

Annual Report of Project Well of 2021-2022

[Project Well](#) is a California-based nonprofit that has been a tax-exempt 501(c)(3) organization since 2004 (EIN# 20:1306611). Project Well is collaborating with [Change Initiatives](#), a Kolkata based non-government organization (NGO) from April 2021.

After years of exposure, arsenic in drinking water causes many serious, often fatal, diseases, including cancers of the lung, bladder, kidney and larynx. Childhood arsenic exposure is linked to very high risks of disease as adults, ***higher than from any other toxic early life exposure***. Levels of arsenic in West Bengal groundwater are among the highest in the world. Risk assessments based on epidemiologic studies show that 1 in 100 people could ultimately die from regularly ingesting just 50 µg/L of arsenic in water (an arsenic level often greatly exceeded in the private tubewells of many West Bengal villages). West Bengal's population is about 98million. (Census 2021)

Project(s) Activities

The Water, Sanitation and Hygiene Program, WASH, is implemented in the two districts of West Bengal, in the blocks of Deganga, Baduria, Habra, Swarupnagar and Gaighata of North 24 Parganas, and in the Chakdah block of Nadia. The three major activities are construction of newly designed bi-tech wells, construction of low-cost toilets, and installation of locally made, easy to maintain iron removal filters.

Project Well has modified the traditional local dug well into customized modern bore-dug wells, known as bi-tech wells, that tap water from the upper arsenic-free aquifer. Construction of these bi-tech wells is done during the dry season (March-mid June), when the water table is at its lowest. Toilets are constructed throughout the year except in the monsoon season and the iron removal filters can be installed as needed.

Construction, maintenance, and awareness meetings are the three critical components of this WASH program.

The second wave of the Covid-19 pandemic in India has affected field work considerably since the re-imposition of lockdown in West Bengal from April 25th to June 30th. The Covid-19 restrictions of social distancing and wearing of mask delayed field visits. Prior to toilet construction, to select economically disadvantaged families, field survey was done carefully after the restriction was removed. Thirty toilets were constructed. To do the construction, both, the laborers and the raw materials were purchased from the neighboring villages. Here is the list of toilets and a few pictures.

Table1: The general information of the 30 toilets constructed in 2021

sl no	toilet ID	latitude	longitudo	head of the family	village	block	district
1	PW356T187	22.82909	88.69245	Bablu Mondal	Hanapara	Habra	N 24 Pgs
2	PW356T188	22.82734	88.69865	Kumar Mondal	Hanapara	Habra	N 24 Pgs
3	PW356T189	22.82102	88.69789	Karttik Malik	Hanapara	Habra	N 24 Pgs
4	PW43T190	22.82985	88.69106	Biplob Hira	Hanapara	Habra	N 24 Pgs
5	PW43T191	22.83051	88.69097	Nimai Biswas	Hanapara	Habra	N 24 Pgs
6	PW43T192	22.83036	88.69075	Debdas Mondal	Hanapara	Habra	N 24 Pgs
7	PW43T193	22.83114	88.69214	Chitto Hazra	Hanapara	Habra	N 24 Pgs
8	PW43T194	22.83005	88.6153	Anando Mondal	Hanapara	Habra	N 24 Pgs
9	PW251T195	22.89784	88.8061	Bisnu Sarkar	Sutia	Gaighata	N 24 Pgs
10	PW358T196	22.86028	88.82406	Arshad Mondal	Kanchdha	Swarupnagar	N 24 Pgs
11	PW320T197	22.86496	88.79239	Alomgir Molla	Damhati	Swarupnagar	N 24 Pgs
12	PW320T198	22.8652	88.79691	Mannan Mondal	Damhati	Swarupnagar	N 24 Pgs
13	PW200T199	22.86225	88.81559	Sachipado Das	Labongola	Swarupnagar	N 24 Pgs
14	PW200T200	22.86881	88.81632	Mongol Mondal	Labongola	Swarupnagar	N 24 Pgs
15	PW200T201	22.86129	88.8165	Gonesh Sardar	Labongola	Swarupnagar	N 24 Pgs
16	PW357T202	22.86598	88.82481	Bapi Tarafder	Diyara	Swarupnagar	N 24 Pgs
17	PW357T203	22.86427	88.82537	Prodip Patro	Diyara	Swarupnagar	N 24 Pgs

sl no	toilet ID	latitude	longitude	head of the family	village	block	district
18	PW137T204	22.91311	88.79266	Prolob Roy	Bisnupur	Gaighata	N 24 Pgs
19	PW137T205	22.9132	88.79282	Liton Roy	Bisnupur	Gaighata	N 24 Pgs
20	PW78T206	22.91449	88.79504	Shyamol Biswas	Bisnupur	Gaighata	N 24 Pgs
21	PW348T207	22.91582	88.79575	Bina Bagchi	Bisnupur	Gaighata	N 24 Pgs
22	PW250T208	22.90786	88.82277	Lolita Dharmobal	Sutia	Gaighata	N 24 Pgs
23	PW313T209	22.92266	88.82547	Anando Sarkar	Sutia	Gaighata	N 24 Pgs
24	PW329T210	23.07089	88.60219	Poresh South	Sahispur	Chakdha	Nadia
25	PW329T211	23.07143	88.60201	Bikash Voumik	Sahispur	Chakdha	Nadia
26	PW245T212	23.06034	88.61472	Taposh Parhe	Sahispur	Chakdha	Nadia
27	PW149T213	23.05583	88.6202	Subol Biswas	Dumuria	Chakdha	Nadia
28	PW352T214	23.05968	88.64	Nikhil Biswas	Metepara	Chakdha	Nadia
29	PW238T215	23.0459	88.62208	Bikash Roy	Goyalbari	Chakdha	Nadia
30	PW274T216	23.05137	88.63333	Shishu Mallick	Metepara	Chakdha	Nadia



