

Monthly Activity Report - October 2005

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1. Panjia Project

- 1) **DTW Drilling:** Two deep tube wells were installed in October successfully with sealing after failing four times earlier. A new system was developed this time for successful sealing. The following is the record of newly installed DTWs:

DTW #	Village	Para	Ward	Started	Finished	Depth (feet)	No of U. Families	Sealing
6	Panjia	West	9	28 Sep	3 Oct	823	64	Done
7	Had	Baliaghata	9	4 Oct	9 Oct	703	50	Done

Under the new system a pipe to inject cement was put into the gap between the DTW pipe and the soil wall before filling the gap with coarse sand. After filling the calculated amount of coarse sand, cement was injected into the gap with pressure by a pump. In this way, the engineering team was able to place the injection pipe smoothly and was successful in sealing the gap with cement in about 70 feet thickness at the depth of 300ft to 470ft from the ground. This method will be applied for sealing the gap of a DTW from now on. It is suggested for workers to wait for about 30 minutes to make sure the sand reached at the bottom before injecting cement.

- 2) **Site Selection for DTW #8:** At the request of Ward #1 AMC, AAN decided to install one more deep tube well in Madardanga. On 19th October, before deciding on the site, an AAN team of 3 members (Shamim Uddin, Tarun Hore and Rezaul Karim Razu) visited 3 sites proposed by various members of AMC to assess their needs.

(1) **Imannagar Gazi para:** Among the 123 families of this village 106 families collect water from arsenic-safe deep tubewells. There is one DTW in the village and around 80 families use this DTW, and the rest families fetch water from a DTW in a neighboring village. It was considered as a less important spot.

(2) **Madardanga Southwest para:** Chairman of Union AMC recommended the spot where 30 families live in two clusters. There is a 400m distance between the clusters. The AAN team thought that people of either cluster have to cross a 400m paddy field since there is no good road, which would deter people of other cluster from collecting safe water. In fact some families spend 15 minutes to take safe water crossing a main (highway) road. The place was considered not appropriate.

(3) **Madardanga West para:** Twenty-three (23) families are living in the para. At the time of AAN's household survey 5 families were taking water from contaminated TWs. Including some other families surrounding the para, there are about 25 families who are spending 20 to 25 minutes to fetch safe water. The AAN team thought a DTW is necessary for them.

Accordingly, the AAN team selected Madardanga West para (Mosque area) for the site of DTW #8.

3) **Formation of DTW #8 Users Committee:** AAN met with users of Madardanga West para in the 23rd morning but it was not possible to form a Users Committee (UC) due to heavy rainfall. Shamim, Tarun and Razu again met with them on 26th and they formed an 11-member Users Committee. After the formation the UC selected a spot for a DTW which was their choice as their arsenic-safe water device. They deposited their contribution of Tk. 5,000 at the meeting, too; in fact they had started collecting users share since the first meeting on 23rd October. The meeting was presided by Mr. Abdul Khaleq, Chairman of WAMC, who told the villagers that they were lucky to receive an arsenic-safe water device when so many people badly want arsenic safe water.

4) **Nameplates:** A 3ft high nameplate was designed for each DTW site with the inscription of the names of the committee, donor, and implementation organization, an installation period and depth. Total 8 nameplates will be set next month after Eid holidays.

5) **Medicine Distribution:** On October 21 arsenicosis patients out of 23 in Panjia Union received medicine, and they, excluding one patient, paid Tk. 480 in total. This was the second distribution to arsenicosis patients in Panjia following the first one in September.

6) **Water Quality Checking of DTW & AAN Filter:**

DTW: Shamim Khan completed the water quality analysis of DTWs #1 to #7 after collecting water samples from the remaining 3 DTWs on 27th October. When AAN was drilling DTWs in Gorbhanga village, 2 persons in the middle para also installed DTWs in their houses privately. AAN collected water samples from those private DTWs for analysis and found salinity as in the water of AAN DTW #1 and #3. It is quite clear that both AAN and private DTWs touched the



aquifers which contain salinity.

Recording the data of field tests at a DTW site.

