

Report on the Anjap Sugave RR scheme in its fifth year of operation

The Anjap Sugave scheme is designed to solve the problem of water scarcity of Borivali Panchayat. Borivali Panchayat is situated between the Pej and Shilar rivers in the Karjat taluka of Raigad District. Pej river is a perennial source of water and the Shilar river is seasonal. The scheme feeds water through a jackwell at the Pej river by a pump to an MBR at Anjap Phata on the Neral Kashele road. The scheme consists of two ESRs at Borivali and Naldhe of which the latter is yet to be constructed. The scheme was passed around twenty years ago and yet remains to be completed. This is the fifth year of operation of the scheme. In spite of five years of functioning, the scheme still does not reach all its proposed villages. Moreover, it does not operate all year round, as its plan states, but only in April, May and June. This means that during other months, in case of water shortage, villagers are forced to either use the polluted water of Shilar or send for water tankers.

The project is being analysed by a team from IIT-Bombay and this study is a part of that. The objective of the study is to survey the water availability at the 14 listed habitations of the scheme.

The source for the project is the perennial Pej river in which a jackwell is constructed. A pump fitted to the jackwell pushes the water to an MBR at the ANjap Phata. From here, it is transported

- i) directly to the villages of Antrad Need, Ramachiwadi and Dharyachiwadi
- ii) directly to Naldhe, Sugave and Saraiwadi
- iii) to an ESR at Boriwali through which it is transported to Boriwali and Gudwan.

Priority wise, the water is first let to Antrad Need, Ramachi Wadi and Dharyachiwadi for an hour each. Then, it is emptied into the Boriwali ESR. The water remaining after letting it to Antrad Need, Ramachi Wadi and Dharyachiwadi and filling the Boriwali ESR is let to Naldhe. This results in Antrad Need, Ramachiwadi, Dharyachiwadi, Boriwali and Gudwan getting water daily at full pressure for an hour or more while the villages of Naldhe, Sugave and Saraiwadi getting water once in an average of two to three days.

Two leakages at the valve letting water to Antrad Need, Dharyachiwadi and Ramachiwadi and these villages being at a height being lower than the MBR result in the three villages getting a continuous trickle of water in addition to one hour of water supply at full pressure.

Village wise recollection

Naldhe



Naldhe has one standpost and one 300 litre tank for the scheme. The water comes once in two to three days. This water is sufficient for three days. That is, at a single go, water is collected for three days. The water does not come at a fixed time or day. When asked how the village gets to know that water has come since its timing is not fixed, the reply was that children are sent to the standpost from time to time to check if water is coming. Another problem is that the standpost is at one extreme end of the village making it difficult for the villagers of the other end to access this standpost. The village school tank also fills from this scheme water. This water is not found to be fit for drinking. Therefore, water from a borewell at a farmhouse one km away from the village is used for drinking. The village also has two wells which dry up by April. The village pays the electricity bill for the scheme along with other villages included in the scheme per month. The amount per household therefore varies from Rs.50-100. No receipt whatsoever is provided for this bill payment. There is not much difference between the functioning of the scheme for this village. The pressure of water is quite high and the handa fills quite fast according to a villager. Other water sources which the villagers avail of are the Shilar river, two borewells and two Panchayat wells. On an average, the scheme provides 100 liters of water per day per household. On an average, the water comes for about two hours. No household is given a private connection through the scheme. The scheme remains closed on Saturdays and Sundays. The bill is collected internally in the village by a villager and is paid at the Panchayat. If the bill is paid late, water is not let to the village. As the Naldhe ESR is still under construction, Naldhe is given a connection on the main line. Therefore, as Saraiwadi and Sugave (Villages beyond Naldhe) get water, Naldhe keeps getting water. Potassium Permanganate is added to the village tank and the school tank. Water has been coming to this village for the past four years. All the other maintenance is paid for by the contractor as the scheme has not yet been officially handed to the Gram Panchayat or the Zilla Parishad.

