



Watershed Voices – Experiences from the grassroots



Purushwadi: From Parched Land To Fertile Fields

The changes that watershed brings into the lives of people can best be represented through model villages, one of them being Purushwadi. Visitors to this charming village will vouch for the fact that there is substance in the theory and implementation of how a collective effort can turn apparently impossible tasks into dreams come true. At Purushwadi, the villagers and WOTR have achieved this, working shoulder to shoulder to turn barren land into farms.

To develop a watershed means, conventionally, to treat this whole area in such a way so as to conserve and nurture the natural resources of the area. These natural resources chiefly include the soil and water. Therefore, under these projects, earthen, boulder or vegetative structures are erected across gullies and along contour lines, and areas are earmarked for particular land use based on their land capability classification, so as to be able to ward off soil run-off, to enhance soil moisture and to recharge and enrich underground water reservoirs.

A little before the onset of the previous decade, the concept of watershed development underwent certain structural changes so as to incorporate activities not strictly meant to preserve the ecological resources or rejuvenate the underground aquifers. These activities rather aimed at achieving all-round development of the village in question. Undertaken after most of the technical work was over, these measures aimed to ensure that the sections of the population that did not directly benefit from the watershed development programme stood to benefit in some other way. Among others, these included setting up of women's thrift groups and SHGs and other community institutions,

providing non-farm income generating skills to the landless, taking up welfare activities like health camps, facilitating works like drinking water and approach road for the village, cleanliness drives etc. These value additions gave the watershed projects a more human and familiar face since they brought into play a better understanding of people and their lives.

This change, or rather modification, also changed the meaning of watershed project evaluation. While earlier it was a subject matter of geology and hydrology, and involved mainly soil testing, water table mapping etc, now it involved more of social sciences. Indicators changed from soil moisture content to people's participation, equitable benefit distribution etc. Purushwadi, for instance, was a 'community-based watershed' wherein the prominence was attached to the development of the community.

Village Profile

Purushwadi is a beautiful village set in the picturesque Akole taluka of Ahmednagar district. It is nestled beautifully in a small nook surrounded by hillocks from all sides and has a predominantly tribal population of Mahadev Kohlis. There are only two non-tribal SC households in the village. Demographically, the village has 735 individuals – 296 male adults, 276 female adults, 88 male children and 75 female children.



The total area of the village is 378 hectares, 59 hectares of which is forest land. The total cultivable land is 301 hectares, while 18 hectares of land is barren or unfit for cultivation. Only nine hectares of the cultivable land is irrigated privately by their owners while 0.84 hectares is the revenue land of the village.

The village has an upper primary school, a tar approach road, a drinking water pipeline with several standpoints and a couple of shops. The nearest health facility is located 12 kilometres away in Rajur town. A doctor visits the village with basic medical supplies once in a week. High school is located in Maveshi village 1.5 kilometers away. The nearest bank is located 12 kms in Rajur. The villagers have to frequently travel to Rajur place for their household requirements. Two jeeps belonging to two villagers ply between the village and the town twice or thrice daily. One of the two shops in the village is a fair price shop and the other one is a grocery store. The village has a community hall, a temple and a guest-house as important community buildings.

The mainstay of the village is agriculture, though it is subsistence in nature. The most important crops grown are paddy and finger millet, both of which are staple crops and are mostly consumed within the households. Other crops grown include wheat, chana (Bengal gram) masur (yellow lentil) and varai. These are limited and depend on soil moisture retention which is a result of the watershed.

Farm labour ranks next as income generating activity. Families have to migrate for about 30-40 days, both during the rabi and the summer seasons. The most popular places that offer work to this migrating labour force are Sangamner and Narayangaon. Some travel to distant places like Pune for better wages. Sale of milk, trading in cattle and small businesses are other sources of income but they do not figure very significantly in the occupational structure of the villagers.

Watershed Processes

The processes involved in the implementation of the watershed are just as important as the effect and impact of the watershed. This section therefore has been devoted to studying the process of watershed implementation in the village.

The initiative for starting a watershed development project in the village was taken by the Purushwadi villagers themselves. According to the villagers, the situation of the village was grim with only one agricultural season, barring which migration for menial labour outside the village was the only livelihood option available to them.

