests to an extent of 80 Ha. On the micro-enterprise front, 8 SHGs have taken bank loans under Swarnajayanti Gram Swarajgar Yojana (SGSY) to install four micro lift irrigation schemes to irrigate 18 Ha. Today, Auradih village has 10 TV sets, 16 motor cycles and 150 bicycles.

Watershed approach spreads to other regions in the state

Given the success of the watershed approach in Tymba, the Jharkhand State Watershed Mission has taken up about 5000 Ha of land for treatment under IWMP in the year 2009-10. The soil conservation department of the state will be the PIA. Thus it can be said that the Tymba watershed is serving as a model for enabling convergence and pro-poor livelihood development in the state.



Photo 10 & 11: People on exposure visit to Tyma

Watershed Development Fund generation and management

To help the community maintain the watershed structured after the completion of the Tyma project, a watershed development fund (WDF) has been created. This fund has been created from people's contribution obtained through two different methods. The first method was that of the compulsory *shramdan* (labour contribution). In this method 16 per cent of the labour wages earned in building watershed structures was deducted at source. The second method was of weekly *shramdan*. This was done on the first day of every working week where people undertook an activity of common interest like repairing village road, de-silting ponds, constructing wells, constructing gully plugs in the forests, repairing diversion bunds or irrigation channels. This was generally a half day event. Payment for this work was made at the end of the week.

The latter event also served the purpose of bringing people together for a common cause. People cooked and ate together during the *shramdan*. Further, the Secretary and/or the President of the WDC receive honorariums for acting as resource persons in other programs. They deposited this honorarium in the WDF account. In addition to this Rs. 2000 per visit is charged from the members of watershed development team (WDT), SHGs, WDC, UGs of IWMP watersheds who come to Tyma for learning. This money is also deposited in the WDF account. The interest accrued on this account is used for maintenance of watershed structures.

Village Watershed Committee Management

A village level watershed committee has been registered as a trust with ten members, of whom three are women. VWC meets at least once every month and generally all meetings have 100 per cent attendance. The presence of the NGO staff in these meetings is mandatory. The VWC takes stock of overall implementation of the Project in these meetings. The members also discuss and plan for better utilization of funds in the WDF and also optimum use of treated agriculture lands. The VWC has a bank account in the name of "Tyma Jalachhajan Vikas Samiti".

A sense of ownership is created

Since the watershed project started in Tyma youths from the watershed villages have taken to protecting the adjoining forests from grazing, illicit felling for fuel wood and timber. They have formed groups which take up protection of the forests by rotation. Felling of trees is strictly prohibited. The SHG and watershed committee in Sangrampur village have done a remarkable work in getting together people from all the villages that depend on the forest of Sangrampur to completely stop injudicious felling of trees. Some hamlets like Auradih, Jaradih, Sarlakala and Hulu have stopped grazing of animals in the forest. Anyone found

violating the rule have to pay a fine. The Auradih village alone has collected a fine of Rs. 3000 from the violators.

The watershed committee in Tyma also acts as a conflict resolution mechanism to settle disputes between villagers in the watershed. In the year 2006 a quarrel broke out between Nibaran Saw (Jaradih) and some people of Auradih village as the latter grazed their animals in his orchard. The quarrel went on for a month when finally the watershed committee intervened and settled the issue by imposing a severe fine on the offenders. This has served as a valuable lesson to others in the watershed. Now if some villagers are caught grazing their animals in other's agricultural fields they try to solve the problem mutually as they are afraid of the punishment from the watershed committee. In 2006 the watershed committee collected a fine of Rs. 1500 for open grazing.

Management and utilization of the fine collected is still an issue. At present people collect fine, give a share to the landowner and in most of the cases rest is spent on snacks. In some villages the fines are kept hamlet wise. A common maintenance fund account has been opened and some part of fine is proposed to be put in this account but the issue is yet to be resolved.

Women's development

The Project formed 54 self help groups (SHGs) in the watershed. Around 34 per cent of total female population in the watershed are members in the SHGs. There are 88 landless women among the SHG members. About 44 SHGs have received loans from banks. The SHGs in the watershed are further organized in to three cluster level associations. SHGs select their representatives in the cluster level association. The cluster association meets every month. These meetings discuss the performance and problems of SHGs and make plans to help the groups improve their performance. The members also discuss the problems of the village and when required, they make representations to the government officials at the block level.

Summary

Watershed structures irrespective of their type and location need regular maintenance and protection for maximum benefits to maximum people. While people in Tyma watershed have shown remarkable enterprise and solidarity in building these structures, the people still require technical and financial support for maintenance of the WHS. The evaluation team has suggested that the Jharkhand watershed mission and PIA help the community link up with Mahatma Gandhi National Rural employment Guarantee Act (MGNREGA), National Horticulture Mission (NHM) and NABARD for funds for natural resource development and management.