Sugave



Sugave has one temporary standpost for this scheme. Water is also let into a well through this scheme. No private connections have been given to the anyone in the village. Although this water is not found to be fit for drinking, acute shortage of water in this village forces villagers of this village to use the scheme water as drinking water. Internally, Rs.50-100 are collected per household to pay the light bill. This is paid to the contractor. The temporary airvalve standpost is kept open so that it makes noise when water comes. This standpost is at one extreme corener of the village. Therefore, of the hundred odd households of Sugave, only five to ten households use this standpost. Villagers claim that water is enough for the day it comes but not for the days following this day (The water here comes once in ttwo to three days). Water has been coming to this village for four years under similar conditions. Other sources of drinking water include two borewells three km away from the village and opposite to each other. One of them is at Wara while the other one is at a farmhouse. Apparently, it is the same borewell which is used by Naldhe. At many times, water coming here is excessively muddy. This is attributed to the stone crushing industry located between Naldhe and Sugave. It is said that this industry makes holes in the pipe for water. If an objection is raised. The counter it by objecting to the pipeline which goes through their land. Mr. Yashwant Jadav, who owns and runs a local agency has constucted a borewell in Sugave, just behind his house. All the households in the village except those five odd households which use the standpost use this private borewell for meeting their drinking and washing water demands. Villagers are not charged by Mr. Jadav for using this borewell. This borewell was constructed approximately two months ago with the purpose of satisfing personal demand. THE borewell has apparently struck lot of water. The borewell is approximately 350 feet deep.

Pingalewadi

The scheme has started on paper for this village. A pipeline has been constructed from Naldhe to this villages and many promises have been made regardingthe scheme by the Panchayat to this village. A standpost was also placed (Although this was forty metres outside the village) for the

scheme but was later removed and taken away by the Panchayat. Water has never come to this village except for two times when the line was being tested. The does not pay for the electricity bill. Also, the willingness to contribute towards the electricity bill in return of water is absent. The village has a 1500 liter school tank and a well one km away from the village. Water is even not let to the village well.

Saraiwadi



Saraiwadi has four sources of potable water. These include the scheme standpost, a tank filled by tankers, a well which has water till May and the Shilar river, although the water of the Shilar river is not considered to be fit for drinking. The water by the scheme is sometimes muddy owing to the stone crushers and sometimes clean. On an average, an amount of Rs.20 is paid per household per month for the electricity bill. This is paid sometimes to the Panchayat or sometimes to the water supply workers or supervisors who come to the village for the scheme work. The water is sufficient only for the day it comes but not for the later days as in many other villages. Water has been coming to this village from last year. The wadi does not face critical water problems. This wadi is willing to pay a higher amount for better water facilities. The water comes between 12 to 1 PM for around half an hour once in a week. The well in the village dries up in April and May and is one km away from the village. Last year, a villager claims, water from the scheme came to this village for only a month.

Patrachiwadi and Lobhyachiwadi



These two wadis have a pipe constructed to them and have two standposts between them. No water however has come to these villages this year or during the previous years of the functioning of the scheme. The scheme supervisor claims that physically, it is possible to send water to these wadis as the heights of the Naldhe ESR and the MBR are enough to make water reach the height of Patrachiwadi and Lobhyachiwadi. In fact, water was sent to these two villages five to six times last year when the line was being tested. These villages have two wells among them. One of them being dysfunctional dries in January while the other one dries by April-May. In the months of April, May and June, makeshift wells are dug on the dry bed of Shilar for water. However, this water is highly polluted and is used for drinking. These two wadis do not contribute towards the electricity bill of the scheme. The villages have four dysfunctional borewells. To suffice water demands in May and June, tankers are called for from Neral, Kashele and Karjat.

Kalyachi Wadi

Although the village does not have a standpost or water does not empty in a tank, a pipe was fitted upto the village under the scheme. No water whatsoever has come to this village under the scheme this year or in the previous years. The scheme supervisor agrees that Kalyachiwadi is the only place left where the testing still remains to be done. He has conducted the testing twice this year and is therefore optimistic about water going to this village from this year. In the months of May and June, this village faces acute shortage of water. A near perennial well dries up in mid May which has clean and potable water till it dries. The river, although containing polluted water is still used as a source of drinking water. Tankers are sent for in the months of May and June. The village also lacks a school tank present in other villages.