In the same time frame, Watershed Organisation Trust (WOTR), Ahmednagar, selected a neighbouring village called Wanjulshet for a watershed project under the Indo-German Watershed Development Program (IGWDP). Purushwadi is, technically, a

hamlet of Wanjulshet village and comes under the management of the Wanjulshet Panchayat even though it has its independent entity like a full-fledged village. It has its own school and anganwadi and is also geographically quite distant from Wanjulshet. When the project commenced in Wanjulshet, a lot of work was generated for the villagers, which was to continue for five years.

At one point of time, the work was too much for the labourers of Wanjulshet to tackle. Purushwadi offered to help out with its labour force and the proposal was accepted by the Panchayat. This provided the Purushwadi villagers with an exposure to the concept and implementation of a watershed. Labourers from Purushwadi had agreed to give a percentage of their wages as shramdaan (voluntary labour) for the work. Therefore out of the daily wage of Rs 100, each person contributed Rs 20. This worked out well because the maximum they could earn even by migrating to nearby towns was Rs 50 per day.

When the Wanjulshet project got over, residents of Purushwadi requested one for their village. Many thought of it as an opportunity for employment rather than a necessity for the village in the long run. Lalu Krishna Lembhe led the villagers in this pursuit. The terms and conditions were agreed upon and WOTR took up the task with funding from KKS-SAG. This was done along with another village called Lohasar, located in the Pathardi taluka of Ahmednagar. The project was titled 'Community-Based Natural Resource Management Along Watershed Lines For Sustainable Rural Livelihoods'. It commenced in 2002.

Capacity Building:

The first phase of every watershed project is usually the capacity building phase. Awareness is created regarding the basic concept of watershed, the importance and implications related to it and the activities involved in it. It is also to introduce the new culture of participatory development process in the village. During this phase the implementing agency holds a series of meetings with the different sections of the village - women, youth, farmers, landless etc, and also with the village as a whole represented by the Gram Sabha, an assembly of all adults of the village.

In Purushwadi, this phase started in January 2002. While the first phase is termed as the capacity building phase, it needs to be kept in mind that the capacity building activities do not (or should not) discontinue at the end of the temporal phase of capacity building, but continue through the entire period of the project.

At Purushwadi, several audio-visual shows were organised for the villagers that showcased other watershed experiments. Operational aspects of watershed projects and the responsibilities were explained to the villagers also through the multiple exposure visits on which they were taken. Annexure 2 provides a complete and chronological list of all activities

that were carried out under the awareness and capacity building activities. The annexure reveals the fact that in case of Purushwadi, the capacity building phase has stretched over the complete project period and not just the initial few months.

Institution Building:

The institutionalisation phase included the formation of user groups, self help groups, youth groups and the Village Watershed Committee (VWC). WOTR followed its POP which explains the process of formation of a VWC. These guidelines were discussed during the initial Gram Sabha meetings. The guidelines to be followed during the formation of a VWC are:

- Provide information to the villagers about the formation and composition of VWC through Gram Sabha and corner meetings.
- Fix a day for the Gram Sabha to select the VWC.
- Ensure the presence of all sections in a Gram Sabha.
- Decide on the size of the committee as per project conditions and select members.
- Select an executive committee in VWC training i.e. Chairman, Secretary etc.
- Focus on portfolio management in VWC training.

The VWC for Purushwadi village was formed April 2, 2002. Lalu Krishna Lembhe, who had, since the beginning, taken the initiative in bringing the programme to the village, was appointed its chairman.

Self Help Groups (SHGs):

Another segment of the institution building phase was that of the formation of SHGs in the village. The men and women of the village were oriented at length about the concept and objectives of SHGs and how forming such groups could benefit them. Five SHGs were immediately formed in the village, three by women and two by men groups.

When the SHGs were more or less functioning smoothly, the next initiative was to organise them into an apex body that would deal with all SHG related issues. This body was called the Samyukta Mahila Samiti (SMS). This comprised two representatives from each SHG of the village. The SMS is important as a planning and executing body for all SHGs from the village. It identifies the locally suitable / acceptable social development / income generation activities. It is a significant move to include women in the developmental process.