AAN Filter: Early August AAN distributed 25 household arsenic removal filters (AAN filters) to the families of arsenicosis patients in Panjia Union. When Shamim Khan visited those houses, 7 filters were not used at all. Accordingly, he checked the water quality of only 19 AAN filters and found arsenic contamination in 13 filtrated water.

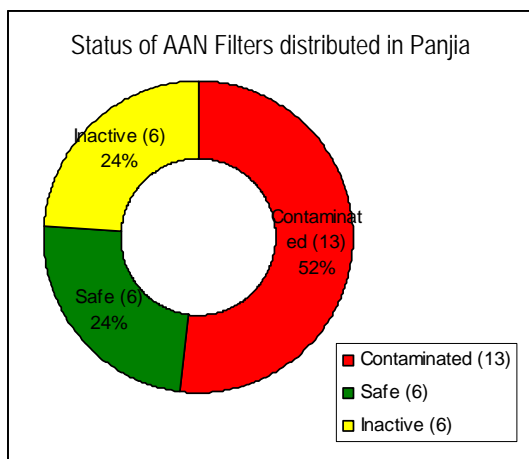
The reasons why some filters were not used are considered to be:

- They are habituated to TW water and they did not mind spending 30 minutes or so to fetch safe water from a DTW far away.
- They were not maintaining the procedure well.

- They were not aware of the health risks of arsenic and lacked knowledge about arsenicosis.

Inefficiency of arsenic removal: One reason was that the arsenic concentration of the raw water was between 0.20~0.56 mg/L which was very high. The AAN filter has the capacity to remove arsenic from water 70% ~ 90% only. The other reason could

have been that the users did not aerate the contaminated TW water enough before putting it into the top bucket to allow iron to adsorb arsenic and to precipitate.



Solution: AAN decided to withdraw those filters which were not used or not performing well. Instead AAN motivated those arsenicosis patients to use arsenic-safe water from the nearest DTW since the current project is coming to an end at the end of Year 2005.

2. Follow-up Activities

- 1) **Committee Reformation of Chupria PSF #1:** Shamim Uddin, Tarun Hore and Sumon visited Chupria PSF #1 on 23rd October. It was 11:00 am when we arrived there. Mrs. Moriam Mannan, Executive Director of Chupria Mohilla Sangstha (= Chupria Women's Society), was waiting for us with a few females. In spite of the busy season in the rice field, 17 people (12 females and 5 males) gathered and formed a new Users Committee consisting of 9 members. They also formed a 5-member Young Committee for maintaining the PSF and collecting monthly users share. Shamim Uddin proposed them to visit Khalishkhali PSF UC to share their experience for operation and maintenance. The new Committee is hopeful to keep the PSF running smoothly from now on. They said that their first activity would be to collect bamboos from users to make a fence around the pond.



- 2) **Arsenicosis Patients:** Aklima Chowdhury, Patient Support Coordinator, distributed the last course of medicine to 24 arsenicosis patients in Srimontokathi and 14 in Gopinathpur and collected a total of Tk. 340 from 38 patients. She will continue monitoring those listed patients next three months without distribution medicine.

3. Laboratory

1) **Monsoonal Survey of Options in Jessore:** At the request of JICA Arsenic Mitigation Adviser, AAN conducted a survey on alternative safe water devices which use surface waters among those installed in □80% arsenic-contaminated villages in Jessore District. AAN took the opportunity to carry out a research on the social aspects of those options also. Three pairs of a Sample Collector and a Researcher were formed as follows:

G.1.	Ruhul Quddus	Sample Collector
	Monjuara Parvin	Researcher
G.2.	Md. Kamruzzaman	Sample Collector
	Obaidur Rahman Sumon	Researcher
G.3.	Abu Hanjala (Rana)	Sample Collector (from Marua YC)
	Aklima Chowdhury	Researcher

Water samples were collected during 2nd and 19th October as summarized in the following table:

Upazila	Period	Sample Collected				
		Dugwell	PSF	PWSS	RWH	Total
Sharsha	2 - 6 October	23	4	6	0	33
Jhikargachha	6 - 11 October	16	1	0	0	17
Chowgachha	11 October	3	0	0	0	3
Monirampur	12 - 17October	34	3	0	0	37
J.S. Kotowali	19 October	0	0	0	1	1
Total		76	8	6	1	91

When AAN conducted a similar survey in February-March this year, there were a total of 140 devices which use surface waters. However, only 91 samples were collected this time. Water quality analysis is going on at the Laboratory. Although the data of social survey are still in the process of analysis, some of the reasons why so many devices were inactive are given bellow:

Dug Well:

- Different smell compared to tube well water (= They do not like dug well water).
- Some people do not like to use DW water taken out with a hand pump.

