

## **Site visit report for Ashis' Fellowship - 2011**

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### **Background:**

We have been supporting Ashis Panda's fellowship from 2009 onwards. The objective of this visit was to understand more about Ashis' current work and plans.

Ashis mentioned in his plans for the year 2010-2011 ([http://www.ashanet.org/projects-new/documents/1035/Milestones\\_2010-11.pdf](http://www.ashanet.org/projects-new/documents/1035/Milestones_2010-11.pdf) - points 2 & 3) that he would be focusing more on understanding and learning from the work of Sambhaav, who are providing him mentoring, technical and administration support to take up work in Dungarpur and Rajasthan. He has also mentioned that this work focus henceforth will be two-fold::

- Direct work in Dungarpur
- Direct work and documentation of work done in Jaisalmer, Alwar and other regions in partnership with local team members

He has been in touch with Sambhaav since early 2008, and started working with them more intensively in 2009.

Since this was the primary objective, my visit coincided with Sambhaav's annual gathering of its members and fellows. It provided a very important and valuable glimpse of what Ashis was learning from the organization and the process he was going through. So, this site visit report will focus on aspects of Sambhaav's philosophy and how relevant it is to any community's development, and give some insight into the learning and preparation process Ashis is going through..

Sambhaav as an organization has a very sound belief system:

1. Water is the basis for all life and sustenance for any community.
2. When a society is broken ( due to any kind of differences or intervention – class, caste, government or NGO programme creating dependency etc) it reflects in how the common property resources – specifically, structures of water are taken care of – they are broken too!
3. An outside intervention does not solve the problems of a community – solutions lie with the community and any role Sambhaav plays is that of a minor catalyst.
4. Society is NOT dependent on the government or for that matter on NGOs – resources, ideas and all solutions lie within the community.

**4/3/2011**

**Arrived in Ramgarh, Jaisalmer - Journey / Introduction - district with least rainfall in the whole of India.**

**Evening** - overview from Chattar Singh ji on the plans for the next day. A background on people / region, and the work approach they followed as such.

### 5/3/2011 - Morning session

**'Meth' or Multani Mitti** - is an impervious layer through which water does not seep through easily. The soil above the 'meth' absorbs moisture like a sponge and keeps releasing it (into empty spaces - a well acts like one such empty space). When 'meth' is only 1.5-2 feet below the surface, thin or shallow rooted vegetation - grass etc grows. When 'meth' is way below, then water retention is more and deep rooted trees/ scrub forests grow. Water flows away more than seepage on land that has 'meth' very close to surface. Same plant can have different features based on where it grows ('meth' level determines moisture availability - that changes characteristics / features of the plant).



**Livestock** - Water is an essential element in the whole fabric of life. When it rains in June, there is abundant fodder, the livestock reproduce by July when they sense the abundance of fodder. In November, the flock increases, chances of survival is also better. A change in rain pattern and late arrival can push the livestock reproduction pattern and survival rate differently.

**khadin** - A farming method that uses bunds designed in such a way to allow stoppage and hence seepage of water into the field. The area around the fields have bunds. The water retention is more in the area within the bunds and the crop thrives in moisture laden soil.

The photos depict the khadins made by Bhil families. Just four years back, the socio-economic condition of the Bhils was quite bad with many of them resorting to begging. They had to travel 7-8 kms for water. When we talk about revival - we are talking about reviving from cultural history, removing a dependency syndrome along with reviving old structures.

**'Dhora'** is an embankment of a 'Khadin'. Initially, a simple bund is made by depositing mud, stones, thorns etc. More thorns are added on a regular basis. This is only the initiation of the process. The wind blows sands, especially during sand storms in summer, and this gets collected at the bund, reinforcing it over time. Thus, the environment / nature works for you, in building the bund. The 'Dhora' was built with their own effort - No NREGA was used in beginning - goal is to use existing

resources to build their own stuff. Once the people experienced the revival process, they began to use NREGA funds too, but in the way they wanted to and the way it would help them. Their self-worth and self-confidence has seen a tremendous boost because of this.



**Bhil farmer 1** - We spoke to a farmer who mentioned how the khadin helped revive their lives as well. The community organized themselves with the organization's support. They felt empowered after their efforts with the khadin. They developed confidence and went back to the government machinery/land mafia to get back the bribes they had paid. The bribes were asked to give them land – that were to be allotted legally to them under the SC/ST act. They also got the land according to their priority status.



**Bhil farmer 2** - The family used to work in others farms to earn a living. But, with

the 'khadin', they realized how they could earn their living and become self sufficient. Now, they have not only take care of themselves, but own lands where they give the surplus to others. They proudly call themselves owners and not tenants. This is a marked change in their self-esteem and social status. They also plan on buying plot under the canal project (murbas), that is wherever such canal plots get water for irrigation (only about 2% of the total canal plots receive any irrigation, as the later part of this report shows) and do farming on it.



