Implementation of Climate Resilient Water Safety Plan in Water Supply System of Four Municipalities

Capacity Building and Workshop Report On Baseline and Climate Resilient WSPs in Four Municipalities (2016)

Department of Public Health Engineering

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I. Background

The climate change and its variability have been impacting the pipeline water supply system by reducing the water availability, quality, functionality and accessibility. This has been increasing the potential for reducing the water security and safety among its users and leaving them to a vulnerable condition considering water born-washed-related diseases. The extreme weather events e.g. floods, drought, storms, sea level rise, saline water intrusion etc. has also been increasing due to the impact of the climate variability and change which resulted in an adverse impacts on the pipeline water supply services considering quantity and quality. The climate variability and extreme weather events has also been impacting different environmental determinants of health e.g., solid sludge, fecal sludge, agrochemical, erosion, salinity, industrial effluents etc. The population growth, rapid unplanned urbanization, industrial activities increased the water demand in the urban area and have been exacerbating the impacts of climate change. Hence the health vulnerability of the urban population has been increasing. The climate resilient water safety plan is an effective management intervention that could reduce such health vulnerably among the urban population.

1.1 Geography and Population

Considering the geography and climate vulnerabilities four municipalities were selected for the development and implementation of the climate resilient water safety Plan. Water safety plan (WSPs) is a systematic comprehensive risk assessment and subsequent management approach to ensure safety of drinking water from catchments to point of consumption that proactively identifies sources of hazards and level of risks that affects adequacy and quality of the water supply service delivery systems. The climate resilient water safety plan is an approach that systematically includes climate variability, extreme weather events as key issues for consideration during development of water safety plan. The municipalities were situated in flood, drought and coastal area of the county. These were Birampur and Naogaon Pourashava in drought prone area, Ullahpara Pourashava in flood prone area and Cox's Bazar Pourashava in Coastal area.

Birampur is an Upazila of Dinajpur district located in the northern part of the country in the Rangpur division of Bangladesh. Naogaon Sadar upazila of Naogaon district of Rajshahi division is located in the northern part of Bangladesh which is situated on the bank of mini Jamuna River. It is bounded by West Bengal on the north, Natore and Rajshahi districts on the south, Joypurhat and Bogra districts on the east, Chapainawabaganj district and West Bengal on the west. This district is also home to a considerable rice processing industries. Cox's Bazar is a district in the Chittagong Division of Bangladesh. The Pourashava is bounded by Bakkhali River on the north and East, Bay of Bengal in the West, and Jhilwanj Union in the south. Ullahpara is an Upazila of Sirajganj district in the division of Rajshahi, Bangladesh. It is known as the gateway to North Bengal as the intersection of Dhaka-Rangpur and Dhaka-Rajshahi highways at Hatikumrul falls within it. The number of household, area, population density and other relevant information are provided in the following Table 1.

Table 1: Some information about the Pourashava located in different geographic area

No	Pourashava	Geography	HH (No)	Area (km²)	Total Number of Connection	Population Density/km^2	Water Supply Coverage (%)
1	Birampur	Drought	9,549	25.75	191	1,743	30
2	Naogaon	Drought	35,300	38.36	7316	4,262	60
3	Ullahpara	Flood	10,600	12.70	650	3,822	45
4	Cox's Bazar	Coastal	19,579	32.90	996	6,497	42

1.2 Working Modalities

The Pourashava and DPHE water professionals and workers were provided training on the climate change resilient WSP design, development and implementation. A climate resilient WSP team was formed under the leadership of the Mayor of the respective Pourashava. The WSP team conducted regular team meeting and organized workshop in the respective Pourashava for the review the developed climate resilient water safety plans. They systematically assessed the water supply system by observation and consultation with the respective workers and professionals of the water supply system. It needs to be noted that an expert group developed the climate resilient water safety plan for each of the Pourashava.

The source/catchments, treatment plant, transmission and distribution line, storage and household connection was systematically observed and examined for each of the water supply system. Sanitary inspection was conducted. Different information was collected from Pourashava water supply section regarding the number of connection, previous water quality testing results, water demand, intended use and users etc and organized for understanding the present situation of the water supply system. Water samples were collected from source, treatment plant, storage tank, supply line and analysed for fecal contamination, arsenic iron, manganese, salinity. A baseline scenario of the water supply system was determined by compiling all collected information.

The climate resilient WSP team of each of the Pourashava agreed to conduct a number of software and hardware activities for the reduction of the vulnerabilities of the Pourashava dwellers according the identified hazards at different steps of the water supply system.

1.3 Objectives

The objectives of the assignment were:

1. To develop the climate resilient WSPs teams
2. To conduct assessment of the water supply system consisting of source/catchment, transmission/distribution, storages and the household connection
3. To conduct an overall assessment of the quality of the supplied water
4. To increase the capacity of the water professionals and workers of Pourashava and DPHE for monitoring and preventive maintenance of the water supply system from the impact climate variability, climate extreme events and environmental hazards
5. To promote and motivate the consumers to practice safe water handling and improved hygiene in their daily life considering the climate variability, climate extreme events and environmental hazards

II. WSP Team/Local Meeting

The climate resilient WSP team conducted regular team meeting for overall progress of different activities. The team organized a workshop for the reviewed of the climate resilient WSPs at the beginning of the activity. The number of participant in the workshops in Naogaon, Birampur, Ullahpara and Cox's Bazar Pourashavas were 20, 14, 14 and 18 respectively. The teams consisted of four types of members namely the Chairman, the Advisor, the Member Secretary and few Members. The members of the team comprise representatives from the meteorological department, health department, water resources management department, geologist, disaster management department, sanitary inspector of the Pourashava, Pourashava Counsellors etc. A statement of WSP team declaration by the Mayor of each of the Pourashava is presented in Annex A1, A2, A3 and A4. The climate resilient WSPs were included in the citizen charter of the Pourashava. It was also decided in the workshops that the members of climate resilient WSP teams of each Pourashava will operate to accomplish the following objectives:

- Supporting all activities aimed at ensuring supply of safe water to all consumers
- Maintaining the Pourashava supply water considering climatic and environmental concerns regularly
- Capacity building of all officers, staff and workers of Water Supply Section (PWSS) of the Pourashava through training
- Awareness rising among the consumers about the importance of "safe water" and "safe use of water" through courtyard meetings
- Regular monitoring of quality of the supplied water at source and at consumers' end
- Encouraging all consumers to pay water bill regularly
- Ensuring proper implementation of climate resilient WSP in Naogaon Pourashava and support all PWSS staff to implement each step of the documented WSP.
- Maintaining update of the log books, e.g., maintenance of the system, water quality monitoring and complaint log books.

III. System Assessment

3.1 Sanitary Inspection

The sanitary inspection was carried out for four Pourashavas to find out the risk level of different components of the water supply systems. A sanitary risk score was assigned for each of the components based on its vulnerability to identified hazards after inspection. The WHO standard format was used for sanitary inspection. A "low" sanitary risk score indicates that the component is in good condition, a "very high" risk score indicates that the component is under severe threat and needs immediate remedial actions. The other scales in between two are "medium" and "high" risk scores. The summary of the sanitary inspection findings of water supply systems of four Pourashavas are shown in Table 2. High risk was found in transmission distribution lines of Naogaon, Cox's Bazar and Ullahpara Pourashava and medium risk existed in Birampur Pourashava. Medium risk existed in the pump house of Cox's Bazar Pourashava but the other Pourashava have low risk. Household connections of all the Pourashavas have

medium risk. The raw water reservoir and the clear water reservoir of and Ullahpara Pourashava have medium risk.

Table 2: Results of sanitary inspection survey in the water supply systems of four Pourashavas

Steps/Components	Risk Category (based on Risk Score)			
	Drought		Coastal	Flood
	Birampur	Naogaon	Cox's Bazar	Ullahpara
Source	Low	Low	Low	Low
Pump House	Low	Low	Medium	Low
Raw Water Reservoir	N/A	N/A	N/A	Medium
Treatment Plant	N/A	N/A	N/A	Low
Clear Water Reservoir	N/A	N/A	N/A	Medium
Transmission and Distribution Lines	Medium	High	High	High
House Connections	Medium	Medium	Medium	Medium

3.2 Source Water Quality

The source water quality testing results indicated that none of the production tube well's water of any Pourashava exceed the the Bangladesh standard for arsenic drinking water 0.05 mg/l. The average manganese concentrations of the production tube well's water exceed the Bangladesh standard for manganese in drinking water 0.1 mg/l for Birampur, Ullahpara and Naogaon Pourashava. The average iron concentrations of the production tube well's water exceed the Bangladesh standard for iron in drinking water 1.0 mg/l for Birampur, Ullahpara and Naogaon Pourashava. Significant level fecal contamination with variable degree considering different Pourashava was observed. The details are presented in Table 3.

Table 3: Overall water quality of the source water

Pourashava	As (mg/l)	Mn (mg/l)	Fe (mg/l)	FC (/100ml) Risk (% (no))				Salinity (mg/l)
				Low	Intermediate	High	Very High	
Birampur	0.001	0.325	4.5	50% (1)	50% (1)			NA
Cox's Bazar	0.010	0	0.24	71% (5)	29% (2)			??
Naogaon	0.003	0.14	2.36	63% (5)	0% (0)	38% (3)		NA
Ullahpara	0.008	0.33	7.75	71% (5)	29% (2)			NA

3.3 Supply Water Quality

The pipeline water was examined for fecal contamination. The results are presented in Table 4. The table indicated that there are various levels of fecal contamination threats in different Pourashava. It needs to be noted that the low risk was considered for fecal contamination =< 0 /100 ml; Intermediate risk was considered for fecal contamination 1<> 10 /100 ml; high risk was considered for fecal contamination 11<>99. /100 ml and very high risk was considered for fecal contamination => 100/100 ml

Table 4: Overall water quality of the pipeline water

Pourashava	FC (/100ml) Risk (%)			
	Low	Intermediate	High	Very High
Birampur	11	78		11
Cox's Bazar	44	19	13	25
Naogaon	4	21	57	18
Ullahpara	39	44	17	

3.4 System Description of Birampur Pourashava Water Supply System

The Birampur Pourashava pipeline water supply system used the ground water as the source water. The ground water was extracted from the shallow aquifer of around 80'. Submergible pump of capacity 25 hp was used for this purpose. The water supply section did not record the average daily production. The water was supplied to its consumers everyday 2 to 3 hours. The system has no treatment plant or any reservoir tank. The water was directly pumped into the transmission line followed by distribution line and finally water reached to its users. The total length of pipeline was 7 km of diameter: 6"/4" and the household connection diameter: 1"/0.75"/0.5". A total of 18 sluice valve and 13 washouts existed in the system and all were active. The system was new and the total number of connection was 191. The Pourashava consists of nine wards, out of which six are not covered under the Pourashava water supply system and the covered wards were 3, 4 and 5. There was one street hydrants attached to the supply system for pedestrians. The water supply system is schematically shown in Fig. 1.