Physical Inputs:

The core work under watershed comprise the physical activities carried out to stop, conserve and percolate water, and thereby help the land to retain it for a longer time. In Purushwadi the work was started with a small plot of 18 hectares where the whole village was required to work voluntarily. Each individual was supposed to contribute labour worth Rs 300. This work was followed by watershed work all over the geographical area of the village. Soil and water conservation work was carried out over

a total area of 330.17 hectares. A brief account of the works and treatment carried out has been furnished below:

- Farm bunding, stone outlets and repairs of farm bunds.
- Crop cultivation on 112.93 hectares.
- Dry land horti-pasture seedlings planted on 59.04 hectares as a demonstration to encourage alternative cropping pattern. Annexure II lists out the species planted under this activity.
- Area of 131.20 hectares treated under 'grassland with trees' with the application of water absorption trenches, refilling of contour trenches, stone bunds and gully plugs.
- Nine loose boulder structures constructed.
- Digging of 23 farm ponds.

During the work, the villagers were given training on construction of each of these structures. Eleven enthusiastic individuals from the village were selected to be Panlot Sewaks (watershed volunteers) and were given in-depth training on the different aspects (both physical and management) of watershed. Some of these were:

- The ridge to valley concept.
- Participatory Net Planning.
- Record keeping of the project
- Responsibilities of the PLS.
- Use of hydro-marker.
- Low cost innovative treatments in watershed development.
- Social issues related to watershed management.

Institutional Monitoring:

Monitoring and evaluation has been a very regular activity on the part of the implementing agency. While the project team, located at Rajur, visited the village almost daily during the whole duration of the project, monitoring was done every three months by the head office staff. The Executive Director of WOTR, Mr Crispino Lobo, and Director, Dr Marcella D'Souza, also made many visits to the village, both to monitor the process and to encourage the staff and the villagers.

Developmental And Social Welfare Activities:

A watershed project carried out in seclusion from other developmental works is unlikely to relate well with the communities and their progress. Many other community welfare activities have therefore been added to the watershed development package for any village. Some of the socially and economically beneficial activities initiated in Purushwadi village by WOTR are:

Vermi-compost Production: Inspired by what they saw during an exposure visit, six women from different SHGs decided to create a vermi-compost unit in their village. While WOTR provided the guidance and the earthworms, the women dug up the pits and filled them with dry leaves, dung and grass. The women have used the compost in their own fields, thus saving Rs 3,000 each on chemical fertilisers, and have also earned a profit worth Rs 6,750 from sale of compost.

Plant Nursery: In the same year i.e. 2004, the women of three SHGs together decided to develop a nursery in the village. The women grew seedlings of nilgiri, subabul, behada, karanj, awala, custard apple, bamboo, shivan, shisu, acacia, umbar etc in their new nursery. These were immediately purchased by the watershed project which needed seedlings for planting on CCTs and bunds. The women earned a profit of Rs 41,000 from this activity.

Village Cleanliness Drive: With encouragement from the implementing agency the young boys and girls took up the responsibility of cleaning up the whole village once every month.

Health Project: The health project was started in the village in 2004. Under this project all health issues were discussed with the women of the village regularly. They were guided about sanitation and overall health, and suggested different measures to combat diseases. Two village women were appointed as Mahila Pravartaks and were given monthly training. They have also been capacitated to be able to give personalised advice to women with specific medical problems.

Health Camps: Numerous health camps were organised for the villagers jointly by the Village Watershed Committee and the Samyukta Mahila Samiti, with support from WOTR.

Shramdaan For Road: The villagers built a road for themselves in their village. Shramdaan was a realisation of working towards the fulfilment of their needs and wants.

Drinking Water Pipeline: Lawhalewasti, which is the only hamlet of Purushwadi, did not have piped drinking water supply. In 2005, the VWC and SMS took up the issue with the Panchayat and it was finally constructed with an expenditure of Rs 15,137, of which an amount of Rs 2,650 was contributed by the people. VWC and SMS played a crucial role in the execution of the plan.

Welfare Initiatives

WOTR has gone a few steps further in case of the Purushwadi village project and has taken some extra initiatives to create more income-earning opportunities and infrastructure development ventures for the villagers. Some of these initiatives have been described below:

Community Managed Rural Tourism:

Since the village is located amidst beautiful surroundings with hills, waterfalls and small ponds making the landscape attractive from the tourism point of view, the idea of developing it as a rural tourism spot was conceived. This is a very unique concept where the tourist, apart from feeling close to nature, also experiences the rural lifestyle and food. The objective was to create an additional source of income for the villagers.

