

Kurlod-Botoshi Field Visit Notes – September and October 2014

My name is Kapil Surve and I have taken a TDSL course in CTARA department for Autumn semester of 2014. As our objective, me and my team members are studying, monitoring and scripting solutions for the water crisis in Kurlod and Botoshi habitations. The project I chose was a continuation of a previous study of water resources in the Kurlod-Botoshi habitations.

Kurlod and Botoshi are two villages in Mokhada *taluka* of Thane district. The two villages have a total of 13 habitations (*pada*). These *padas* face a serious water crisis despite receiving decent rainfall. CTARA, IITB and Aroehan, a social NGO have been working on this project for quite some time. As first phase of our project, our team members made a database of all the water resources in the habitations. They noted down factors like the diameter, depth, GPS coordinates etc.

After a few meetings, we came up with a plan over what to do in what would be my introductory visit to the region. We made all the travel arrangements prior to the visit.

VISIT 1 (13th and 14th September 2014)

Participants: Ctara - Janhvi, Abhishek, Hemant, Kapil.
Aroehan - Bhaskar, Madhukar.

Day 1: 13th Sep

I, with the team visited the habitations. The aim for me on this visit was to get familiarised with the situation. We started from Kasara and then travelled upto Botoshi. After travelling down the Kasara Ghat, I saw the massive dam-storage on the river Vaitarana.

Our team is working on this project along with the social NGO, Aroehan. Their official, Bhaskarbhau was with us for our first day. On our way to Botoshi, we stopped at Khodala, and after that at Adoshi, where we saw a concrete bund constructed by Aroehan in April this year.

We then set out to Botoshi. Normally, to reach Botoshi habitation, we have to cross the Pinjal river on foot over a broken bund near the habitation. When we arrived at the bund, the water level was too high for us to cross, so we crossed at another point and trekked around a hill to reach the habitation. The two main water resources in the *padas* are the wells and Pinjal river. We measured three of the wells' diameter and depth. The broken bund has a dual function of being a bridge for connectivity and a bund for slowing down the flow of Pinjal.

The villagers in Botoshi were very helpful as many of them came with us to show us the wells. We then had our lunch at a house in Botoshi. We started our return journey around 3 pm and reached Mokhada. Some of our team members went back to Mumbai, while others resided for the night at the Aroehan office in Mokhada.

Day 2: 14th Sep

Day 2 began with me and Abhishek starting at 9 am from Botoshi. The road to Kurlod is even more damaged than the Botoshi road. We picked up Madhukarbhau, another official from Aroehan. He was our associate and guide for the day.

We went to Pedhechapada first and analysed the two wells there. Then we trekked several kilometers on foot visiting three wells in Kurlod, two in Vadpada and one in Manipada. We visited the house of the Up-Sarpancha of Kurlod, Pandurang. We found the weather to be rather hot in the afternoon, but around 3 pm, cold breezes started to flow.

The villagers at Kurlod and other *padas* were helpful. They provided information on several important parameters. One well's case in Manipada stands out as unique. It was on the banks of the Pinjal river. The appearance of the water was muddy. A local told us that they had previously attempted to pump out the mud with the help of motor, but the mud was so much in amount that they couldn't finish the task.

We returned to Kasara in the evening and took a train back home.

Results obtained:

1. Physical parameters of 7 wells in Kurlod-Botoshi. Their GPS coordinates. Elevation.
2. Dependence of villagers. Water lasting period.

VISIT 2 (11th & 12th October 2014)

Participants: Ctara - Kapil
Aroehan - Bhaskar, Dilip, Madhukar, Kavita

I set out on my second visit to KuBo, reaching Kasara station at 9 am on the morning of 11th Oct 2014. This time, the agenda was to emphasize on the broken structures and also collect water samples. I met Aroehan official, Bhaskarbhau in Khodala an hour later, and together, we set out to our first destination, Botoshi.

Day 1: 11th Oct

On reaching Botoshi, we set out to observe well no. 5, as it was reported to be an appropriate location for a CCT. I observed that there were two mountains surrounding the well from one side. One having a higher slope than the other one. On discussing with Bhaskarbhau, who has past experience of CCT construction, we concluded that well5 would benefit from a contour bund built on the mountain with higher slope.

Botoshi has a small pond in between the farmlands that was shown to me. But I found it to be difficult to enhance. We visited a well in Kirkirewadi, that was known to have impure water,

and took samples from it. We then visited the Botoshi's bridge/bund. We measured its storage capacity by measuring bund length, stretch of water held by bund and average depth of water. We then set out to visit the broken bund in Bhojpada. This is a relatively small bund than Botoshi but faces a *na/a* with severe force. We measured Bund's dimensions and analysed the bund's damaged part.

Bhaskarbhau dropped me off at Mokhada. From there I with Aroehan officials travelled by bus to Jowahar. I resided for the night in Aroehan's safe house at Jowahar.

Day 2: 12th Oct

I started from Jowahar and reached Mokhada around 9. Then, me and Dilipbhau, another official from Aroehan, rode on bike to Kurlod. On our way, we picked up Madhukarbhau from Kurlod. The agenda for the day was to observe and measure the broken bund in Manipada & to take water samples from a well in Raipada.

The three of us first reached Kurlod. From here we walked to the bund site in Manipada. On observing, we found that the bund, is a massive but incomplete structure. We measured its storage capacity using our measuring tape. For doing this, we had to take the entire stretch of the water held, which was unusually long and of curving nature, signalling the importance of the bund.

We then went to Raipada, to take a sample of a well with a severe water quality problem. This is the second such well in KuBo, built on the banks of river, which has impure water. To go to Raipada, which is a far remote place than any of the other *padas*, we had to cross the Pinjal river and climb up a considerable height. The well-water in Raipada was in no way usable. On asking whether the villagers tried to disinfect/purify the water, one person said that they had used TCI (chlorination) technique, but found it useless. The cause of the well's impurity should be determined. After taking the sample, we went back to Kurlod. Then to Mokhada and then to Kasara.

Results obtained:

1. Water storage capacities of 2 bunds. (Botoshi and Maripada)
2. Samples from wells in Kirkirewadi and Raipada. Tested at IIT – results for pH, nitrate, fluoride and hardness all okay – but both samples had presence of bacteria.
3. Analysis of well5 in Botoshi for possible contour bund construction.
4. Understanding the incompleteness/breaking of bunds.



Bund 2 at Bhojpada



Bund at Manipada