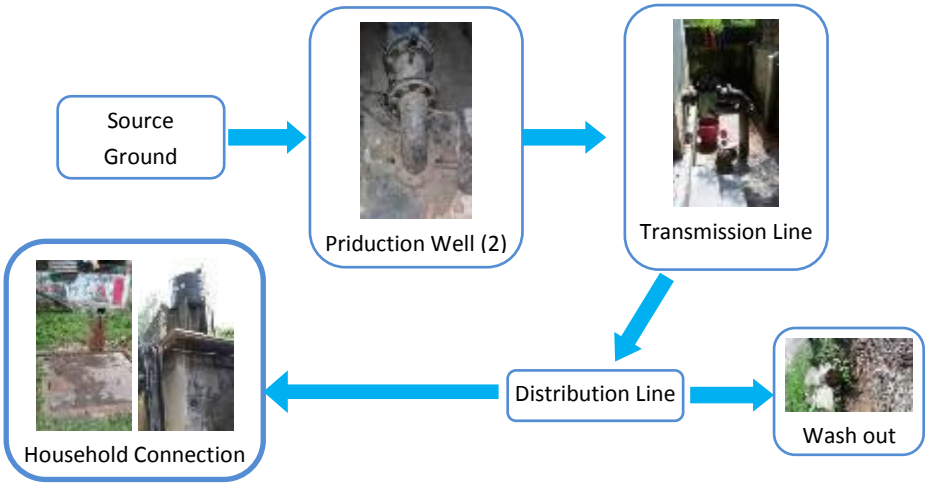

Fig. 1: Flow diagram of Birampur Pourashava water supply system

3.5 System Description of Cox's Bazar Pourashava Water Supply System

The Cox's Bazar Pourashava used the ground water as the source water and a total of 8 production well has been extracting ground water from a depth of 200-250'. Submersible pump was used for extracting

water. The average daily production of water was 2400 m^3/day and during the summer seasons (March to May), production of water was less due to water table depletion. The water was supplied to the consumer's 10-11 hrs in a day. The water supply system did not have any treatment plant and storage reservoir hence the water was directly pumped into the pipeline. The total length of the pipeline was 28.37 km (diameter: 10"8"/6"/4") and Household connection diameter: 1"/0.75"/0.5"). The supplied water was used for cooking, personal hygiene and household washing purposes. There were 23 sluice valves existed within the system of which only 3 were active. No washout chambers were found within the system. Most of the washout were become hidden due to change of the landscape in the Pourashava area.
The total number of connections in Cox's Bazar Pourashava water supply system was 996. The Pourashava consists of nine wards out of which the water was supplied to five wards only. The water supply system is schematically shown in Fig. 2.

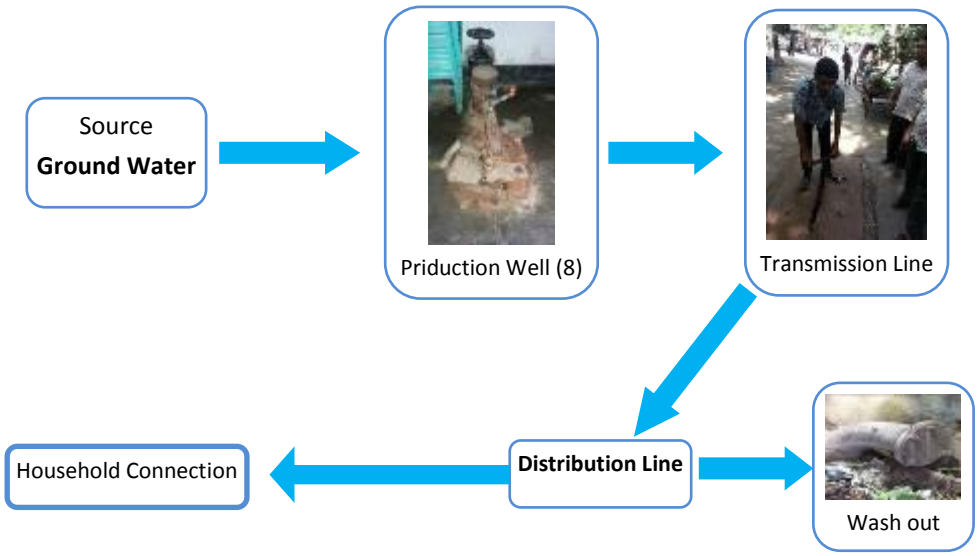

Fig. 2: flow diagram of Cox's Bazar Pourashava water supply system

3.6 System Description of Naogaon Pourashava Water Supply System

The groundwater was the main source of the water supply system of Naogaon Pourashava. The range of depth of the production well was 120'-140'. Submersible pumps were used for extraction of water form eight production well. The average daily production of water was 1200 m3/day which was reduced to 600-700 m^3/day in dry seasons due to depletion of water table. The consumers were getting water for approximately 11-13 hours every day. The water supply system in Naogaon Pourashava did not have any active treatment system and water was supplied to consumers through direct pumping. There was a treatment system and two water reservoirs built in 1996 but presently all of those were non-functional. The total length of the pipeline was 90 km (diameter: 8"/6"/4"/3"/2") and household connection of diameter 1"/0.75"/0.5". The supplied water was used for cooking, personal hygiene and household washing purposes. All of the wards of the Pourashava were under the pipeline network. Total numbers of sluice valves were 250 out of which 61 are active and total number of washout was 52 out of which 30

were active. The total number of connections was 7,316 street hydrants 75. The water supply system is schematically shown in Fig. 3.