To manage the initiative a six-member tourism committee of the villagers, consisting of four males and two females has been

formed. Village women who showed willingness were given intensive training on cooking and hospitality. A group of 15 boys was trained to be guides and housekeepers. So far the village has hosted about ten groups of tourists from different walks of life who have gone back satisfied with the service and also with the concept. The villagers have earned about Rs 55,000 from such activities.

Lift Irrigation System:

With a river flowing close to the fields of the village, Purushwadi's land owners requested WOTR to approve a lift irrigation plan for the village. Following this request, WOTR conducted a survey of the area and identified the lands that could be covered under the first phase of the lift irrigation system. A total of 160 acres of land belonging to 35 farmers was planned to be brought under irrigation through this system.

Accordingly, a user group was formed comprising these farmers. While WOTR provided a grant of Rs 570,000 for the project, people contributed Rs 75,000 in cash and Rs 65,000 as voluntary labour. At present 1,920 metres of pipeline laying work has been completed and the system is ready to commence functioning.

Other Impacts

Migration:

Migration was almost a norm for the village, as members of all households used to set out of the village in search of work during the lean agricultural season that lasted for up to eight months in a year. Watershed development brought it to a complete halt during the five years when the work continued and villagers received wages. But as this work got over, the villagers again had no option but to migrate for livelihood opportunities. The migration however did not reach as high a figure as it was earlier, as now many farmers started growing a second crop, which kept them busy within the village for a few more months.

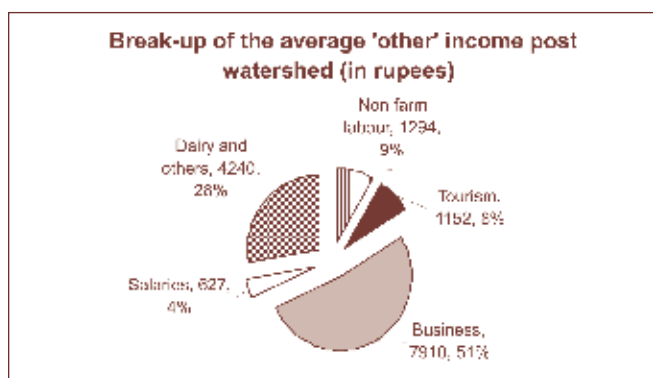
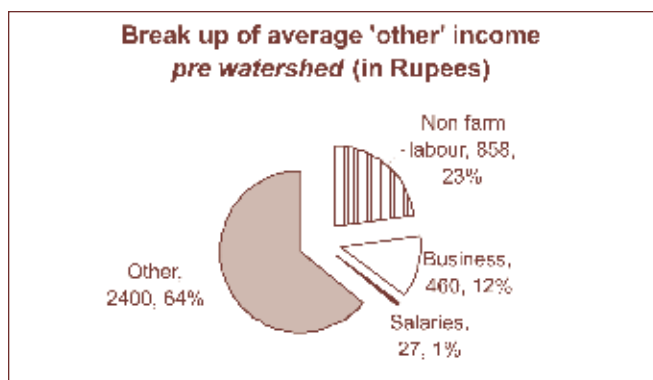
Since the winter crop is still not sufficient to completely substitute the wage income earned by migrating, some members of all families still migrate during this season, though the number has fallen. Since the migration pattern both pre and post watershed is very irregular it is very difficult to present the change in accurate numbers.

Additional Income:

The total household income was divided into three categories for better understanding of the situation. The three categories were: income from agriculture, farm wage income and other income. The third category, namely 'other' income included wages from non-farm labour, salaries, profit from business (including dairy) and income from the village tourism industry. This other income has seen a phenomenal increase. The average other income in

2001 (pre watershed) was Rs 3,745, which has increased by about five times to Rs 15,223 at present.

Watershed has contributed significantly to this increase. First, Rs 1,152 has been added to the average income mentioned above by the tourism industry, which though it is not a watershed activity directly, is surely an initiative of the implementing agency. Second, Rs 7,910 (51 per cent) is the contribution through business, which was a mere Rs 460 (12 per cent) earlier. Business income has increased greatly owing to the tourism industry started in the village. The grocer, the jeep owner, the milk and egg producer have all benefited from the tourism industry. Third, only two out of the 30 respondents were found to be employed. It is interesting to note that both these individuals are working for WOTR. While the salaries are not very high, they surely do contribute a valuable sum to the total family income.