Traditional knowledge was in sync with nature - village boundaries evolved based on elevation. The boundary could be on top of a hill, so that as water flowed on the slopes of either side, it automatically took care of both villages and any possible conflict over ownership of water. The natural flow of water is a slope from north east (for this khadin). The wind blows from south east. Thus, nature has given the people in this area, a nice location to do the khadin.

**On the farm** - discussion on the use of pesticides, hybrid/local seeds and alternatives.

**GLR** - Ground level reservoirs - defunct structures built by the government to provide safe drinking water for the village. It was never meant to succeed, but funds for maintenance are still being spent.



### **Beris**

We went to a set of 3 beris that were revived just 5 years back. The beris were 200 years old. It provides drinking water for 50 families - 20-25 Bhil families and 20-25 Muslim families. They revived and built the structure together and use the water together. It only cost Rs. 10,000 to revive one beri. The beris here are 15-20 ft deep.

### **How is a beri made ?**

A 7-8 ft wide 'kachcha' hole is made into the ground till the 'meth'. We cannot go deeper down - it will damage the 'meth' and thus make the water impure. Stones are later lined across the circumference of the beri to reinforce it. The water keeps seeping in from the walls through the stones like a sponge letting water drip. For this reason, we should not use cement on the walls. Very little cement was use above the ground level to reinforce and build a 1 feet high covering to prevent sand (from storms) from burying the beri. These beris are used only for water for the different bhil and muslim families here.



We went to a second beri quite some distance away. This was in the area of the 'Koriyon' muslims. This beri is 50-75 years old and was buried, before it was revived later. While building this beri, they had encountered stones and had to break through it. Once it was revived, a platform of 1.5-2 feet was built around it to prevent sand from burying it. Here the beri is 40 ft deep till the 'meth'.



After the work by the community started showing results, migration of these families from the area was stemmed. Many more families of Koriyon muslims returned back after word spread that families are regaining their self esteem and livelihoods.



We spoke to the family of the person who helped revive the beri. They had to face difficult situations earlier. During droughts they had to eat wild grains and melon seeds as they could not grow anything. Once the beri was done, now they have ample drinking water. They also work on their 'khadin' to sustain themselves. What is more important is that they have done this with their own knowledge and efforts - it is thus sustainable.

In Ekal Dabla region alone - Chattar Singh, Girdhari Singh (both members / fellows with Sambhaav) and the volunteers and the community have worked on about 1000 bighas of land.

We stopped on the way at a high elevation. Chattar Singh ji showed us how the vegetation profile actually reflects the flow of water. Along with a knowledge of wind direction and other environmental factors, farming is done with precision and in a simple manner. This is knowledge that has come over generations and is seldom given the importance it should nowadays - for e.g. children don't learn anything about their local geography or these aspects anymore (with the coming of schools).



### **5/3/2011 - Afternoon session**

We then visited the region with no 'meth'. This is where water availability. A drinking water source is available only every 15-20 kms. There is a particular variety of plant that grows here called - 'Phog'. It sort of indicates the core desert region in the area. Here the livelihoods are completely dependent on livestock rearing - there is no agriculture.

The plants are well adapted to these conditions. The cycle of shedding old leaves and making manure for its own growth is faster in these plants. Water availability is at 200 ft or deeper in these areas. The sand here was slightly wet when we put our fingers in. Chattar Singh ji explained that there were rains just a few days back. He also explained how an approximate idea of rainfall can be obtained by the amount by which water seeps into the sand. For a few mm of rainfall about an inch of seepage happens.



This whole area is supposedly under the 100% irrigated area of the 'Indira Gandhi Irrigation Canal' project. But, we saw were that most of the canals are dry. The plan was to get water from the Himalayas through the Bhakra Nangal project. But, what happens on paper is a lot different from what happens in reality. There is no water in most of the canals and distribution channels, but, they have laid a polythene layer to prevent seepage (of whatever water is released during visits by the local ministers etc), claim maintenance and cleaning every year. It is a sustainable money generating project (for government officers). Along the way we saw many more buried structures (due to sand storms and lack of maintenance) of the Indira Gandhi project.



We then visited a well (kuan) in this area that is actually 400-500 years old. This well serves the people of Hema and Netsi villages. The well is 200ft deep and water is deep down below (40 'purush' deep - in local terminology - a 'purush' is 5-5.5 ft deep). The water here is 'khara' pani (salt water).

The team revived the structure with the help of the community - it is the community's knowledge and effort that keeps it going. The structure is built in such a way that water first comes to 'pat', then the 'kotha' and finally the 'keli' (water for livestock) and 'kapooria' (water for people) – all these are various parts of the kuan. Drinking water for both the livestock and people comes from this well. More than 10,000 livestock have water here.