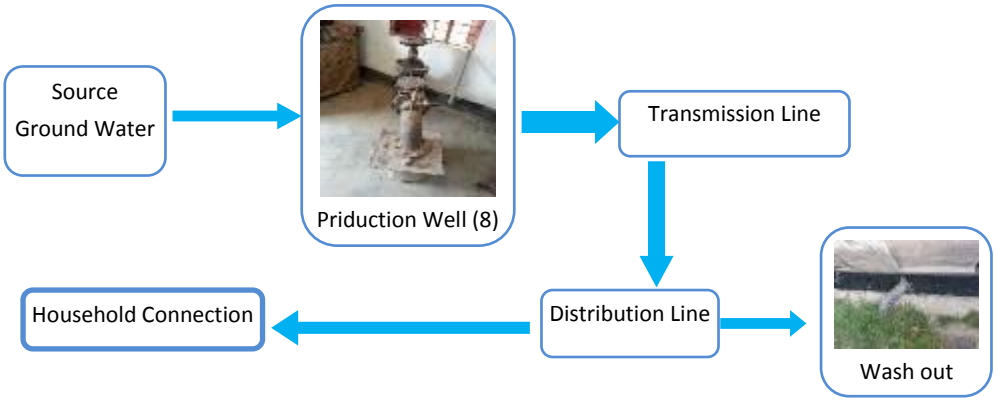

Fig 3: Flow diagram of Naogaon Pourashava water supply system

3.7 System Description of Ullahpara Pourashava Water Supply System

The Ullahpara Pourashava pipeline water supply system used the groundwater as the source water. A submersible pump was used to extract ground water through only one production tube well from shallow aquifer of depth 60-65'. The daily average production of water was 7000 m^3 and the water was supplied to the users for 14-15 hours. There were two reservoirs of capacity of 68000 litters. There was an iron removal plant attached to the system which consisted of gravel and sand layers in the first chamber and the second chamber contained sand and activated carbon. The filtration capacity of the iron removal plant was 1000 lit/minute. The total length of the pipeline was 6 km (diameter: 6"/4"/3" and household connection of diameter 1"/0.75"/0.5". Water was supplied to the piped network from the overhead storage tank. The total number of connection was 650. The Pourashava consists of nine wards, out of which four were not covered under the Pourashava water supply system. The covered wards were 2, 3, 4, 5 and 6. 30

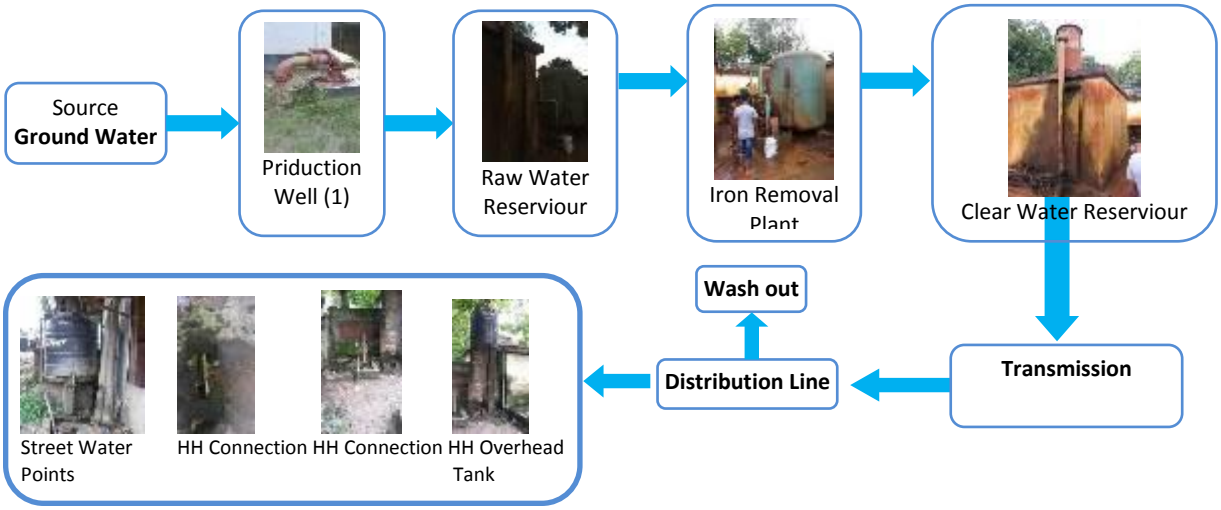

Fig. 4: Flow diagram of Ullahpara Pourashava water supply system

street hydrants attached to the supply system of capacity 500/1,000 L. The system contained 10 sluice valves out of which 7 were found functional and four washout out of which one was found functional. The water supply system is schematically shown in Fig. 4.

3.8 Baseline Status of the Supply System

A summary table (Table 5) is prepared and presented below considering water quality of the production well, sanitary inspection of different components of the water supply system, the pipe network and quality of water supplied through the pipeline, operation status of sluice valve and washout.

Table 5: Overall assessment of the Pourashava water supply systems

Geographic Location			Drought		Coastal	Flood
Items/Pourashava			Birampur	Naogaon	Cox's Bazar	Ullahpara
Production Well	Source		Ground Water	Ground Water	Ground Water	
	Number		2	8	8	1
	Average Depth (ft)		80	130	225	60
	Average Water Quality	Arsenic (mg/l)	0.001	0.003	.010	0.008
		Iron (mg/l)	0.325	0.140	0.240	0.330
		Manganese (mg/l)	4.5	2.36	0.24	7.75
		FC	Low 50% (1) Intermediate 50% (1) High 0% (0) Very High 0% (0)	Low 63% (5), Intermediate 0% (0), High 38% (3) Very High 0% (0)	Low 71% (5) Intermediate 29% (2) High 0% (0) Very High 0% (0)	Low 71% (5), Intermediate 29% (2) High 0% (0), Very High 0% (0)
		EC (µS/cm)	NA	NA	362-1812	NA
Sanitary Inspection of the Water Supply system	Source		Low	Low	Low	Low
	Pump House		Low	Low	Medium	Low
	Raw Water Reservoir		N/A	N/A	N/A	Medium
	Treatment Plant		N/A	N/A	N/A	Low
	Clear Water Reservoir		N/A	N/A	N/A	Medium
	Transmission and Distribution Lines		Medium	High	High	High
	House Connections		Medium	Medium	Medium	Medium
Pipe Network	Length (km)		7.0	90.0	28.37	6
	Number of Wards Supplied		6	9	5	5
	Average Water Quality	FC	Low 11% Intermediate 78% High 0% Very High 11%	Low 04% Intermediate 21% High 57% Very High 18%	Low 44% Intermediate 19% High 13% Very High 25%	Low 39% Intermediate 44% High 17% Very High 0%
		Average EC (µS/cm)	NA	NA	750	NA
Number of Sluice Valve	Functional		18	61	3	7
	Non Functional		0	189	22	3
Number of Washout	Functional		13	30	Unknown/lost	1
	Non Functional		0	22		3

