

# Drinking water for the last person

Training programme for Communities and Panchayat Officials and others

Madhya Pradesh



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## **Background**

This is a report on workshops conducted for village community members (PRIs, Village Water and Sanitation Committees (VWSCs), Angandwadi workers and other community members) in 4 different villages in Dhar district of Madhya Pradesh. The objective was to brief and create an understanding of the need to prepare Village Water Security Plans. The focus of these workshops was on the preparation of village water budget as the starting point for preparing the Village Water Security Plans.

The preparation of village water security plans by the village communities has been made mandatory under the new DDWS guidelines issued in 2009 under the NRDWP (Sustainability) component. The PRIs or the Village Water and Sanitation Committees are responsible for village water supply schemes from planning and implementation to managing O & M and finances. Recharging drinking water sources is the main component under this programme to ensure sustainability of water resources and to prevent water supply schemes from slipping back.

Mode of work: CSE collaborated with the NGO Vasudha Vikas Sansthan, based in Dhar to undertake these workshops. Vasudha has been working for the past 8 years directly with village communities promoting sanitation and on rural livelihood issues in Dhar and other districts of Madhya Pradesh. The villages were selected based on physiography, hydrogeology, population profile and the willingness of participants to attend the programme. Vasudha members interacted with community members for participation in these workshops and also conducted sessions. Participants consisted of panchayat officials, Village Water and Sanitation Committee (VWSC) members, Anganwadi members and other community members.

Location: The workshops were conducted in 4 different villages of Dhar district in Madhya Pradesh (MP). Dhar is one of the districts that has been classed as over exploited in terms of groundwater in MP. The district, situated in the western region, also receives lower rainfall than the eastern parts. A large portion of the district has groundwater levels ranging between 10 –20 mbgl and there is nearly 100% development of groundwater in the district. Between 1996 and 2005, many pockets in Dhar have

shown decline in groundwater levels as observed through the observation wells. Dhar is also one of the districts affected by fluoride contamination.

The workshops consisted of the following broad elements:

1. Trend analysis to get an understanding of causes for water availability decline/increase in demand;
2. Prioritising problems according to urgency in finding solutions;
3. Mapping of water resources;
4. Assessing water demand and availability;
5. Identifying actions to ensure water sustainability.

<b>Name of village</b>	<b>Description</b>	<b>Location</b>
Khamalia (Sardarpur block)	80% tribal population. Drinking water supply from 7 handpumps.	Situated in the Vindhyachal hill ranges.
Pipalya Mota (Umarban block)	More than 90% tribal population. Drinking water supply from 20 handpumps.	Situated in the Vindhyachal hill ranges.
Multhan(Badnawar block)	Mixed population. Drinking water supply from handpumps, piped water supply and private tubewells.	Situated in Malwa plateau region.
Sala (Dharampuri block)	More than 90% SC & OBC population. Rehabilitated village having piped water supply.	Situated in the Nimar plains on the banks of the Narmada

### **Summary of workshop activities**

1. Khamalia, Sardarpur block: Khamalia is a tribal dominated village located in the Vindhyachal range. Agriculture is the main occupation of the people in the village with almost all households having some agricultural land. The village with 356 households

has a population of 1230. Trend analysis by the participants showed that even as rainfall is declining, agricultural intensity is increasing because of the tubewell irrigation. Soyabean has replaced cotton and hybrid wheat has replaced desi wheat varieties. Handpumps replaced open wells as a source of drinking water. There has been no emphasis on recharging groundwater and even existing talabs have been allowed to silt up and degrade. Seven handpumps provide good quality water for drinking, but in dry months, only one handpump has water.

Participants calculated the total household water demand (based on the number of persons, the number of livestock and their own average use), and the total amount of water available (based on annual average rainfall and total land area). Participants then suggested what additional measures would need to be taken to ensure future water security. They suggested the following: (1) Deepening of the two wells in the village; (2) Construction of a dam on the stream flowing between Borkhedi and Mawdipada. Participants then walked to the proposed site to examine the feasibility of constructing a check dam.

While the site was ideal in terms of recharging groundwater for the village, in order to construct a checkdam, the surrounding areas would be flooded and these areas were currently being cultivated. The area also had numerous mango and other trees. Therefore, there was no resolution to the issue of where a dam could be constructed as the ideal spot was an intensely cultivated area.

