

Drinking Water Model 4

Rural Drinking Water Project to construct and repair the existing tank which is mainly filled with filth and polluted water, provide plantation in the area, provide a recharge bore as well as drinking water bore adjacent to the tank

Lecture Notes
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Introduction

*NGO is located at * village, Amod taluka of Bharuch district the *NGO is involved in various Rural Development activities in different poverty alleviation programmes... There are about 50 house holds (New settlement) with about 250 members without proper drinking water facilities.

Proposal

The NGO proposes to construct and repair the existing tank which is mainly filled with filth and polluted water, provide plantation in the area, provide a recharge bore as well as drinking water bore adjacent to the tank. The details are given below

Water Demand and Availability:

The present population of the settlement is of the order of 250. The water demand has been estimated @ 40 lpcd for the present population and designed a tank of about 10000 liters. The actual demand has to be estimated by projecting the demand at least for the next 10 years. This would come to about 15000 liters including losses and water required for animals. Thus the tank designed by the NGO is not adequate.

Renovation of Tank.

The NGO proposes to renovate and widen the existing tank with the dimensions of 50*22.5 *3.5 m. The total excavation is in the order of 4000 cum. The cost of the excavation come to about Rs 116000 @ Rs 29 per cum.

Filter Kundi

The NGO proposes to provide a Filter Kundi for preventing highly polluted and filth to enter the tank. The cost is Rs 30000. This is acceptable.

Design of Over Head Tank:

An Over head tank of 3.5 m dia and 2.05 m depth (10000 liters) is proposed. This is not adequate. The NGO may be requested to provide a tank of 2.5 *2.5*2.5 (15000 liters) capacity tank. Accordingly the cost of the tank of Rs 37500.

Design of Pump set.

Considering a pumping of 2 hours in a day @ 2 lps for a head of 30 m, the requirement of HP is in the order of 1 Hp. The proposal of 3 HP may be accepted. The cost of Rs 25000 is acceptable.

Design of Recharge Bore:

The NGO proposes to drill a bore well for recharge from the tank for a depth of 150 feet. This is acceptable. However proper filters etc have to be provided for recharging the water through the bore. The cost of Rs 40000 is acceptable.

Design of Drinking Water Bore

The NGO proposes to drill a bore well of 150 feet depth for providing drinking water to the settlement. Even though, this is an acceptable structure, the water for drinking is going to be lifted from the same tank area where, the recharge is taking place from the recharge bore. The NGO should analyse the water for its potability before it is distributed to the people. This is very important. If it is not done, there is likely hood of various water born diseases in the settlement, as the tank water is not pure. The cost proposed of Rs 60000 is in order including proper design of filters etc.

Plantation

The NGO proposes to plant various species in the tank area for Rs 5000. This is acceptable. However, the NGO should indicate the varieties of plants to be planted and who will take care of the plants at least for two to three years until they survive.

Operation and Maintenance:

It is easy to construct any structure but is very difficult to maintain unless the people are involved. The people who would be benefited should be involved in operation and maintenance of the project. The people should contribute at least 10 % of the cost of the project in the beginning and should pay monthly a fixed amount for operation and maintenance of the structures and the daily operation of pump set.

Cost of the Project

As discussed and indicated above, the following project cost is recommended.

Sr.No	Details	Amount (Rs)	Peoples Contribution (Rs) @ 10 % of the cost	Balance (Rs)
1	Renovation of tank	116000	11600	104400
2	Recharge Bore (150 feet)	40000	4000	36000
3	Bore well for drinking (150 ft)	60000	6000	54000
4	Over head tank (15000 liters)	37500	3750	33750

	capacity)			
5	3 HP Pump Set (Submersible pump)	25000	2500	22500
6	Filter Kundi	30000	3000	27000
7	Plantation	5000	500	4500
8	Sub Total	313500	31350	282150
9	Contingencies @ 3%	9405	941	8465
10	Total	322905	32291	290615

Peoples' Participation

The success of the scheme depends mainly on the people's participation especially after the construction of the various activities. The maintenance of the structures constructed is one of the major problems, as people do not own the structures. As such, the NGO should convene a meeting of the stake holders and insist that they should pay for maintenance at the rate of Rs 15 to 20 per family per month and collect and keep the same in the Pani Committee specially formed under this programme. The money can be utilized for repairs of the structures, pump operation and the balance can be utilized for any community work they deem fit. There should be one Pani Committee per village and sub or mohalla committees to look after the activities in their own areas. The members should meet at least once in a month and collect the money and explain the expenditure to the committee members for transparency of the activities.

Disbursement of funds and Monitoring

The NGO should complete the project in about 6 month's time. The work may be divided into 4 phases. The NGO may conduct monitoring study at different phases or as and when they release funds, but a quarterly monitoring study is necessary to see that the projects are progressing satisfactorily.

Demonstration effect

The purpose of this programme is to show how a drinking water programme can effectively solve the drinking water needs of the community. The demonstrative effect would be on the local villagers as well as on the people from nearby villages. To achieve that, a detailed board should be displayed at the site regarding the project with details in Gujarati and English language. The NGO may collect people in the village and nearby village and explain briefly the benefits of the project. The local Pani Committee members may be requested to give the details to the gathering regarding the methodology followed by them for the sustainability of the scheme.