Antrad Waredi



Water has been coming to this village for the last four years. Until last year, water was released in a polluted well. This water being insufficient, a private scheme was set up by an internal village co-operative (Jan Seva Mitra Mandal, a group of twenty five odd youth of the village) which used the Shilar river as the source of water. This water is found to be polluted. A jackwell has been constructed in the bed of Shilar river. Water from this fifteen feet deep well is pumped up to the village in a tank. Taps attached to the tank provide water. The pump is fit with an electricity bill meter. The monthly bill amount and maintenance cost is shared equally by all the villagers which amounts to roughly Rs.50 a month. This year, the village has not asked for the scheme water as their mini scheme functions well and the scheme water seems to be grossly inadequate. Therefore, this year, water has not come to this village. Last year, the timing for the water widely varied. It came around four times a month. The Shilar river water is used for drinking despite being polluted. Another problem with the scheme is that it released water into a heavily polluted well.

For more information regarding the private scheme and the NGO, we met Krishna Dayre, treasurer of the NGO. Krishna Dayre and other twenty odd likeminded youth of the village collectively established this NGO in 2002. This NGO does not work beyond their village. One of the prime works of the NGO has been to set up this scheme. They were financially aided by a Mumbai club for setting up this scheme. Their other works include setting up Ganpatis for the Ganeshotsav and routine cleanliness drives in the village. Krishna Dayre claims that his NGO got the idea of setting up this private scheme when they found that the Zilla Parishad scheme did not provide enough water for even 25 households of the 150 odd households of the village. Firstly, the pipe was not of a thickness expected by the villagers. Secondly, the pressure was very little. Also, last year, the village paid around Rs.2000 per month for the light bill of the scheme from which they benefitted very little.

Antrad Need



This village is provided with two standposts under the scheme. The water provided to this village through the scheme is clean and sufficient. Last year, the village paid roughly Rs. 80 per household



per month for the light bill. This year, money has not yet been paid as the scheme has not completed one month of operation. The water from the scheme is used for both drinking (some houses use this

water for drinking while others in the same village do not) and bathing after treating it with Cl at the village level. The pressure of water is extremely high at this village as it is situated on a slope directly below the MBR. Since it is situated on a slope below the MBR and the valve to this village has some leakage, water keeps coming to this village for the whole day as a trickle which has enough pressure that this water can be utilised. Water has been coming to this village for the last four years. The village has two wells of which one dries by January and the other dries by May. The village also has two borewells which are both far away from the village. One of them gives polluted water. Similar to other villages, money was collected internally at the village level and utilised for the electricity bill. The amount came to Rs. 80-90 per household. This was paid to the Gram Panchayat. This water is sufficient for all the village is heavily dependant on this water.

Dharyachiwadi

Water comes to this village everyday except on Sunday at a high pressure. At other times, water comes to this village continuously as a trickle for the same reasons as Antrad Need. The water is used for both drinking and bathing. As in other villages, the amount paid per household per month for the electricity comes to Rs. 20 to 40. This is paid to the contractor. The village has two private wells of which one dries by January and the other dries by May. A place has been identified by the villagers where if a well is dug, it will be a perennial source of water. the owner of this land asks for an amount to be paid to him per handa extracted from the well. The village has two standposts and the only case when water does not come to the village is when there is an electricity failure. Water from the scheme is sufficient for all. The water has been coming for two months a year the last four years. A well at Ramachiwadi is also used as a source for drinking water. The village does not have any borewells. No purifier is used at the village as the general assumption is that water purifiers are added to the water at the MBR. Water has no fixed timing but generally comes between 8 and 10 am for thirty minutes to an hour. This is sufficient. For other washing purposes, the Shilar river is used.

Ramachiwadi



Water has been coming through the scheme to this village for the last four years for two months a year. Water comes daily except on Sundays. The time for the water is fixed. It comes for twenty to twenty five minutes a day. Rs. 30 to 40 are paid per month per household for the electricity bill. This is paid directly to the contractor. The water coming to this village is clean. The village has two borewells. Water from these is used for drinking. The scheme water is used only for washing purposes. No purifiers are used at this village. The pressure of water is very high. The scheme has not changed considerably over the years. The water from the scheme is sufficient for all. Some houses use Cl powder at the house level (not the village level) which is got from the Panchayat.

Boriwali



Boriwali has a good standpost:households ratio of 3:70. The village has got three borewells of which two are public while one is private. It also has two public wells of which one dries by May and the other is perennial. borewell water is used for drinking. Standpost water and river water is used for washing while the well water is used for both. River water is also used for brick kilns. The amount for the light bill per month came to Rs.40 to 50 per household last year. Wells and borewells are regularly treated with Cl. The water comes between 10 and 11 AM for around two to three hours, except on Sundays. The pressure of water is very high. This is the third year that water has been coming to the village. The villagers are willing to pay the amount they pay per month for the scheme. Villagers claim that before this scheme started, they faced shortage of water and they called for tankers.