IV. Capacity Building of Pourashava and DPHE

The water professionals and workers of the Pourashava and DPHE of each of the location were provided training on climate resilient WSP development to improve their capacity for developing, reviewing and implementing the climate resilient water safety plan. The training event was designed by following the instruction as provided by the Climate Change Health Unit of WHO HQ about the climate resilient water safety plan development and the Water safety frame work of Bangladesh. Different steps of the climate resilient WSP were elaborately discussed which included WSP team formation, description of water supply system, identification of hazards and measuring risk, identification of control measures, improvement plan preparation, operational monitoring, verification, validation etc. Lecture method (with presentation) was followed for the training followed by conducting group work. The duration of each of the training was two day and at total 47 professionals of Birampur, Ullahpara, Naogaon and Cox's Bazar Pourashava received the training. The Executive Engineers sub Assistant Engineers, Mechanics, Water Workers of Pourashava Water Supply Section and Department of Public Health Engineering were the participants. Photographs of the training events are presented in Fig. 5.

Fig. 5: The photographs of the capacity building training events at different Location

V. Awareness Raising Activities

Since consumer awareness on water supply system to provide access to safe water and hygiene practice is a major part in implementation of WSP hence different types of initiatives have been taken, and currently being carried out in the Pourashava to raise consumer awareness and to promote hygiene practice under this project. A work plan was prepared comprising different awareness activities for different Pourashavas activities are under implementation according to the work plan.

Table 6: Software activity planning for the users and workers of the water supply systems

Sl. No.	Activity	Time Frame			
		Nov 1-15	Nov 16-30	Dec 1-15	Dec 16-31
1	Orientation of caretakers and users (one in each ward of Pourashava)		11 no.	11 no.	
2	Orientation session with TLCC (two sessions in each Pourashava)		4 no.		4 no.
3	Orientation session with ward sanitation task force (two sessions in each Pourashava)		4 no.		4 no.
4	Preparation and telecast video documentary (duration 5 minutes, for each Pourashava)		2 no.	2 no.	
5	Publication of CC resilient WSP related messages in three local newspapers		4 no.	4 no.	4 no.
6	Climate resilient WSP campaign at community level (one session per ward)		11 no.	11 no.	
7	Session with schools teachers and school management committee (three major educational institutes)		6 no.	6 no.	
8	Design of bill board (one for each Pourashava)	4 no.			
9	Design and installation of sign board (15 per Pourashava)	15 no.	15 no.	15 no.	15 no.

The caretaker orientations for the water supply section staff have been conducted where the staffs were trained on how to implement climate resilient WSP in their respective water supply systems. The WSP message containing sign boards have been hanged at offices and important locations e.g., office of District Commissioner, Pourashava building, DPHE building, hospitals, schools, colleges and universities, important office premises, market places etc. The billboards with important messages for the consumers of each Pourashava have been designed and soon will be installed in different Pourashava and presented in Fig. 6. The ongoing activities were published in Local newspapers. In two colleges and one high school, meetings were arranged with college/school management committees on importance of safe water and how WSP can help protecting water quality in schools/colleges to ensure safe water for students. The community level meeting in the wards where Pourashava water supply is available is currently being conducted in all four Pourashavas. The footages required for video documentation as part of awareness campaigning in all four Pourashavas have been collected. Currently the 5-minute videos for each of four Pourashavas are being prepared.

Three types of bill boards were prepared for flood, coastal and drought prone area. The messages are written in Bengali. English translation is shown in the right side.

As soon as getting the flood warning take action to save the water source as well as the reserve tank of your house

Lets all together implement the climate resilient WSP

During the cyclones and storms lets keep the water source as well as the reserve tank safe. In addition stopping the infiltration of saline water in sources

Lets all together implement the climate resilient WSP

Reduce the excess use of ground water in drought prone area. Lets not waste water for household activities

Lets all together implement the climate resilient WSP

Fig. 6: Billboards designed for coastal, drought and flood prone area

V. Maintenance of the Water Supply System

All the production wells of different Pourashava water supply system have the arsenic concentration below Bangladesh standard of 0.05 mg/l. The average value of manganese concentrations of the production well water were above the Bangladesh standard. The iron concentration was also high. The salinity of two specific production tube wells (1100 - 1500 mg/l) was very high in Cox's Bazar Pourashava but as the water of all the production wells was mixed the pipeline the concentration reduced to Bangladesh due to dilution effect. The concentration of chromium was found very high which over the historical value therefore sent again to laboratory for further analysis to confirm. The (E. Coli) concentration of water in production well's water was low and gradually increased in the pipeline with having high risk of health deterioration. Therefore, the following activities were under implementation to improve the overall water quality of the supply water of different Pourashava in general.

1. Cleaning of the different components of the water supply system.
2. Repair the pipelines in vulnerable conditions and if any leakage is found.
3. Provide leak detection device and build capacity for detecting the leaks in the pipeline.
4. Install new wash out valves as per the requirement, and make the existing wash out systems functional.
5. Repair the sluice valve chamber covers, fill the sluice valve chambers with sand.
6. Install chlorination system.