Every aspect of the well was designed many years back with precise engineering and

knowledge. What is important is that this developed more out of experimentation and experience over years. The design of the pulley system with loose and no 'bolted' parts, the use of the deer's horn for gripping the rope, the rope made of buffalo skin, a collapsible bucket made with animal hide that can hold more than 100 litres of water and yet, when empty collapses easily to occupy less space.



### 6/3/2011 - Morning session

**Taalab** - We visited Biprasar talaab in the morning. This talaab is more than 550 years old. No one has a correct estimate of how much longer than 550 years. The ground slopes naturally towards the catchment area from three sides. The 'pal' or embankment built from many years ago helps collect the water in the talaab. The pal is made with stone structures that were moved and assembled many many years ago (more than 550 years). Mud and sand are piled behind the stone structures to reinforce the pal. As part of the revival, mud is dug from near the inner walls of the talaab and put behind the 'pal'. This helps desiltation along the boundary and also in reinforcing the 'pal'. Along the pal are big strong trees which further reinforce the 'pal'. The trees are revered and it is just not acceptable to cut the trees here. The talaab can be full within a few hours of rain.

This is one structure which is at once a khadin, tanda and talaab. A 'tanda' is a collection of beris. The beris are built inside the talaab for a reason - people use the surface water first and then start using the water in the beris when the talaab water dries up. They have revived 24 beris in the talaab. The beris are more than 550 years old. It took close to a year to get the community to work on the first beri. But, now within a short period of time 23 more beris have been revived and the people want to work on more.



Close to 10-12 villages use the beris here. Many families with huge livestock - 200 camels, cows etc take water from here. Many tankers also come here to take drinking water. The talaab and beris are used only for drinking water. The 'meth' underneath the talaab is up and down. They say that Biprasar will survive even without rain for 5 years. The beris have been designed and located at spots with 'meth' deep inside.

Work has been going on with the revival of the talaab for two years. It involves - fixing embankments and linings, cleaning the catchment area, making sure there are no impediments etc. The excess water from the talaab actually drains away as a small river across a wide area (there is no surplus channel). A new road that has been built has actually caused issues with the system. They elevated the land to build the road, thus causing an impediment in the drainage. The excess water stagnates in the area before the road and evaporates into the sky as the 'meth' in that area is very close to the surface.



**Bakarthala Khadin** - We drove along the drainage of the talaab to visualize the path the water would take. As we drove along we could trace the path of the water from the soil/rock variety, patterns and tracks left by the flow of water. With the road coming in between, the amount of water has been reduced due to the catchment area being reduced. Nevertheless, there was quite clearly evidence of a huge amount of water flowing like a river winding through the terrain.

We arrived at the 'Bhakarthal khadin'. It was a huge collection of fields. This khadin was dry with no agriculture for more than 13 years. This happened mainly because the river walls were broken and the water was drained away by many distribution channels at various places. This position of the khadin is naturally designed with high elevation on three sides and water inflow from one side. Just 2-3 years back, the problem was analyzed and with the help of the community revival started. So, once

the walls of the river was fixed (again sand/silt from the inside is dug and put on the outside along with thorny bushes to trap the sand storms, to reinforce the walls), the distribution channels were cut off etc. All the water went to the khadin. Thus, the villages started cultivating in the common lands again. They grow mustard, wheat and chana.



**Then we saw the 'govardhan' sthambh** - The 'Paliwals' (a community who are responsible for most of the work on water and agriculture in this region - they had a dispute with the local king 500 years back and the ENTIRE community left the region overnight leaving behind all the work and assets they had built) after finishing work in every structure - talaab, khadin etc, put a 'sthambh' that signifies celebration, welcome etc. The sthambh also serves as an indicator of the water level from the last rains. We could see the water level from the rains of a few months back. The water then stood in the fields for over 3 months. When the water in the khadin fills up by a lot and its time to start farming, there is a drainage / outflow for it.

This khadin is common land with two villages (more than 150 families) that grow food here. The general rule is - 'those who sow can reap' - i.e. anyone can come and be a part of the community that sows and share the produce accordingly. The society takes care of the less privileged - disabled, widows' families will get their share of grains delivered at their home, though they didn't work in the fields. There is a common caretaker for the khadin who has over many generations been from the 'Bhil' community. So, the same family over generations take over the role. Chattar Singh ji explained how they are people who are suited to life in the night, hunting etc.



We then looked at a few beris in the khadin. Chattar Singh ji mentioned that spots to make a beri are identified by observing where 'khejri' trees grow. These are deep rooted trees and where you can see one, it means that the 'meth' level is quite deep and a beri can be dug in that area. He also mentioned ways in which you can identify buried beris.