2. Pipliya Mota, Umarban block: This gram panchayat comprises three habitations of Pipliyamota, Adabayda and Sawalakhedi and is located on the banks of Mandawadi river. Unlike Khamalia, this village is spread out over a larger area. The village is located at the foothills of the Vindhyachal range and has numerous streams that flow and join the river. It has a total population of about 1053 people and there are more than 222 households. Agriculture is the main source of livelihood and everyone has at least 4-5 bighas of land.

Trend analysis by participants showed that the river was earlier perennial and there were 4-5 dugwells, which were used for drinking as well as for irrigation. There were also

some tanks, which were used for livestock and irrigation. Today, the number of open wells has increased to 25. Handpumps have been introduced and the river has become a little more than a nalah. It is not perennial and even the check dams that had built on the river for recharge were silted up. The area is rocky and there is very little recharge. The deeper groundwater is declining and handpumps go dry in summers. However, the sub-surface soil moisture is good and dugwells get filled up during the rainy season.

The catchment areas for the streams and river are completely degraded and deforested and afforestation is an urgent and immediate need. The participants themselves proposed afforestation as a solution for increasing recharge. They suggested that the government should give incentives to each person so that each and everyone can plant and nurture at least 4-5 trees. Moreover, there is also extensive encroachment of revenue and forest lands for agriculture, reducing the area available for recharge and tree cover.

After drawing the village water resources map, participants suggested that one of the easiest measures that can be undertaken was the desilting of check dams and tanks. This work can be undertaken under the NREGA programme and people can also be motivated by providing them with the silt for use in the agricultural fields. Overall the measures for water security as suggested by the participants were:

- Deepening of the two wells in the village – One in Sarpanchpura and other named as Kherkuan talab in Adabayda
- Construction of a checkdam on Mandawadi river near Pipalyamota panchayat bhawan.
- Desilting of checkdams under NREGA
- Construction of two checkdams in the nalas of Sawalakhedi village, construction of one stop dam on the nala in Adabayda

3. Multhan, Badnawar block: Multhan is located in the Malwa plateau region of Badnawar block, the only non-tribal dominated block of Dhar district. The village comprises of 1362 households and is a mixed village of general population and SCs. The total population is about 8,178. Agriculture is the main occupation of the people in the village but there are a few households that have their own business or work in towns

like Badnawar and Ratlam. The village has 2-3 ponds, however the slope is such that the recharged groundwater from these ponds drains away into the next panchayat.

Trend analysis showed that the number of open wells has increased over the years from 4-5 to more than 20. There are also open wells in the fields that are used for irrigation. Handpumps were introduced about 30 years ago and there are 56 handpumps, of which some of them dry up during the summer. There were 2 ponds (talabs) which were used for irrigation and water for the animals, which still exist, but the area has decreased. Three ponds have been constructed by the irrigation department but the water in the ponds according to the villagers drain out into the nearby areas. There is a pond on the main entry to the village but it is contaminated with sewage. As in other villages, people take two crops as opposed only one crop earlier.

This village is relatively well off economically and this prosperity has largely come from tubewell irrigation. Improved incomes have resulted in people installing bore wells even for domestic needs and we saw almost every house having a borewell in front of their houses. Over and above this, the village gets piped water supply and these borewells are a response to the times when there is no water in the piped water supply system.

Community members are well aware of the consequences of decline in groundwater. The panchayat has even given in an application for constructing talabs to recharge the groundwater. However, these have not gone any further and the files are pending. Due to the slope of the village, this panchayat has to get constructed a talab in the neighbouring panchayat. They have identified forest land in the neighbouring panchayat located upstream where the construction of a talab will benefit this village.

4. Sala, Dharampuri: Sala village is a SC and OBC dominated village with 1038 families, with a population of 5680 people, located on the banks of river Narmada. The village has always used Narmada water for drinking and irrigation purposes and continue to do so. 70 per cent of the people either don't have land or are small farmers. The major occupation of the people living in this village is non-agricultural labour and working in nearby towns. Around 150 families have not been relocated and still live on the banks of the river.