PSF

- Different smell compared to tube well water (= They do not like dug well water).
- Ponds are not well protected to be used for drinking purposes.
- Unwillingness to drink pond water.
- Most of the pond owners use them for pisciculture using fertilizer.

Others observations:

- Most of safe water devices belong to elite persons on whom users could not make their demand. (A problem of selecting the site and/or social conflicts)
- Users committees who submitted applications during the option allotment period are not playing their role in many cases.

Result of Water Quality Test of DTWs installed in Panjia Union

W	Village	Para	Date of Installation	Depth (ft)	Date of Sampling	Option #	pH	Conductivity	TDS	ORP	Salinity	Temperature	Hardness	Nitrate	Phosphate	Ammonium	As	Iron	Mn	Chloride	Fecal Coli.
2	Gorbhanga	Middle	1-Sep-05	763	28-Sep-05	DTW # 1	7.43	3230	1509	-193	0.15	29.4	796	0.4	0.27	1.57	0.002	0.14	0.3	799	0
2	Gorbhanga	East	6-Sep-05	661	28-Sep-05	DTW # 2	7.67	881	392	-136	0.03	29.5	276	0.1	0.17	0.54	0.001	0.54	0.1	87	10
2	Gorbhanga	West	12-Sep-05	843	28-Sep-05	DTW # 3	7.63	3700	2060	-195	0.21	21.2	788	1.1	0.30	1.95	0.002	3.43	0.3	938	40
2	Gorbhanga	Bottola	20-Sep-05	733	28-Sep-05	DTW # 4	7.64	1885	844	-187	0.08	29.6	484	0.3	0.33	0.79	0.002	1.29	0.2	400	0
1	Manderdanga	East	27-Sep-05	833	27-Oct-05	DTW # 5	7.78	607	276	-109	0.02	28.2	276	0.1	0.26	0.59	0.006	0.24	0.1	18	0
9	Panjia	West	3-Oct-05	823	27-Oct-05	DTW # 6	7.75	694	320	-140	0.03	28.2	272	0.0	0.15	0.22	0.002	0.70	0.1	35	0
9	Had	B.Gta.	9-Oct-05	703	27-Oct-05	DTW # 7	7.88	769	348	-122	0.03	28.2	164	0.4	0.26	1.09	0.004	0.36	0.1	71	1
2	Gorbhanga	Middle	1-Sep-05	820	28-Sep-05	Dulal	7.38	2820	1384		0.14	26.9	796				0.002			816	
2	Gorbhanga	Middle	9-Sep-05	750	28-Sep-05	Mukundo	7.59	3120	1547		0.16	26.5	792				0.002			730	

N.B.: The result of laboratory test for all fecal coliforms on 29th November was “0”.

Privately owned DTW.

