

Rain water harvesting in Vivekanand school premise, Chindyachi wadi, Shahapur, Thane

Swami Vivekanand Adivasi ashramshala, Chindyachi wadi, Vashale

The school is situated on a small plateau, near the road. School strength is about 500 students.

Current situation –

There is one bore well in the school premise, which gives some water. But it is not sufficient. It is used for drinking purpose.

Attempt has been made to recharge the bore well and there is some benefit of it. Some of the rooftops are diverted to the bore well for recharge.

One pond has been dug for storage, but it is working as recharge pond since there is no rock at the base.

School has one large well, near the road, which dries in summer and school faces water scarcity.

There is one well in another private property and school is using water from this well for the use.

What can be done –

Recharging of existing bore well scientifically –

Currently, there is a pit around the bore well, with gravels filled, and rooftops of some school building are diverted to this pit.

We strongly suggest that the rooftops of school buildings on this side should be connected and water should be diverted to the bore well for recharge. A 4 chambered filter should be made and rooftop water should be passed through this filter and the outlet of the last chamber should be connected to the casing pipe of the bore well. This will ensure recharge of about 90% of the rooftop rainwater. And due to double filtration, quality of water will also enhance.

Recharge pond correction –

There is one pond, dug for storage of rain water. Since the base of the pond is not hard, due to absence of hard rock, storage of water after end of rainy season is not possible.

We suggest lining the pond with either plastic or by making PCC, if you want to retain water after rainy season. But, it should be kept in mind that, there will be no water after December in this pond. Lining of the pond will give you additional two months of water storage.

Subsurface bund downstream the well near road –

One stream passes from about 50 feet from the existing well. There are agricultural fields and water flows over as well as under the fields. We suggest making of a subsurface bund downstream the well. This will help in retaining well water by about two months.

Making of a well –

We have seen one possible location, outside school premise, where we can get water if a well is made. This is at the base of the hillock on which the school is situated.

There is strong possibility of getting a perennial source of water at this location.



Proposed location of new well

Treating waste water from girls' hostel –

Waste water from the girls' hostel is currently free flowing after passing through the septic tank. This may cause some hygiene issues.

We suggest treating of this overflow of the septic tank. This treated water can be used for non potable purposes.

We have done this in many school, colleges, and universities including Symbiosis. Its ecofriendly way of treating waste water, with almost no or minimal running cost as per site selection.

This will be available throughout the year. You can even grow vegetables from this treated water. It is hygienic and do not harm anyone.



Free flowing overflow of septic tank

Estimate of the structures –

No.	Structure details	Cost (Rs.)	Benefit
1	Recharging of bore well -		
a	Piping from down take pipes to filter near bore well (approx. 400 m)	2,40,000.00	Approx. 20 lakh liters of water recharge in bore well every year
b	4 chambered filter (5'x5'x5' each)	70,000.00	Filtration of rooftop water before going in to bore well
c	Connecting bore well with filter	15,000.00	Direct recharge
2	Pond lining	1,50,000.00	Enhancing the water storage period by 100 days
3	Subsurface bund downstream existing well	1,30,000.00	Enhancing water holding period of the well by approx. 2 months
4	Making of a well (12' dia., 30' deep)	3,00,000.00	Additional source of water for the school
5	Waste water treatment (15,000 liters per day) ***	7,50,000.00	Additional 15 thousand liters water available daily for secondary use in the school
6	Pump & pumping system for new well (Solar/ electric) (Optional)	8,00,000.00	Ease in supply of water from new well to school
7	Technical consultancy & support	80,000.00	

***** - In last estimate, the waste water treatment estimate was given wrong. It was my mistake. I have corrected the mistake in this report. Sorry for the mistake.**

These are estimates and may vary + or – 5-8 % as per site conditions