

## Tour Report (May 17<sup>th</sup> to 20<sup>th</sup>, 2010)

### Objective

The primary objective of the tour was to monitor the physical activities in the catchment of two springs and to suggest feasible activities in some of the springs identified by RMDD.

### Travel Schedule

Mr. Rajesh Kumar from PSI visited Sikkim from May 17 to 20, 2010. Visit was made to seven springs located in different districts and blocks as shown in the fig below. The schedule of the visit is given below:

S No.	Schedule	Activities
1	May 16, 2010	Departure of Mr. Rajesh Kumar from Dehra Doon.
2.	May 17, 2010	Arrival of Mr. Rajesh Kumar at SIRD office, Jorethang
3.	May 18, 2010	Field visit of Lampat dhara in Nagi Pamphok GPU and Devithan dhara in Bering near Tarethang.
4.	May 19, 2010	Field visit to CP dhara in Rhenok block, Pam dhara in Regu block, Gotme dhara in Dalipsing GPU and Haldhar dhara in Aritar GPU.
5.	May 20, 2010	Field visit to Shikari dhara in Pokyong block. Short meeting with Dr. Sandeep Tambe in Gangtok. Departure for Bagdogra. Arrival at Dehra Doon. Mr Vikas Subba, SIRD accompanied Mr Rajesh Kumar for all three days.



## **Detailed Report**

**May 18, 2010:** On the first day a visit was made to Lampat Dhara in Nagi Pamphok GPU in Namthang block of South Sikkim district. Mr. Vikas Subba, Coordinator, State Institute of Rural Development (SIRD), accompanied Mr Rajesh Kumar. This site was selected by SIRD in place of Seti Khola spring (earlier visited by Mr Hira Lal of PSI). The catchment area treatment activities were in progress. About 26 unskilled labour from the village were engaged in the activity. Village Level Committee (VLC) president, Mr Ram Bahadur was supervising the work. Three persons were engaged in measuring and marking layouts while the others were digging trenches and pits. It was observed that a group of six persons were given a task of digging at least three trenches and six pits (for plantation) in a day. Although the soil was very hard, it was felt that the amount of work done by the laborers was much below par. However, the quality of work was good and the digging was done as per contours. The sizes of the trenches were correct but the plantation pits should be bigger. This was conveyed to the supervisor. Out of about 15 ha of the treated area, almost half of the work was complete and it is expected that the physical work will be over by the middle of June 2010.

A visit was then made to Devithan Dhara, Bering located at N27°13.73', E88°38.985' at an altitude of about 1002 m above MSL in East Sikkim district. This journey took quite some time as the road leading to the site was in a very bad shape and rains made it worse. The BDO Namthang, Assistant Conservator of Forest (ACF), Field Facilitators (FFs), and members of Training and Management Institute (TMI), representative of a non-government organization, were waiting for us at the site. TMI has been working in this area for quite some time and according to them a spring was located at the above mentioned site but because of continuous land subsidence in the last 10 years, the source had disappeared. The catchment area was densely forested. It was recommended that no soil and water conservation activities should be undertaken in this area. Instead a Deep Infiltration Well (DIW) was suggested which could solve the water scarcity problem of about 40 households located in the downstream of the source. The construction details of DIW were discussed with the group. The section of DIW is attached in Annexure 1.

**May 19, 2010:** On the second day visits were made to C P Dhara, Pam Dhara, Gotme Dhara and Mane Dhara in East district. Field Facilitator Ms Rashmi and the BDOs of Rhenock and Regu Blocks assisted us.

- **C P Dhara:** This spring is located in Lower Tarpin in Rhenock block at N27°11.573', E88°37.377' at an altitude of 621 m above MSL. The discharge of the spring was about 5lpm. Since most of the catchment of the spring belongs to individuals, the implementation team is finding it difficult to get no objection certificate (NOC) from the people. Out of a catchment of about 10ha, NOC for only 2ha has been obtained so far. The catchment area treatment works have been sanctioned by the block. It seems it will take some time to get the physical works

started here. Since most of the catchment area has terraced land, live hedge plantation and drainage trenches were suggested.