AAN Filter Monitoring Report

S.L No	Name of Patient	Name of Patient's Father/ Husband	H. #	Para	Village	Ward	Drinking Water Source	Cooking Water Source	Distance to Safe water	Distribution Date	Date of Checking	Arsenic Concentration	
												Raw Water	Filtered Water
01	Fatema Begum	Nouab Ali Gazi	88	Middle	Garvanga	2	STW - Red	Pond	1.0km	10/8/2005			Not used
02	Akbar Ali	Fatik Sardar		South	Sagor Datto Kathi	4	STW - Red	STW - Red	1.5km	8/8/2005	30-Oct	0.209	0.121
03	Abdul Kader	Razob Ali Guldar	221	East	Sagor Datto Kathi	4	DTW- Green	STW - Red	0.5km	8/8/2005	30-Oct	0.286	0.099
04	Shahar Ali	Soyed Ali	471	Moholdar	Monohar Nagar	4	STW - Red	STW - Red	0.5km	3/8/2005	30-Oct	0.243	0.18
05	Asmat Ali Gazi	Eman Ali Gazi	445	South	Monohar Nagur	4	DTW- Green	STW - Red	0.5km	3/8/2005	30-Oct	0.569	0.146
06	Aser Ali Sardar	Jeefer Ali Sardar	113	Sardar	Raznagar Bankabarshi	7	DTW- Green	Pond	0.5km	7/8/2005	30-Oct	0.447	0.158
07	Nizam Uddin Sardar	Okil Uddin	39	Sardar	Raznagar Bankabarshi	7	STW - Red	Pond	0.5km	8/8/2005	30-Oct	0.447	0.116
08	Pirali Sardar	Jobbar Ali Sardar	15	Sardar	Raznagar Bankabarshi	7	DTW- Green	Pond	0.5km	8/8/2005			Not used
09	Motleb Sardar	Madhu Sardar	12	Sardar	Raznagar Bankabarshi	7	DTW- Green	Pond	0.5km	8/8/2005	30-Oct	0.473	0.06
10	Pirali Sardar	Shahor Ali Sardar		Sardar	Raznagar Bankabarshi	7				8/8/2005	26-Sep	0.433	0.046
11	Khakon Sardar	Mukam Sardar	30	Sardar	Raznagar Bankabarshi	7	DTW- Green	Pond	0.5km	8/8/2005	26-Sep	0.465	0.105
12	Shahazan Ali Sardar	Hanif Sardar		Sardar	Raznagar Bankabarshi	7	DTW- Green	Pond	0.5km	8/8/2005	26-Sep	0.43	0.066
13	Abdul Gafur	Kino Dafadar	312	Sardar	Raznagar Bankabarshi	7	DTW- Green	Pond	1.0km	7/8/2005	30-Oct	0.45	0.024
14	Moshier Rahman	Moksed Ali Morol	355	Morol	Raznagar Bankabarshi	7	DTW- Green	DTW- Green	0.5km	7/8/2005	30-Oct	0.328	0.022
15	Rashida Begum	Abul Kashem	195	Sardar	Raznagar Bankabarshi	7	DTW- Green	Pond	0.5km	7/8/2005	30-Oct	0.29	0.039
16	Azim Uddin	Sobed Ali		Sardar	Raznagar Bankabarshi	7	DTW- Green	Pond	0.5km	7/8/2005	30-Oct		Not used
17	Khidaza Begum	Nazrul Sardar	112	Morol	Raznagar Bankabarshi	7	DTW- Green	Pond	0.5km	7/8/2005	30-Oct	0.388	0.117
18	Nazrul Sardar	Jobbar Ali	112	Morol	Raznagar Bankabarshi	7	DTW- Green	Pond	0.5km	7/8/2005	30-Oct	0.438	0.102
19	Islam Uddin	Jobbar Ali	114	Morol	Raznagar Bankabarshi	7	DTW- Green	Pond	0.5km	7/8/2005	30-Oct	0.46	0.016
20	Serazul Islam	Subhan Morol	130	Morol	Raznagar Bankabarshi	7	DTW- Green	Pond	0.5km	7/8/2005	30-Oct	0.172	0.021
21	Shahida	Rofiqul Islam	94	Sardar	Raznagar Bankabarshi	7	DTW- Green	Pond	0.5km	7/8/2005	26-Sep	0.383	0.107
22	Mazida Begum	Amzad Ali Mollah	125	Mollah	Lepakati	8	STW - Red	Pond	1.0km	8/8/2005	30-Oct	0.383	0.107
23	Afsar Morol	Gahor Ali Morol	205	North	Hadh	9	STW - Red	Pond	1.0km	3/8/2005			Not used
24	Arshap Ali	Akkaz Dhali	35	Bala Ghata	Hadh	9	DTW- Green	Pond	1.0km	3/8/2005			Not used
25	Nur Ali Fakir	Hossain Ali Fakir	21	Bala Ghata	Hadh	9	STW - Red	Pond	1.0km	3/8/2005			Not used