This village was the most economically well off village. As this was a relocated village, it has been provided with piped water supply for the past 12 years. They also pay Rs. 50/per person as water charges. Participants admitted that because of easy water availability, they tend to use more water than absolutely necessary (80 lpcd). They also had household toilets. This village was different from the rest as water availability was not a real problem, being on the banks of the Narmada. Moreover, the majority were not dependent on agriculture for their livelihood. Nevertheless, they appreciated the need for water conservation measures and were definite that such awareness creation meetings on the need to harvest rainwater and conserve water and use it wisely should be conducted repeatedly.

In fact, this village faces problems during monsoons as there is flooding and the piped water supply does not always work. In this period, women go to the river to bring water. There was agreement that harvesting rainwater from the pucca buildings will benefit them. Participants also felt that the quality of the river water has declined due to pollution from the factories nearby.

#### **Overview of learning from all workshops:**

1. All villages are exploiting groundwater for irrigation except for Pipliya Mota in which also uses dugwells for irrigation. This has led to steep decline in water levels, going up to 700 feet BGL in some areas. Parts of Dhar are in the over exploited category.
2. In the two villages of Sala and Multhan, where there is piped water supply facility, domestic water demand (exclusive of water for livestock) has gone up. This has led to the problem of waste water (grey water). There is no system for treatment and reuse of grey water and the waste water is being channelised either to dugwells, or in the case of Sala, into the Narmada river.
3. As the communities progress in economic terms, they automatically opt for household sanitation. This was evident in both Multhan and Sala, where people had got used to both piped water and household latrines. In these villages, people were willing to pay the necessary cost in order to get water at their doorstep.

4. At the level of village communities, they do not distinguish between drinking water and water for irrigation. They expressed a preference for larger recharge structures like check dams or big tanks which would ensure secured water supply for both drinking as well as for irrigation.
5. A key issue is availability of land on which recharging structures can be built. In all the 4 villages, we were told that revenue land has been heavily encroached upon. Forest land is both degraded as well as encroached. There is also the issue of building structures and the benefits going to other villages or the need for building structures in the neighbouring panchayat.
6. Roof top water harvesting had been initiated in some of these villages in schools, but the systems have not been maintained and have, in effect disappeared.
7. Communities have a sound, if basic knowledge of hydrogeology and are able to decide on the type of recharge structures as well as the siting of structures.
8. The guidelines under the NRDWP say that preparation of Village Water Security Plans (VWSP) are mandatory and the PHED has the responsibility of collecting the VWSP and compile a district water security plan. However, what we found was that there is no awareness at the village level on the need for preparation of these plans.
9. Secondly, when a panchayat decides that it will prepare the Village Water Security Plan, the first task is to collect the baseline data. In order to prepare these plans, there is a need for baseline data on population, livestock, acreage under crops, the type of crops, rainfall, soil, geology, and future estimations of population and livestock growth. The panchayats are in no position to even begin initiating these processes unless there is external help.
10. Then again, assuming that the data has been collected with external help and plans have been made, the panchayat has identified possible structures for ensuring water security, the question remains: how will the plan get implemented? Which government department will be responsible? The NRDWP guidelines specifically says,  
“Any recharging structure meant for overall management of water resources and does not directly recharge the drinking water sources do not come under the purview for funding under this component.” (Page 57, Annexure III, Guideline for implementation of Sustainability-Swajaldhara project.)



The plan will be made keeping in mind the terrain and hydrogeology of the location and their estimated demand and not on the basis of what will get funded. Unless large storage structures specifically set aside for drinking water are made, is it possible to isolate recharge structures for drinking water from other uses? The feedback from these workshops has specifically been that their first priority is water for irrigation and they are prepared to walk distances to get drinking water.

These workshops only looked at water budgeting and to make a plan we need to take into consideration other elements such as water quality, cost and pricing. One thing is clear: the planning process will not kick start across the country in all the villages unless people can also see that what they plan for gets implemented and they can taste the fruits of that planning.