- **Pam Dhara:** This spring is located in Markang Ward-2 of Regu block at N27°12.967', E88°40.940' at an elevation of about 832 m above MSL. At few places the slopes are very steep. The spring has a discharge of 5 lpm. The discharge has significantly reduced (about 85%) after road and tunnel construction for power house in the last five years according to the villagers. The total catchment of the spring is about 15 ha. Staggered contour trenches, drainage trenches, live hedge plantation and plantation of fuelwood/fodder trees were suggested.
- **Gotme Dhara:** This spring is located in Dalipsingh GPU of Regu block at N27°11.366', E88°40.199' at an elevation of about 509 m above MSL. The discharge of the spring was about 10 lpm. About 40 households depend on the source. The spring catchment has private as well as forest lands with good vegetation. A collection chamber has been constructed about 50m downstream of the source. Because of the road construction adjacent to the collection chamber, there has been some disturbance to the source as well as the collection chamber. The source site has some gentle sloping land immediately downstream, where a DIW with a gravity flow has been suggested. In the catchment area, staggered contour trenches, drainage trenches and live hedge plantation have also been suggested.

A visit was also made to two more sources where the slopes were very steep. In such steep slopes with very good vegetation, no physical activities were suggested. In fact the problem there was not of water scarcity but conflicts between two villages that depend on the source for meeting their domestic requirements. Resolution of social conflict to make water available for dependents was suggested in these two sites.

- **Mane Dhara:** A visit was made to Mane Dhara located in Aritar GPU of Regu block in East district at N27°11.220', E88°39.939' at an elevation of about 1552 m above MSL. Since it was becoming dark, the catchment could not be surveyed. As per information provided, most of the catchment area is under private ownership. The total catchment area of the spring is about 8 ha. There are about 70 households dependent on this spring.

According to Regu block BDO, Mr Dhiraj Pradhan, out of the above three springs, work will be initiated only at one site before the monsoon. Depending on the NOCs received from the villages, the site will be finalized. The rest of the two sites will be treated next year.

**May 20, 2010:** On the last day a visit was made to Shikari Dhara in Changey Senti Gram Panchyat of Pakyoung block along with the concerned FF. The spring is located at N27°16.015', E88°37.224'. The discharge measured was about 30lpm which is about one third of what was measured by Mr. Hira Lal in the last visit in April 2010. The spring is the main source of drinking water for the village. There are about 40 households and 450 students of a school dependent on the source. A storage tank is located at the downstream of the source for distribution purpose. The catchment area is about 7 ha, under private ownership with an average slope of about 30 - 40

percent, having fairly good vegetation. Staggered contour trenches, live hedge rows, brush wood check dams, and fodder grass plantation on the trench bunds were suggested.

The work has been sanctioned for this site and FF hoped that the work would begin in 3-4days.

After the field visit, a trip was made to Gangtok to meet Dr. Sandeep Tambe, Additional Secretary, RM&DD. Since there was a heavy traffic (due to tourist season), we got very little time for discussions. The status report of the sites visited was briefly given to him.

The team then proceeded directly to Bagdogra airport. On way back, Mr Vikas Subba got down near Melli.

### **Observations and suggestions:**

The following observations were made during the field visit:

1. The construction of SCTs and plantation pits in Nagi Pampak were properly done. The size of the pits, however needs to be increased to at least 2ft x 2ft x 2ft.
2. In some villages, where people are not agreeing for SCTs, they should be mobilized for digging drainage trenches on their terraces.
3. The participants especially the FFs had learnt the methods of measuring slope and contours.
4. At two spring sites visited, DIW has been proposed. It is suggested that at least at one of these sites, preferably at Gotme Dhara, it should be constructed on a demonstration basis. There may be numerous sites where such wells can be constructed in future.
5. In and around areas with land subsidence, effort should be taken to drain out the water as quickly as possible. Water conservation activities might result in more subsidence.
6. As per information provided by Mr Vikas Subba, engineering activities at four spring sites have been completed and at one site the work was in progress. The work in Changey Senti is also likely to begin soon. As of now it seems that the engineering work would be completed in only six or seven out of the 10 sites selected for pilot project.
7. During and after the monsoon, the discharge of springs where interventions have been undertaken, should be measured along with the rainfall measurements. This would be useful to see the impact of such activities on the discharge and the flow duration of these springs.
8. User groups including the spring beneficiaries should be formed to ensure long term sustainability of the interventions through regular maintenance of the catchment areas.