Figure 1: Site selected for Toilet at # PW245



Figure 2: Site selected for Toilet# PW357



Figure 3: PW#356T189



Figure 4: Toilet# PW356T187

SURVEILLANCE PROGRAM: -

Studies show that monitoring the water quality and maintenance of the water sources are crucial to make the program functional in the long run in addition to the continuous community based awareness programs. In this program the local field workers carry out maintenance and monthly surveys, with visits to the well sites and the community throughout the year as part of the surveillance program. Except during the covid-19 restriction period they did the surveys over the phone and instructed the communities to do minor maintenance work.

As part of monitoring arsenic levels of the wells, water is collected carefully and analyzed from time to time. The field workers also visit the sites for construction of toilets and new bi-tech wells. During their visits they meet with the prospective communities to discuss the topics on the practices of well and filter maintenance. The chlorine-based disinfectant, Theoline, is also distributed during the site visits.

The survey reports are computerized monthly. The number of users keeps fluctuating throughout the year. As recorded in April 2021, there were 2353 beneficiary families and 10,775 consumers. In May, the numbers reduced to approximately 2111 beneficiary families and 8696 consumers, and in June, they reduced further to 1782 families and 8039 consumers. And at the end of the financial year, in March 2022, the beneficiary families and the number of consumers is 2126 and 9179 respectively. These fluctuations can be attributed to several reasons: the seasonal change and the amount of rainfall or dry conditions, maintenance issues that are also seasonal and were affected by the lockdown, supply of pipeline water, installation of deep tubewells and water plants to treat arsenic, by the local government officials called panchayat and availability of bottled water.

Maintenance Report: In total there were 331 maintenance jobs done. Some minor maintenance done by the communities themselves. Other maintenance included repair of hand pumps and repair and cleaning of the filters. As for instance at the well ID# PW265, the delivery pipe was changed. In the Baduria block 59 wells were attended, in the Deganga block 4 wells were repaired. More repair work is pending in Baduria. In the Swarupnagar block 108 wells were repaired and some filters were washed, in the block of Gaighata 82 wells, in the block of Chakdah 63 and in Habra 5. This continuous maintenance work along with awareness program is needed because the rural communities still, literally, do not care about the long term health effects of Arsenic in drinking water because constantly they face several other life threatening diseases like malaria, dengue and above all severe hot and humid weather and day to day struggle for living.



Figure 5: Maintenance work - Cleaning of the filter at PW361



Figure 6: Maintenance of the filter at PW55

Construction of bi-tech wells –

One crucial activity field workers undertake is selecting sites for the construction of new wells with precision, following scientific criteria laid out by Project Well advisors. This task may take two to three months. All these activities keep the field staff busy all year round.

Site selection of the 10 bi-tech wells commenced in December because the field staffs were busy with construction of the 30 toilets. The site selection includes surveying areas where there is need for arsenic safe water and definite exposure to arsenic of the prospective communities. The site selection for new wells was delayed because the local laboratory refused to take water samples more than 10 at a time. There were 40 samples, duplicate of each tubewell from 10 prospective sites.

During inspection four sites were cancelled. Pilot test could be done only at 6 sites. The pilot test is done to detect availability of sand layer below the clay layer. Water is available in the clay layer. Boring of a shallow tube well of 30 feet depth is usually done unless the sand layer is found sooner. The arsenic test

of the pilot tubewell is also done to be sure that the water is arsenic free. These samples had to be taken to the laboratory called Briggs located in Kolkata. The construction of these six wells was



Figure 7: Pilot Test in Gaighata on 9 February 2022



Figure 8: Pilot Test in Swarupnagar on 11 March 2022

postponed to the next month, April 2022. Private tubewell water for four more sites have been collected and given to the laboratory for arsenic analysis.

Table 2: The general information of the bi-tech wells under construction.

SI No	PW ID NO	Lat	Long	Land donor	Village/Panchayet	Block	District
1	364	22.90645	88.80934	Gazana Primary F.P.School	Gazana/Gaighata	Gaighata	(N) 24 Pgs
2	365	23.07569	88.63743	Abhinash Biswas	Milinda/Ghoraghata/Chakdha	Chakdha	Nadia
3	366	23.04295	88.60293	Dilip Biswas	Shibpur/Ghetugachi/Chakdha	Chakdha	Nadia
4	367	22.8986	88.84864	Ayub Ali	Kewtali/swarupnagar	Swarupnagar	(N) 24 Pgs
5	368	22,81201	88.82442	Riyajul Mondal	Hoogly/Baduria	Baduria	(N) 24 Pgs
6	369	22.80366	88.82473	Julfukkor Biswas	Hoogly/Baduria	Baduria	(N) 24 Pgs

To improve the WASH program from January 2022, Project Well has appointed a Project Manager, who is based in Kolkata, to oversee the program and give report to the director of the program. He visits the field from time to time to meet with the field staff and to inspect sites. He also provides a feedback of the monthly status report and discusses the future plan of work.