**Annexure - List of participants**

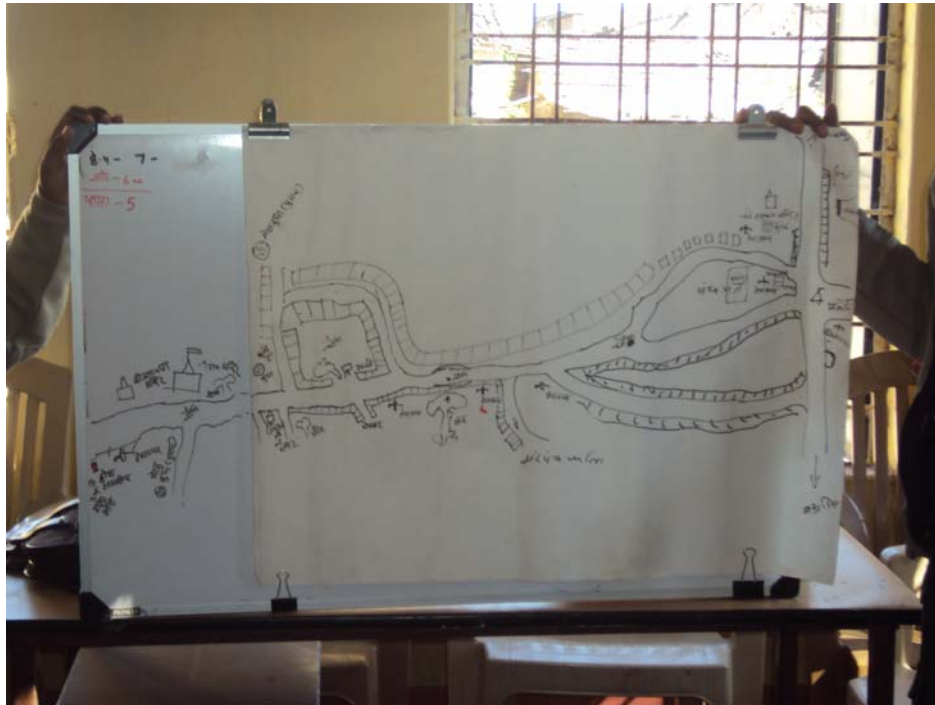
<b>Training Workshop – 1 **</b>		<b>Training Workshop – 2**</b>
<b>Date: 23-24 December, 2010</b>		<b>Date: 25-26 December, 2010</b>
<b>Venue: Gram Panchayat Bhawan, Village Khamalia, Block – Sardarpur</b>		<b>Venue: Gram Panchayat Bhawan, Village Pipliyamota, Block – Umarban</b>
<b>S. No</b>	<b>Name</b>	<b>Name</b>
1	Gulab Singh	Ramkuwar Bai (Sarpanch – Gram Panchayat)
2	Ganpat	Dhunda Bai
3	Prakash	Bhav Singh Muwel
4	Ratanlal	Ram Singh
5	Gangaram	Magan Lal Wankhede
6	Chagan	Manmasi Khaiku (Handpump Mechanic – PHED)
7	Duli Chand	Gokul Kataria (Secretary – Gram Panchayat)
8	Koderji	Resham Bai
9	Ambaram	Gobind Kataria
10	Radhey Shyam	Surav Singh
11	Chagan Lal	Kanni Ram
12	Bansilal	Ramesh Mujaldar
13	Bantu Lal	Mukesh Kataria
14	Rajaram	Mohan Patel
15	Bhawar Singh	Mahedra
16	Kailash	Sikhdar
17	Amar Singh	Kalja
18	Ramchander	Phul Singh
19	Jagdish	Sikdar Mohan
20	Ramchander	Sardar Sankar
21	Babu	Rajpurbhai
22	Tulsi Ram	Shobharam
23	Sewa	Hirabhai
24	Jagdish	Prubhai
25	Bahadur	Mukesh Rajila
26	Nandram	Banabai Babu
27	Sita Bai	Genda Bai
28	Mangi Bai	Dipli Bai Motiya
29	Gita	Lal Singh
30	Gyasi	Kanaihya Kalu
31	Narsingh Patel (Sarpanch – Gram Panchayat)	Puna Bai
32	Gyanchand Ji Sahu (Secretary – Gram Panchayat)	Madi Bai
33	Sugana Dai	Hasina Bai
34	Badrani Das	Pran Singh
35		Kaljan Nawal