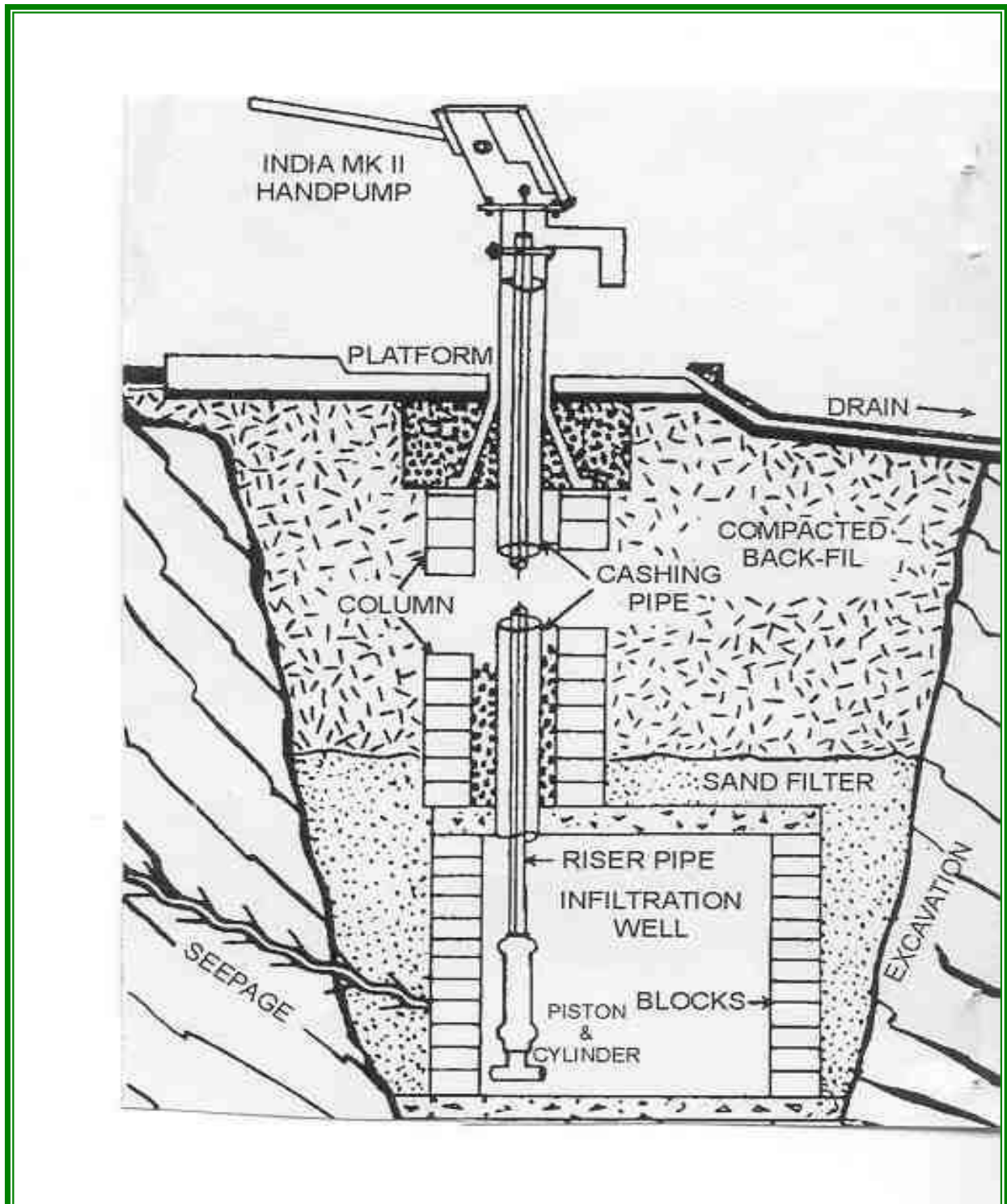


FIG: A section of DIW. The depth of DIW varies with the sub-surface discharges of the springs. However, depth above 30 ft is not recommended in the mountain areas.