Number Of Animals Pre & Post Watershed:

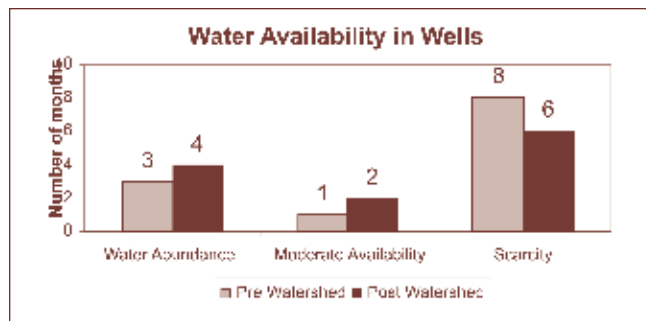
Type	Pre Watershed (2001)	Present (2008)
Crossbred cows	04	11
Scrub cattle	40	32
Bullocks	87	97
Buffaloes	53	51
Goats	65	48
Total	249	239

The share of 'dairy and other' (which comprises mainly of dairy) though has reduced in the total income. It has increased in the absolute sense from Rs 2,400 to Rs 4,240. Though the number of cattle has reduced in the village over a period, milk production and income from this source has increased considerably owing to better availability of fodder. The van of the milk cooperative

collects 100-150 litres of milk daily from the village, whereas collection was negligible in the past.

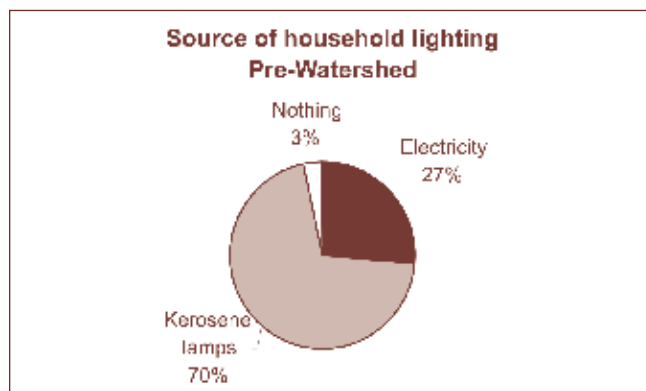
Water Availability:

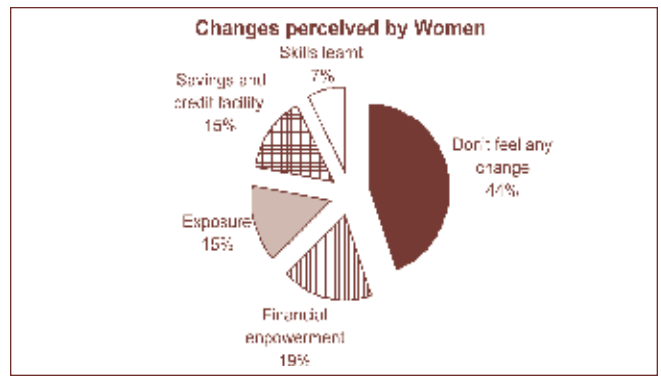
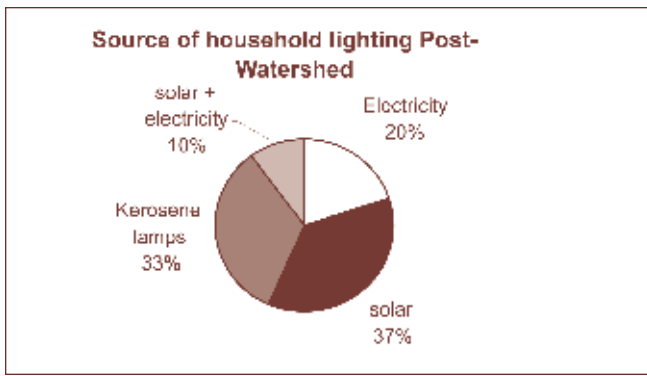
Apart from the change in soil moisture mentioned above, there has been some improvement in water availability. According to the villagers, the scarcity months have come down to six from the earlier eight, while abundance months are now four as compared to three in the past.



