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Water safety plan: a commitment towards safe and sustainable water supplies

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WATER, SANITATION AND HYGIENE:
SUSTAINABLE DEVELOPMENT AND MULTISECTORAL APPROACHES

Water Safety Plan: A commitment towards safe and sustainable water supplies

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WaterAid Bangladesh (WAB) works in hard-to reach difficult areas and promotes context specific, appropriate safe water supply options through its Partner NGOs. It is felt that community involvement is vital to maintain the quality of water – safe and to make these interventions sustainable. Water Safety Plan (WSP) approach involves community to actively participate in risk assessment and risk management activities by identifying potential risks for contamination of waterpoints, ensuring better operation & maintenance towards keeping water safe and handling water safely. WaterAid Bangladesh piloted WSP successfully and then scaled up in entire working areas. WAB has also built the capacity of staff, community and Local Government Institutions to execute their roles towards safe & sustainable water supply and improved hygienic behaviours. WAB addressed about half a million waterpoints out of ten million in the country by reaching almost 6 million beneficiaries.

Introduction

WaterAid Bangladesh (WAB) works in communities which are poverty concentrated, hard-to-reach, socially vulnerable and marginalized to provide Safe Water, Environmental Sanitation and Hygiene Promotion. Hard to reach difficult areas includes Hill tracts, saline affected coastal belt, drought prone barind track (Pleistocene Terrace), haor areas (wetland formed by large natural depressions), charland (newly formed sandy shifting lands in the great rivers or Estuary) etc. which are unserved or underserved. Different context specific water supply options are promoted by WAB and its Partner NGOs (PNGOs) that include; Gravity Flow system (GFS), Infiltration Gallery (IFG), Pond Sand Filter (PSF), Deep Hand Tube well, Deep-set tube well, Submersible Pump Tube well, Rainwater Harvesting System (RWHS) and Urban Water Point connections from pipe network.

Currently WAB is working in 307 Unions of 41 Upazilas under 19 Districts in rural areas while more than 700 Slums in 3 major Cities and 2 Secondary towns covering more than 6 million beneficiaries.

Sustainability through Water Safety Plan

In Bangladesh, one of the major causes of non-functional water options are poor O&M and lack of community awareness which in turns increase risk of microbiological contamination. In a recent survey by WAB, it is found that out of 1850 waterpoints 59% are without platforms and 67% are without drainage facility. These are major pathways for contamination of source.

WaterAid's vision is of a world where everyone has access to safe water and effective sanitation. To ensure water quality, WAB and Partner NGOs have been testing and monitoring different water quality parameters periodically for water options within working areas.

It is felt that community involvement is vital to maintain the quality of water – safe and to make these interventions sustainable. Water Safety Plan (WSP) approach involves the community to actively participate for ensuring safe and sustainable water supply. It is also recommended by World Health Organisation (WHO) in the 3rd edition of WHO Guidelines for drinking water - Shifting Quality Control Approach to Water Safety Framework. In June 2006, WAB initiated a pilot project to incorporate WSP into its programme interventions.

Water Safety Plan (WSP)

WSP is a fundamental change in the approach to water quality monitoring. WSP is a management plan for securing drinking-water safety from water source to the point of consumption through continuous monitoring and preventive maintenance of water supply systems. WSP approach involves the community to actively participate in risk assessment and risk management activities by identifying potential risks for contamination of their water points, ensuring better operation & maintenance towards keeping water safe and at the same time improve hygienic behaviours for handling water safely. The level of involvement also enhances ownership over the waterpoints. Figure:1 shows WAB and PNGOs assist caretakers/ users, Community Based Organizations (CBOs) and Union Parishads (UPs) to identify, assess and manage risk of contamination from source to consumption and practise relevant hygiene behaviours.

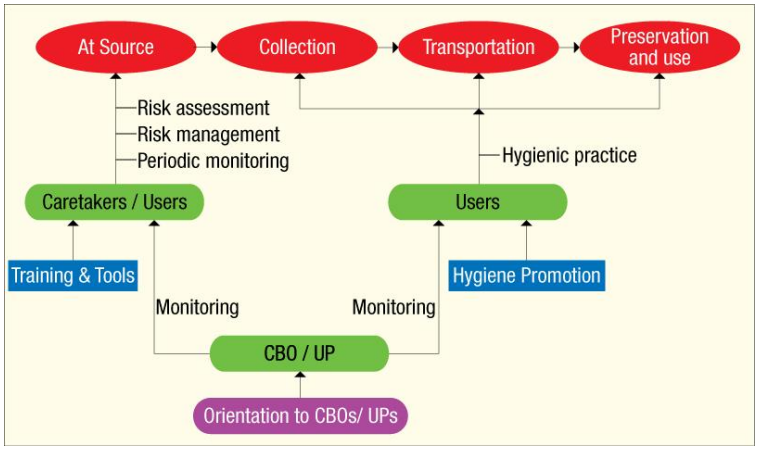


Figure 1: WSP a Management Plan for securing drinking water safety

Source: WAB

The traditional approach to quality control involves testing a few samples within a specific timeframe and assumes that the result is valid till the next test is made. It may happen that before the next test is made, the water quality of a particular water point gets contaminated and community is suffering from that unknowingly. Instead, as per WSP approach, there will be continuous quality assurance by community using risk indicators to identify possible sources of contamination of waterpoints. Therefore, WSP ensures regular monitoring and preventive measures against possible contamination beforehand and thereby reducing risk to people from water borne diseases.