Gudwan



This village does not have a standpost for the scheme. A 15,000 litre tank has been constructed on the outskirts of the village which is filled by a pipe from the scheme. The amount per household per month comes to Rs. 10. The villagers are willing to pay up to Rs.30 per month per household but not greater than that. This scheme runs only for two months between April, May and June. The tank fills daily except Sundays. Water runs till the tank is not filled. The water does not come at a fixed time but comes mostly in the afternoons. Drinking water is provided for by a borewell in Boriwali. The Shilar is used for washing purposes alongside the scheme. Water has been coming to this village for the last four years. Before the scheme started, the village faced acute shortage of water and the village needed water tankers. The tank in the village was originally built for tanker water. This scheme water is not used for drinking purposes as it is not fitted with a filter. The water came to this village this year for the first time on Gudi Padwa. Recently, a borewell was dug at Gudwanwadi which gives polluted water. When the scheme is not running, the villagers use water from this borewell. The village also has a rainwater harvesting tank in its vicinity. Twice in the four years of the scheme's operation, leakage was found in the tank which stored the scheme water. These leakages would empty the 15,000 litre tank in a single night. Before the scheme came, water was obtained from a pond formed in the Shilar river 2.5 km away. The village is heavily dependant on the scheme.

Anjap



Anjap is a village situated on the bank of the Pej river, the perennial source of water used for this scheme. Initially, Anjap was also a part of this scheme. The Rotary Club of Switzerland financially supported Anjap to set up their own mini scheme. Therefore, the villagers of Anjap have now asked the scheme operator (a resident of Anjap) to not let water through the scheme to Anjap. They also do not contribute towards the monthly electricity bill of the scheme. Some major differences and similarities in the two schemes have been observed.

Similarities

Both use a jackwell (separate for the two separate schemes) in the perennial Pej river. This water is pumped to a tank through which it is let to the village(s). The fee of both schemes per person per household comes to around the same (Rs.50).

Differences

Has one to two standposts per village.	Has ten standposts per village.
Serves fifteen villages.	Serves one village.
Government cum public funded.	Private cum public funded.

Some tables

Purification

- Potassium Permanganate (Naldhe)
- Alum (Sugave)
- Chlorine (Rest)

No. of standposts, wells and borewells per village

Village	Standposts	Wells	Borewells
<i>Naldhe</i>	1	2	2
<i>Sugave</i>	1	1	3
<i>Pingalewadi</i>	-	1	-
<i>Saraiwadi</i>	1	1	-
<i>Patrachiwadi and Lobhyachiwadi</i>	1	2	4
<i>Kalyachiwadi</i>	-	1	-
<i>Antrad Waredi</i>	1	-	-
<i>Antrad Need</i>	2	2	2
<i>Dharyachiwadi</i>	1	2	-
<i>Anjap</i>	11(ten private scheme)	-	9
<i>Ramachiwadi</i>	1	1	2
<i>Boriwali</i>	3	2	3
<i>Gudwan</i>	-	1	1

Tanks

Gudwan-Tank for scheme water instead of standpost

Other villages getting water get their school tanks filled with this scheme water including Gudwan

Supply and storage table

Village	Supply	Supply frequency	Storage facility (other than household)
<i>Naldhe</i>	√	Once in three to four days (two hours)	School tank
<i>Sugave</i>	√	Once in three to four days (one hour)	Well
<i>Pingalewadi</i>	No	-	School tank (not used)
<i>Saraiwadi</i>	√	Once in three to four days (one hour)	School tank
<i>Patrachiwadi and Lobhyachiwadi</i>	No/Opt Out?	-	School tank (not used)
<i>Kalyachiwadi</i>	No	-	-
<i>Antrad Waredi</i>	Opt Out/Undecided	-	Tank (private scheme)
<i>Antrad Need</i>	√	Daily	School tank
<i>Dharyachiwadi</i>	√	Daily	School tank
<i>Anjap</i>	Opt Out.	-	School tank
<i>Ramachiwadi</i>	√	Daily	School tank
<i>Boriwali</i>	√	Daily	School tank
<i>Gudwan</i>	√	Daily	School tank and scheme tank