Household Lighting:

Household lighting is another important area where WOTR's work has helped the village. While three per cent of the respondent households were without any electricity in 2001, at present there are none that do not possess some lighting facility. The primary contribution is that while 70 per cent of the households used kerosene lamps earlier, only 33 per cent do now. Some of the households using purely electricity earlier have now adopted solar energy as a supplementary source of lighting. Thirty seven per cent of the households were found using only





solar energy for household lighting, which is a good beginning in the direction of achieving energy efficiency.

Savings:

The watershed and its complementary activities like the formation of SHGs have encouraged thrift among the people of the village. People are now saving with SHGs as well as with banks. For the 30 households studied, the savings have skyrocketed from a mere Rs 24,000 pre watershed to Rs 578,640 now. The average saving per household is a significant sum of Rs 19,288. This however is not evenly distributed as five households out of thirty have no savings at all. What is encouraging, however, is that while there were just two savers earlier, now there are 25 of them.

Credit Availability:

While on the one hand, SHGs have proved to be a vehicle for greater savings, they are also slowly emerging as a reliable source of credit. Till 2002, before the formation of SHGs, the only source of credit was the money-lender located in Rajur, who charged an interest of five per cent per month. The watershed program has opened up two new sources of credit for the villagers. The first one is the SHG which extends loans at an interest rate of three per cent per month and the second option is the ADCC Bank, which though was always there, was not approached by the villagers. The watershed and the supplementary work in the village gave the villagers the confidence to approach the bank for credit. Here they get credit at a low rate of interest of 0.5 per cent. Though the money lender at Rajur has not completely left the picture, his monopoly no longer exists and he has two more competitors. In the whole process, the community has benefited as they now have a fair choice of credit sources.

Women Power:

The women of Purushwadi village seemed to be quite liberated and knowledgeable even if not educated. Though the exposure and training provided by the implementing agency has empowered them further, it would be wrong to say that the women of the village were weak or helpless earlier.

The SHGs and other activities have added to their self-worth and have financially empowered them. Women from 12 out of the 30 households were found to have received some training or

exposure from WOTR. When asked about the nature of changes they have experienced in their own lives because of the women-based activities under the watershed development project, the greatest number (44 per cent) denied feeling any significant change. Financial empowerment was tagged by 19 per cent of the women, while 15 per cent found the savings and the credit facilities through the SHGs to be really working in their favour. The capacity building component of the program was valued by 22 per cent of the women who felt that they would not have known of what lay beyond their village had it not been for this program.



Visible Indicators

Material assets with the community are an approved indicator of performance of a development project. This study has therefore conducted a simple comparison of the assets of the villagers before and after the watershed. The table below gives an account of the change in privately owned assets over the period of five years.

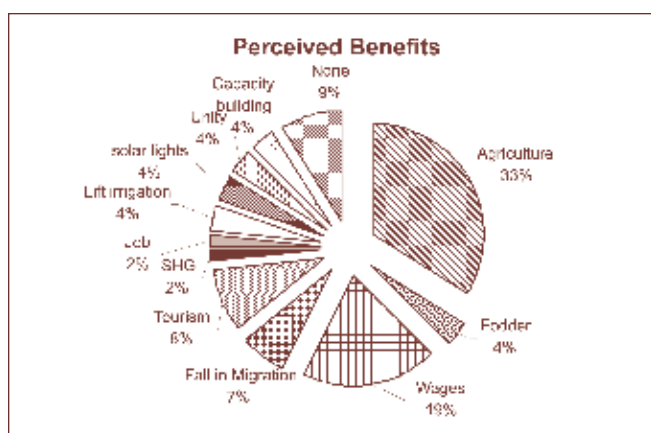
Change In Asset Holding In The Village:

Asset	Pre Watershed	Post Watershed
Bicycle	4	6
Motorcycle	0	1
Television	2	9
Irrigation pumps	9	12
LPG gas stoves	0	2
Mobile phones	0	4
Sewing machines	0	5
Jeep	1	3
Tempo	0	1

The change as shown in the table seems to be substantial for an underdeveloped tribal village. The development in the quality of life of the village is likely to rise steeply over the next few years as the fruits of the various initiatives start pouring in.