Appendix

A1 Letter of Declaration of WSP Team

বিরামপুর পৌরসভা কার্যালয়
বিরামপুর, দিনাজপুর।

স্মারক নং-বিপৌস/দিনাজ/২০১৬/৮২৩ তারিখঃ ১৬/১১/২০১৬ খ্রিঃ।

বিরামপুর পৌরসভার জন্য জলবায়ু সহনীয় নিরাপদ পানি পরিকল্পনা প্রকল্পের আওতায় গত ১২/০৮/২০১৬ ইং তারিখে নিম্নলিখিত ১২ সদস্য বিশিষ্ট জলবায়ু সহনীয় নিরাপদ পানি পরিকল্পনা দলটি সর্বসম্মতিক্রমে গঠন করা হলো।

বিরামপুর পৌরসভার নিরাপদ পানি পরিকল্পনা দলের সদস্যদের তালিকা

ক্রমিক নং	সদস্যদের নাম	পদবী	নিরাপদ পানি পরিকল্পনা দলের দায়িত্ব প্রাপ্ত পদবী	যোগাযোগের নম্বর
১	মোঃ লিয়াকত আলী সরকার	মেয়র	সভাপতি/ চেয়ারম্যান	০১৭১২-৯৪২৬০৬
২	মোঃ ফয়জুল ইসলাম	নির্বাহী প্রকৌশলী	সদস্য	০১৭১৬-৯৬৩৬৭৫
৩	মোঃ মুরাদ হোসেন	নির্বাহী প্রকৌশলী (ডিপি এইচ ই)	সদস্য	০১৭১৫-১২৫৩০৭
৪	মোঃ জুয়েল মিয়া	উপ সহ: প্রকৌশলী (পানি)	সদস্য	০১৭১২-৫১৯৬০০
৫	মোঃ আব্দুল লতিফ	উপ সহ: প্রকৌশলী (ডিপি এইচ ই)	সদস্য	০১৭১৬-৭১৩৩১৪
৬	মোঃ মাহবুবুর রহমান হান্না	কাউন্সিলর (ওয়ার্ড-৩)	সদস্য	০১৭১৬-৭১৩৩১৪
৭	মোঃ বাবুল আক্তার	পাম্প চালক	সদস্য	০১৯৪৩৪৭০১৫২
৮	এস,এম, রবিউল হাসান	নক্সাকার	সদস্য	০১৭১৫-২৭০০৬৩
৯	মোঃ মোরশেদ মানিক	সাংবাদিক	সদস্য	০১৭৪০৯৭০৮৯০
১০	মোঃ শেরাফুল ইসলাম	সচিব	সদস্য সচিব	০১৭১২-৩৮৭০৬০
১১	মোঃ কামরুজ্জামান	স্বাস্থ্য সহকারী	সদস্য	০১৭১৪-৮৬২১২০
১২	আবহাওয়া কর্মকর্তা	বি এম ডি স্টেশন দিনাজপুর	সদস্য	৯১২৩৮৩৮

(মোঃ লিয়াকত আলী সরকার)
মেয়র
বিরামপুর পৌরসভা,দিনাজপুর।

A2 Letter of Declaration of WSP Team

বিসমিল্লাহির রাহমানির রাহিম

নওগাঁ পৌরসভা

স্থাপিত : ১৯৬৩ইং

জেলা : নওগাঁ।

দূরালাপনী : অফিস : ০৭৪১-৬২৩৩৩
পৌর প্রঃ সঃ প্রঃ ০৭৪১-৬২৬৫৪
ফ্যাক্স : ০৭৪১-৬১৪০৪
ই-মেইল : naogaon_pourashava@yahoo.com

সূত্র : নপৌস/প্রঃ পৌঃ চিঃ/২০১৬/১৫৭৪ তারিখ : ২৪.১১.২০১৬

বিষয় : নিরাপদ পানি পরিকল্পনা দল গঠন প্রসঙ্গে।

নওগাঁ পৌরসভার জন্য জলবায়ু সহনীয় নিরাপদ পানি পরিকল্পনা প্রকল্পের আওতায় গত ১৩/১১/২০১৬ ইং তারিখে নিম্নলিখিত ১৪ সদস্য বিশিষ্ট জলবায়ু সহনীয় নিরাপদ পানি পরিকল্পনা দলটি সর্বসম্মতিক্রমে গঠন করা হলো।