Training Workshop – 3**		Training Workshop – 4**	
Date: 27-28 December, 2010		Date: 29-30 December, 2010	
Venue: Gram Panchayat Bhawan, Village Multhan, Block – Badnawar		Venue: Gram Panchayat Bhawan, Village Sala, Block – Dharampuri	
S. No	Name	Name	
1	Babulal Mehra	Dhanu Sawale	
2	Harendra Sharma	Sila Handloi	
3	Jagdish	Usha Pai (president VWSC)	
4	Dhola Ram	Durga Chauhan	
5	Kuwar Lal	Sawanti Bai	
6	Nanuram Bhuria	Jasu Bai	
7	Moti Lal Undura	Manta Nagrath	
8	Ratan Lal	Gita Bai Rathod	
9	Shanti Lal	Shakuntala Bhargav	
10	Punja Lal	Kali Bai	
11	Ajay Rathod	Anita Solanki	
12	Dashrath Dawar	Krishna Bai Solanki	
13	Narendra Singh	Sunita Bhargav	
14	Ram Gopal Verma	Dario Singh Chauhan	
15	Anil Chauhan	Vishwajit Singh Gehlot	
16	Ramesh Chaudhary	Bhagwan Alawe	
17	Dinesh Dordia	Gobind Singh –Teacher	
18	Babulal	Suresh Chauhan – Up Sarpanch	
19	Punja Lal	Kamal Muwel – Sarpanch	
20	Kailash Babar	CL Sankle	
21	Datar Singh	Bharat Bhargav	
22	Pradeep Jain	Sanjiv Bhargav	
23	Danalal Patidar	Bagh Singh Chauhan	
24	Sukhdev Hariali	Nirbhay Singh	
25	Kalpana Gehlot	Kailash	
26	Shakeela Banu	Ashok Yadav	
27	Bhagwanta Rathod	Jiten	
28	Santosh Rathod	Sandeep	
29	Renuka Chauhan	Nirbhay Singh	
30	Kanihya Lal (Handpump mechanic- PHED)		
31	Kamlesh Patidar (Handpump mechanic- PHED)		
32	Narayan Singh Chauhan		
33	Ram Chander		
34	Bhola		

**\*\* There were approx 50 participants in each of the workshops. The names of all participants could not be recorded.**

**Annexure: Photographs**

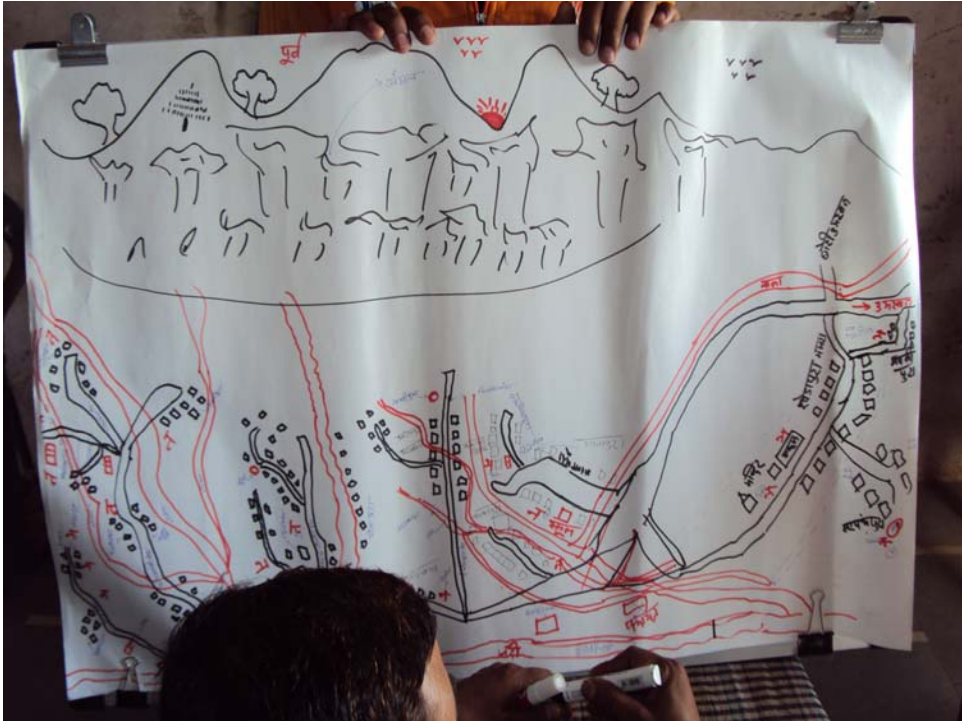
**Village: Khamalia**



**Site selected for Check-dam construction by villagers**



Village: Pipliyamota



Village: Multan and Sala