Old beris are mostly buried by sand blowing and settling over it. It can get quite difficult to identify them. One of the techniques is to use the thin rod that is used to stuff gun powder into an old rifle (from those days). This sharp thin rod is poked into the ground where a 'beri' is suspected. As you keep poking in the area, you will see that it goes in easier and longer in a few spots - that's where the beri is. If you start digging in a suspected area and there is no beri, you will find it very hard to dig. You can also investigate the rocks around the area to see if they are rocks strewn from digging deep under. Animals also sense it very nicely. If you leave a goat to settle down in the area. It will walk around and sit in a spot that is not where the beri is (as it senses danger in loose soil).

**Derasar Khadin** - This is the biggest khadin in the area. This was designed and built by the 'Paliwals' more than 1000 years ago. 3 villages (400-500 families) farm in this khadin. Every 10-15 families group themselves and have a huge section of the field allotted to them. The families farm and maintain this land together. They also split the produce amongst themselves in a just manner.

The whole structure is stupendous in size and engineering. The stones are huge and would have taken one bullock cart to move one stone. These stones were moved from Jaisalmer area as there were no such stones near Ramgadh. That's moving thousands of such stones over 70 kms with bullock carts. Farming in this khadin common lands has been going on for hundreds of years since then.

Work on this khadin has primarily been strengthening the structure, reinforcing the bund, maintain the saplings that started sprouting on their own. A new 'nala' (pipe drain) was also made to drain the overflow of water. This water is used to do farming

in the area behind the 'pal'. 'Meth' is only 3-4 feet deep in most of the khadin. There are two beris here. But, not very deep - 5-6 ft deep.



Our visit ended by the afternoon and after lunch each one of us made preparations for their return journey. I left by the evening bus on 6th from Jaisalmer.

#### **Participants in the annual gathering:**

Apart from Ashis, all other members and fellows of Sambhaav working in various parts of the country including:

- Jaisalmer, Barmer, Alwar, Nagaur, Jaipur, Dausa (in Rajasthan),
- Gaya district of Bihar,
- Purulia and Asansol regions of West Bengal,
- Chandigarh region of Punjab,
- Pune and New Delhi (fellows working on research/documentation through film and mapping),
- Anupam Mishra ji (Trustee Sambhaav) and Farhad Contractor

Fellows / members working in Pauri-Garhwal Uttarakhand, Kutch Gujarat and Bhandara Maharashtra, apart from several others in the extended community, were not able to participate in the meeting.

#### **Conclusion:**

The above notes from a 2-day visit. To understand the learning process Ashis is going through - just multiply this by the number of trips he has made (about 10 so far to various parts of Rajasthan, and most of these to Jaisalmer), and to understand the scope - across other regions and teams as well.

Ashis has already been preparing ground for work on 1 village in Dungarpur, through his visits over the last year or so. These 6 months or so of visits, have given him a sense of the mode / approach / perspective of work especially the social process and some technical details.

The next step in this process as regards the work in Dungarpur would be that other members of the team - primarily Farhad / Chattar (Jaisalmer) / Satish (Jaipur / Alwar region) visit and spend time with Ashis in the villages here and develop and discuss initial plans based on the geography of the region there - essentially some possible sites where structures can be made and the technical details of these. Along with this, specific discussion and dialogue around work on conserving water / land will be initiated with the local people, and a work plan developed around that.

Ashis will also start preparatory work in 2-3 other villages in the region - based on which actual work will be initiated in a year's time.

Along with the above, Ashis will continue his visits to the other work regions, both to continue his learning process, but also to take part in direct work with local teams and communities there, as also to initiate the work on documentation of the process and results the community and organisation has achieved in the last 5-10-20 years, in order to communicate these "models" of work (in a written / visual form) to people / organisations who maybe interested in them.

We have to understand that the work Ashis does with the community at Dungarpur and his learning with Sambhaav's other efforts etc. are all not distinct. It is all a part of the holistic process. In terms of his progress towards his specific goals, the work does not happen in any sequential manner (i.e. one goal after the other) and will happen in tandem based on the needs.

As a supporting organization, we need to be patient and understand the nature of work that Ashis is involved in. It will be a slow process of building the community's confidence. The strength and pace of work will also depend on how the community takes up and responds to situations. There is also a much needed stress on the community owning the efforts from the beginning - deciding the pace, timeline etc. Even most of the funds is raised by the community (atleast 50% or more comes from them).

**Resources that can help understand the work better:**

- Anupam Mishra's talk at the TED India Conference 2009: [http://www.ted.com/talks/anupam\\_mishra\\_the\\_ancient\\_ingenuity\\_of\\_water\\_harvesting.html](http://www.ted.com/talks/anupam_mishra_the_ancient_ingenuity_of_water_harvesting.html)
- Rajasthan Ki Rajat Boonde (Hindi and English): <http://www.indiawaterportal.org/node/7354>
- Aaj Bhi Kharein Hai Talaab (Hindi): <http://www.indiawaterportal.org/node/902>