নওগাঁ পৌরসভার নিরাপদ পানি পরিকল্পনা দলের সদস্যদের তালিকা

ক্রঃ নং	সদস্যদের নাম	পদবী	নিরাপদ পানি পরিকল্পনা দলের দায়িত্ব প্রাপ্ত পদবী	যোগাযোগের নম্বর
১	মোঃ নজমুল হক সনি	মেয়র, নওগাঁ পৌরসভা, নওগাঁ।	সভাপতি	০১৭১১-১৮১৬৫০
২	অধ্যাপক এস এম জিল্লুর রহমান	অধ্যক্ষ, নওগাঁ সরকারি কলেজ, নওগাঁ।	সদস্য	০১৭১৬-৩০৩১৯০
৩	মোঃ আবুল কালাম আজাদ	নির্বাহী প্রকৌশলী, ডিপিএইচই, নওগাঁ।	সদস্য	০১৭১৯-৫৪৭৫১০
৪	গুরুদাস দত্ত	নির্বাহী প্রকৌশলী, নওগাঁ পৌরসভা, নওগাঁ।	সদস্য	০১৭১৬-১৮৮৭৩৮
৫	এস এম রাশিদুল আলম সাজু	কাউন্সিলর, নওগাঁ পৌরসভা, নওগাঁ।	সদস্য	০১৭১৬-৭৩২২৯৪
৬	মোছাঃ নাছিমা খাতুন	কাউন্সিলর, নওগাঁ পৌরসভা, নওগাঁ।	সদস্য	০১৭৩৭-৯৩০৯৯৬
৭	মোঃ আনিসুর রহমান	টাউন প্ল্যানার, নওগাঁ পৌরসভা, নওগাঁ।	সদস্য	০১৯২১-৬৪৮০৪৮
৮	মোঃ আল হাসিব	উপ-সহকারী প্রকৌশলী, ডিপিএইচই, নওগাঁ।	সদস্য	০১৭১৮-৯০৯১২৩
৯	মোঃ আশরাফুল আলম	আবহাওয়া সহকারী, বিএমডি স্টেশন, রাজশাহী।	সদস্য	০১৭১৬-১৯০০৪২
১০	এস এ হায়াত	পি আই ও, নওগাঁ সদর উপজেলা, নওগাঁ।	সদস্য	০১৬১১-৯৫৪৮৯৭
১১	মোঃ মজিবর রহমান	ভাঃ সেনেটারি ইন্সপেক্টর, নওগাঁ পৌরসভা, নওগাঁ।	সদস্য	০১৭১৮-৪৩৫৫১১
১২	মোঃ আনিছুর রহমান বকুল	ভাঃ কন্সারভেন্সী ইন্সপেক্টর, নওগাঁ পৌরসভা, নওগাঁ।	সদস্য	০১৭০৬-৭৯৯২৩৩
১৩	মোঃ রায়হান আলম	সাংবাদিক, এটিএন বাংলা জেলা প্রতিনিধি, নওগাঁ।	সদস্য	০১৭১১-২০৮১৪৭
১৪	মোঃ নিজামুল হক	সহকারী প্রকৌশলী (পানি), নওগাঁ পৌরসভা, নওগাঁ।	সদস্য সচিব	০১৭১৬-৮১১১১৩

২৪/১১/১৬
(নজমুল হক সনি)
মেয়র
নওগাঁ পৌরসভা

A3: Letter of Declaration of WSP Team

বিস্‌মিল্লাহির রাহমানির রাহিম

কক্সবাজার পৌরসভা কার্যালয়

কক্সবাজার।

www.paurainfo.gov.bd

E-mail: coxspourashava1869@gmail.com

ফোন ঃ ০৩৪১-৬২৩২৯
৬২৩৩০
৬৪৫৭২
ফ্যাক্স ঃ ০৩৪১-৬৪০৬১

সূত্রঃ স্মারক নং- কক্সঃপৌরঃ/২০১৬/৯৬৯

তারিখ: ২৬/১১/২০১৬

কক্সবাজার পৌরসভার জন্য জলবায়ু সহনীয় নিরাপদ পানি পরিকল্পনা প্রকল্পের আওতায় গত ১৩/১১/২০১৬খ্রিঃ তারিখে নিম্নলিখিত ১৩ সদস্য বিশিষ্ট জলবায়ু সহনীয় নিরাপদ পানি পরিকল্পনা দলটি সর্বসম্মতিক্রমে গঠন করা হলো।

কক্সবাজার পৌরসভার নিরাপদ পানি পরিকল্পনা দলের সদস্যদের তালিকা

(জ্যেষ্ঠতার ভিত্তিতে নয়)

ক্রমিক নং	সদস্যদের নাম	পদবী	নিরাপদ পানি পরিকল্পনা দলের দায়িত্ব প্রাপ্ত পদবী	যোগাযোগের নম্বর
১	জনাব মোঃ মাহবুবুর রহমান চৌধুরী	মেয়র	সভাপতি/ চেয়ারম্যান	০১৭১৪১-১৩৩০৬০
২	জনাব মোহাম্মদ নুরুল আলম	নির্বাহী প্রকৌশলী	সাধারণ সম্পাদক	০১৬৮৮-৫৫৯১৫১
৩	জনাব অনুপম দে	নির্বাহী প্রকৌশলী (ডিপিএইচই)	সদস্য	০১৫৫৪-৩১৬৫০২
৪	জনাব মীর মোঃ সিরাজুল কালাম আজাদ	সহঃ প্রকৌশলী	সদস্য	০১৮১৯-৫৩৬১৮৯
৫	জনাব রনজিত কুমার দে	ওয়াটার সুপার (ভারপ্রাপ্ত)	সদস্য	০১৭১০-৪১৮৬৬৯
৬	জনাব আশরাফুল হুদা সিদ্দিকী জামশেদ	কাউন্সিলর	সদস্য	০১৮১৯১০২৯৮৪
৭	সিভিল সার্জন/প্রতিনিধি	সিভিল সার্জন/প্রতিনিধি	সদস্য	০৩৪১-৬৩৭৬৮
৮	কক্সবাজার উন্নয়ন কর্তৃপক্ষের প্রতিনিধি	প্রতিনিধি	সদস্য	০১৮১৩-৭৮১১৩৭
৯	জনাব জাহেদ সরওয়ার সোহেল	সাংবাদিক	সদস্য	০১৮১৯-৮৩২৩৯০
১০	জনাব দিপশিখা চাকমা	উপ সহঃ প্রকৌশলী (ডিপিএইচই)	সদস্য	০১৫৫৭-১৮৪৭২৮
১১	জনাব মোঃ নাসির উদ্দিন	সিনিয়র শিক্ষক কক্সবাজার সরকারী বালিকা উচ্চ বিদ্যালয়	সদস্য	০১৭১৪-৩৭৫১১৫
১২	বাংলাদেশ আওয়ামীলীগ, কক্সবাজার জেলা শাখার প্রতিনিধি	প্রতিনিধি	সদস্য	০১৬৮৪-৮৪০০০১
১৩	আবহাওয়া কর্মকর্তা	বিএমডি স্টেশন কক্সবাজার	সদস্য	০৩৪১-৬৩৬১৮