Community Perception Of Benefits

The community is the best judge of any such intervention. During the study, therefore, all the respondents were questioned as to how the watershed development work carried out in their village had affected their lives. The responses have been recorded and presented in the form of a diagram. The largest number of responses (33 per cent) implied that agriculture had been positively affected by the activity. Wages earned from the ground work of watershed development was the next most important benefit (19 per cent) as perceived by the respondents.



Income from tourism, fall in migration, increase in fodder availability, savings through SHGs, solar lights, the proposed lift irrigation etc also featured as tangible benefits of the project. Among the intangible benefits were unity that has been brought about in the village and the capacity building of village youth in various skills and activities. In this survey, only a mere nine per cent of the respondents felt that watershed development did not bring about any development of the village.

Creating A Future

Almost all the villagers spoken to agreed on the point that watershed development is a good concept and it has helped the village develop. Almost all farmers also attributed the increase in their land productivity to watershed. This is a very positive sign which indicates that the intervention enjoys the support and approval of the community. This is likely to ensure community action for watershed works in the future even in the absence of the implementing agency.

The Purushwadi community believes in taking initiatives themselves. Instances of this are many. The watershed project came to the village as a result of a community initiative. The women took initiatives through the SHGs and created income

generation opportunities for themselves. It was again people's initiative that led to the lift irrigation scheme. These are signs that this village is capable of carrying the show on its shoulders. This characteristic together with their conviction about the merits of a watershed project will go a long way in ensuring the sustainability of the project in this village. WOTR is still present in the village due to the new tourism project being carried out here. But otherwise, the village has now taken it upon itself to march ahead with a proper utilisation of its resources.

The Purushwadi watershed project can be termed a successful watershed project which has achieved its targets in terms of improvement in agriculture and an overall rise in income and employment generation opportunities. The additional activities of tourism development and lift irrigation system are likely to further open up avenues for development and self reliance for the village. The most important aspect of community development through watershed is that the natural resources around the community are not put at stake, but are enriched and conserved for their sustainable use over long periods of time. There, therefore, is no trade-off between development and ecology, which is very close to a win-win situation.

Life Stories

Right Recipe For Reverse Migration:

Zunkabai is a simple village woman, who was given the responsibility of a cook when, with WOTR's initiative, Purushwadi decided to welcome visitors. She is one of the two landless labourers in the village. As a widow and a mother of four children, making a living is vital and difficult at the same time. Her main source of income was to find work as a migratory labourer. This was tough as she had to look after her children too. Her other seasonal source of income was to take care of the goats in the village at Rs 20 per month. But the money was not sufficient to feed so many. Zunkabhai was one of the first women to be selected as a cook for the 'community managed



tourism' project. As a part of the project, to welcome a guest, she was encouraged to spruce up her appearance and hygiene. The change in Zunkabhai was so obvious that most villagers were pleasantly surprised. They complimented her on her changed appearance.

On the first day, she was visibly shy while serving food to the tourist group. However, by the end of the second day she was comfortably chatting with the tourists and telling them the story of her life. Her world view as a human being and a mother opened up new horizons. Earlier, her children never bothered about their looks or habits. Now, they are always in a clean state and have also learned the art of polite conversation. Zunkabai's work as a cook for the tourists for two days is equivalent to putting in 15 days of hard work as a migratory labourer.

Young And Aspiring:

Gangaram is one of the few youths in Purushwadi who has passed his class X examination. First impressions show him to be an introvert, but once you spend some time with him, he will narrate one story after another. Gangaram, as with most of the people in Purushwadi, speaks only Marathi. When Gangaram was appointed as a guide for the tourism project, he did not know what to do. Nervous, he remained quiet and withdrawn during the first visit by outsiders. He was shy of even speaking in Hindi. However, with encouragement, training and interaction with more groups of tourists Gangaram has not only fine-tuned his communication in Hindi but now even attempts a smattering of English, greeting tourists with 'How are you?' and 'Good Morning'. Gangaram's aspirations have turned a new chapter. He is currently studying to become a teacher.



WOTR is a support/resource organization having partnership with 146 NGOs across the country in the field of watershed development and related areas. So far, WOTR has reached out to over 650,000 people through watershed development covering total area of 476,423 ha. The experiences mentioned in Watershed Voices are those of WOTR and Its partner implementing watershed development programs. This publication is financially supported by the German Agency for Technical Cooperation (GTZ).

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