

Interesting findings after dredging of the dugwells provided by Project Well in a few arsenic affected villages of West Bengal in India

Summer 2004 - Field Report on the activities of Project Well and recommendations

Out of 26 dugwells:

1) Eleven community-based groups have been formed that include on an average ten families per dugwell. The consumers are taking training on how to maintain their dug well (Picture 1-4). Out of ten wells one well was dry in March.

2) Four wells are not being used as much as expected due to availability of other options nearby that were installed after the construction of the dugwells (refer to report on “Field Observations in January 2004 and recommendation” on the website <www.projectwellusa.org>).

3) Due to faulty construction two dugwells could not be used at all. Rotary Club funded phase 3 and the contractor was engaged by a Rotary club based in Kolkata to supervise the construction. The members of Project Well did not have any control on the activities during the construction. Out of twenty wells two wells were badly constructed that could not be used at all and six wells were not deep enough due to which four dugwells were dry by March 2004.

4) Prospective users of ten dugwells require rigorous awareness program. The door-to-door education needs to be intensified that would include distribution of information sheets and explanation of the health benefits of the dugwell water with the help of audio-visual tools if possible.

According to the report of the field workers provided in March 2004, there is an increasing trend in the use of the dugwells. More than 50% were using the wells and the number suddenly decreased due to less water and dry conditions of some of the wells. The users are also being trained how to use the Theoline. It is essential to give the training on how to follow the chart that contains the quantity of liquid theoline required related to the volume of water. The chart has been made very simple.

Picture 1: Training on how to measure the volume of water.



Picture 2: Training to assess the quantity of Theoline to be applied following the Theoline Chart



The below average use of dugwells at this initial stage is not surprising. One should use the examples of the CBGs that are working and use their involvement as an example in influencing the groups that are unwilling or are ignorant. The appropriate analogy to be applied here is to see the half filled glass and not the half empty one.

Advantages:

The response of some villagers and community-based groups is very good. They are keen to learn and become self reliant in obtaining arsenic safe water. They are also collecting funds for the maintenance program. This kind of response is mainly observed in the areas where people are educated.

Disadvantages and Recommendations:

a) The poor response is seen mainly in the areas where there are people of lower income group and their education is practically nil or below average; Politics play a considerable role. There is a need to make safe water available to everybody, like electricity and education, which are not influenced by politics by introducing self-reliant community-based programs.

b) There is a class of people that does not make effort to achieve the free-education that is available throughout the State of West Bengal. There are some who cannot afford to subscribe for electricity. Such sections of people often fall in the non-cooperative group and there is a need to understand their difficulties and work out methods of motivation and if possible some kind of compensation needs to be considered.

Picture 3: Measuring the volume by using the measuring jar.



Picture 4: Pouring Theoline into the well water.
The water will be used after 24 – 36 hours



Current Activities:

1. Dredging and renovation of 24 wells were completed by the first week of May. **After dredging the water level in each well is more than two feet except in one.** This would enable ten families to obtain water from each dugwell in summer. (For detailed information see Annexure A). All the dugwells were treated with Theoline after the dredging and cleaning procedure.

From this **dredging** report we note that for water in summer it would be advisable to dredge all the dugwells starting as early as in the month of **March**. In future this annual dredging should be done by the CBGs using their accumulated funds.

2. Three advisors of Project Well from Kolkata have visited the villages such as Ranihati, Chandalati, Bamondanga and others, more than once, to select sites. During these visits some proposed sites were cancelled due to non-cooperation of some villagers who are least concerned about the arsenic contaminated wells in there area because there are no incidences of arsenic victims in the villages. The site selection is still on-going.
3. On the third week of May the construction of the dugwells will commence and needs to be completed before the onset of the monsoon.

By November 2004 the users of the existing wells should be able to apply the theoline by themselves and maintain their own dugwell. The role of Project Well will be to supply the Theoline, at cost, from the local office and assist the dugwell users if any difficulties arise. Focus will be on the new wells when the users will be trained for one year.

Objective of PW:

One of the objectives of Project Well is to develop a model with 50 dugwells in working condition and to establish the inter-dependency program where these 50 dugwells will be monitored by the local supervisors, who will be compensated for their time by the 50 community-based groups, (CBG).

Each Village Arsenic Board (VAB) should not have more than 50 dugwells to supervise. This model was explained in an article available on the website.

Months	No. of Dugwells	No. of Families	Monthly return Rs.10.00 per family	Maintenance	Fee for 3 Supervisors
1	1	10	100	70	30
12	1	10	1200	840	360
1	50	500	5000	3500	1500
12	50	500	60,000	42,000	18,000

The estimate of expenditure under each VAB is as following:

Fee for each supervisor per month = Rs. 500.00.

(The work of the supervisors would to: 1) do monthly checks up on the number of users, 2) record the monthly contribution, 3) check the application of the disinfectant according to the schedule, 3) annual tests of water for Bacteria in July and Arsenic in April and 4) to note any health problems related to the dugwell water consumption and take action if and when needed).

The cost of maintenance would be per month towards the following:

Cost of Theoline @ Rs.10.00 per month	=	120.00
Bacteria test @ 500 per year	=	500.00
Test for Arsenic level per year @100.00	=	100.00
Renovation work	=	120.00
Total	=	840.00

The amount for renovation is not enough. There may be a chance of reducing the cost of water analysis that would increase the renovation cost.

“Smaller the community, easier to manage”

Annexure A:

Dugwell ID	Total depth before dredging in feet	Total depth after dredging in feet	Above water in feet	Water level in feet	Extra fittings	Notes
PW1/KDK1	14	16	14	2		Dry, Mar 2004
PW2/KDK2	18.33	19	17	2	pipe 2'	
PW3/SMP3	19.25	17	15.8	1.2		
PW4/KDK4	21.08	19.5	16	3.5		
PW6/KDK3	18.33	19.6	15.7	3.9	pipe 4', rings 5	
PW7/KDK5	14.67	16	13.6	2.4	pipe 4', rings 6	
PW8/KDK7	12	not done				Dry, Feb 2004
PW9/SMP1	18.33	not done				
PW11/KDK8	17	18	13.3	4.7		
PW12/KLS1	19	16	11.8	4.2	pipe 2'	
PW13/KLS2	16	19	16	3	pipe 2.5'	
PW14/KLS3	18	19	15.5	3.5		
PW15/KLS4	18	19.5	16	3.5		
PW16/KLS5	25	20	18.1	1.9	pipe 1.5'	Dry, Mar 2004
PW17/KLS6	13	16	13.4	2.6	pipe 2'	
PW18/KLS7	12	16	14	2	pipe 3'	Dry, Feb 2004
PW19/KLS8	15	19	15.8	3.2	pipe 2'	
PW20/KLS9	19	21	18.6	2.4		
PW21/KLS10	14	19	16.3	2.7		
PW22/KLS11	20	20	18	2		
PW24/KLS12	20	21	18	3	pipe 2'	
PW25/KLS15	18	20	17.7	2.3	pipe 5'	
PW27/KLS14	18	21	17.5	3.7		
PW28/CHNDP1	15	18	14.1	3.9	pipe 2'	
PW29/CHNDP2	20	19	16.8	2.2		
PW30/CHNDP3	17	17	13.1	3.9	pipe 3'	