২৬/১১/১৬

মোঃ মাহবুবুর রহমান চৌধুরী
মেয়র (ভারপ্রাপ্ত)
কক্সবাজার পৌরসভা, কক্সবাজার।

আপনার শহর পরিচ্ছন্ন রাখুন ও সময়মত পৌরকর পরিশোধ করুন।

A4: Letter of Declaration of WSP Team

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার (স্থানীয় সরকার বিভাগ)

উল্লাপাড়া পৌরসভা কার্যালয়

উল্লাপাড়া, সিরাজগঞ্জ।

* শহর পরিচ্ছন্ন রাখুন, নিয়মিত পৌরকর পরিশোধ করুন।

✆ ০৭৫২৯-৫৬৫৮০ (অফিস), ✆ ০৭৫২৯-৫৬১৩৩ (বাসা), ✆ ০৭৫২৯-৫৬১৬৪ (অফিস), ✆ ০১৭১৬-০০০০২০
e-mail : ullaparamunicipality@yahoo.com

এস.এম. নজরুল ইসলাম
মেয়র
উল্লাপাড়া পৌরসভা, সিরাজগঞ্জ।

ডি.ও নং-

তারিখ...২৭/১২/১৬.....

উল্লাপাড়া পৌরসভার জন্য **'জলবায়ু সহনীয় নিরাপদ পানি পরিকল্পনা'** প্রকল্পের আওতায় পৌর পরিষদের গত ৩০/১০/২০১৬ ইং তারিখের ১১তম মাসিক সাধারন সভার সর্বসম্মতিক্রমে গৃহীত সিদ্ধান্তের প্রেক্ষিতে নিম্নলিখিত ১৩ সদস্য বিশিষ্ট জলবায়ু সহনীয় নিরাপদ পানি পরিকল্পনা দলটি গঠন করা হলো।

উল্লাপাড়া পৌরসভার নিরাপদ পানি পরিকল্পনা দলের সদস্যবৃন্দের তালিকা

ক্রমিক নং	সদস্য বৃন্দের নাম ও পদবী	নিরাপদ পানি পরিকল্পনা দলের দায়িত্ব প্রাপ্ত পদবী	যোগাযোগের নম্বর
০১	এস. এম. নজরুল ইসলাম মেয়র, উল্লাপাড়া পৌরসভা, সিরাজগঞ্জ।	সভাপতি	০১৭১৬-০০০০২০
০২	মোঃ জামানুর রহমান নির্বাহী প্রকৌশলী, জনস্বাস্থ্য প্রকৌশল অধিদপ্তর, সিরাজগঞ্জ।	উপদেষ্টা	০১৭১১-৯৭২৯৭৭
০৩	মোঃ মনিরুল ইসলাম উপজেলা প্রকৌশলী, এলজিইডি, উল্লাপাড়া, সিরাজগঞ্জ।	সদস্য	০১৭১৬-৩৮৫৯৫১
০৪	আবহাওয়া কর্মকর্তা বি এম ডি স্টেশন ঈশ্বরদী	সদস্য	-----
০৫	ডাঃ মোঃ ফিরোজ হোসেন তালুকদার আবাসিক মেডিক্যাল অফিসার (আরএমও) উল্লাপাড়া (সিরাজগঞ্জ) ২০ শয্যা বিশিষ্ট হাসপাতাল।	সদস্য	০১৭১৬-২৯৭৭৮৫
০৬	এস.এম.আমিরুল ইসলাম আরজু প্যানেল মেয়র-১ ও কাউন্সিলর ৫ নং ওয়ার্ড, উল্লাপাড়া পৌরসভা	সদস্য	০১৭১১-৩০২১৪২
০৭	মোঃ আলাউদ্দিন তালুকদার আলা প্যানেল মেয়র-২ ও কাউন্সিলর ৫ নং ওয়ার্ড, উল্লাপাড়া পৌরসভা	সদস্য	০১৯৪২-৭১২৮৭৫
০৮	মোঃ ইউসুফ আলী উপ-সহকারী প্রকৌশলী, জনস্বাস্থ্য প্রকৌশল অধিদপ্তর, উল্লাপাড়া, সিরাজগঞ্জ।	সদস্য	০১৭৪০-৯০৮৫০৩
০৯	মোঃ তৌহিদুল ইসলাম সচিব, উল্লাপাড়া পৌরসভা, সিরাজগঞ্জ।	সদস্য	০১৭১৭-০৩৬৯০৮
১০	জুয়েল আহমেদ বস্তি উন্নয়ন কর্মকর্তা, উল্লাপাড়া পৌরসভা, সিরাজগঞ্জ।	সদস্য	০১৭১১-১৮৪২২১
১১	আলী আহম্মেদ স্যানেটারী ইন্সপেক্টর, উল্লাপাড়া পৌরসভা, সিরাজগঞ্জ।	সদস্য	০১৭১১-৫৭৮৭৫৮
১২	গোলাম মোস্তফা সাংবাদিক	সদস্য	০১৭১৮-৩২৪৫০৬
১৩	মোঃ জহুরুল ইসলাম উপ-সহকারী প্রকৌশলী (সিভিল) ও ওয়াটার সুপার (ভারপ্রাপ্ত), উল্লাপাড়া পৌরসভা, সিরাজগঞ্জ।	সদস্য-সচিব	০১৭৫৩-৪৫৬২৯৮

(এস.এম. নজরুল ইসলাম)
মেয়র
উল্লাপাড় পৌরসভা
সিরাজগঞ্জ।