Implementation of WSP in WAB Programme

Prior to large scale implementation, WAB piloted WSP in various rural contexts through Partner NGOs. The purpose of WSP piloting was to assess the feasibility of WSP mainstreaming, prepare a strategy for WSP scale-up, develop tools & materials for implementation and increase Partners' capacity for large scale implementation.

Before piloting, a baseline survey was conducted to identify pre-WSP status of water quality, sanitary integrity and hygiene practices both at source and household level. At the end of piloting, the results showed the effectiveness of WSP interventions. After successful completion, WAB started Scaling-up in its entire programme areas since April 2007. WAB mainstreamed WSP into its programme interventions through integrated relevant activities with monitoring indicators. On the other hand capacity of Partner NGOs' staff is built at different level to implement WSP.

WAB Operational objectives of WSP

- increased no. of water points are functional with proper platforms and drainage systems;
- water points have vicinity clean and dry and maintained safe distance;
- increased awareness level on water safety, hygiene of safe water handling among community;
- reduced incidence of water borne diseases;

Major interventions for mainstreaming of WSP

Community Situation Analysis (CSA) and Community Action Plan (CAP): CSA and CAP are updated incorporating WSP related information by respective Community Based Organizations (CBOs).
Hygiene Promotion Sessions: Conduction of improvised messages incorporating WSP in regular hygiene promotion sessions for all types of target audiences.
Caretakers/Users Training: Training to Caretakers / Users of all waterpoints in working areas on WSP.
Monitoring of water options: Caretakers/ Users are the key persons responsible to keep water points functional and operational by continuous monitoring and preventive maintenance. They receive training and pictorial monitoring tools.
CBO/UP Orientation: Orientation to Community Based Organizations (CBOs) / Union Parishad (UPs) are provided on WSP.
Engagement of Local Government Institutions; Union Parishad members and Ward Task Force committee members are oriented on the concept of WSP and their roles & responsibilities.
Water quality surveillance: WAB developed Water Quality Testing Protocol, 2007 linking WSP and water quality requirements consulting national guidelines and WHO guidelines.
Reporting and monitoring: WAB incorporated indicators in its regular monitoring and reporting systems.

WSP materials

There is a huge number of existing Point Water Sources [0.5 million tubewells] in WAB working areas which had to brought under WSP interventions. Therefore the relevant documents / materials/ guidelines/ tools are developed and translated into operational form:

- Strategy for Implementation of Water Safety Plan
- Modules for Training of Trainers and Foundation Training
- CBO/ UP orientation manual
- Other Hygiene Promotion tools incorporating WSP messages
- Calendar on Ideal Water Source
- Monitoring Tools for different options [TW, GFS, PSF, RWHS, Dug-well, Urban Water point]
- WatSan Rhymes & Stories for children incorporating WSP messages
- Caretakers Training manual
- Hygiene Promotion Guidelines for communities & Schools incorporating WSP messages

Water Quality Testing Protocol 2007 of WAB

WSP is ensuring improved water quality through continuous maintenance of water points by the communities over time. Water Quality Protocol of WAB is used by engineers to cross check water quality against WSP preventive maintenance, measured through Sanitary Inspection (SI). This verifies the outputs of WSP and identifies additional contamination pathways. WQ testing assures the effectiveness of preventive maintenance in reducing contamination and as a result WAB feels confident in reducing the traditional WQ testing parameters and thereby saving cost and time.

Major learning from piloting

During piloting, several good practices were identified and used afterwards to strengthen WSP mainstreaming activities. Some of the major learning are:

- Female Union Parishad members played key role in encouraging the participation of female caretakers.
- By orientating CBOs and UPs together vital linkages for future coordination are built.
- In urban areas, major problem encountered due to space constraint and maintaining safe distance between latrines and water points.

- Wide necked water containers were used widely before WSP implementation that led to contamination. Community readily accepted the traditional pitcher (*kolshi)* covering it with a plate or coconut shell.
- Community readily understand the hygiene concepts and they identified additional messages, such as inside of pitcher cleaning.
- Water Quality at source is questioned when communities have to rely on the central water supply system that is in risk of contamination due to system losses and lack of maintenance. WAB also taken initiative to advocate for WSP with utility department.

Achievements of WAB till September 2008

- Build Capacity of 17,500 Community Based Organizations out of 17,800
- Users including caretakers of 0.49 million Water Point were trained out of 0.53 million
- More than 90,000 existing waterpoints has been renovated within one year since WSP implementation
- Major improvement is noticed in communities by ensuring cleanliness of waterpoint surroundings
- Major improvements observed in hygiene practice level during collection/ transportation/ preservation and use of safe water.

Challenges and way forward

- Follow up of status of continuous monitoring & preventive measures taken by users are a huge task. WAB is planning for building capacity of Union Parishad so that they can take part during implementation & follow up after phase-out of WAB and PNGOs.
- Assessing impact of WSP on Water Quality and Health in WAB working area is an important concern. WAB plans to do so with support from WHO.
- Replication of WSP implementation should be done through mainstreaming WSP in WatSan programme and not in isolation. Through information dissemination/ workshop WAB is sharing experiences and many other sector actors applying and mainstreaming WSP concept in their programme.
- Incorporation of Water Safety Framework in National Water Quality Policy is essential. WAB is influencing at Government level to incorporate this issue.

Conclusions

The capacity of caretakers, CBO members and community people is built to ensure proper operation, continuous monitoring and preventive maintenance of water supply facilities. Awareness level increased and they are increasingly practicing safe collection, transportation, preservation and use of water for domestic purposes.

WAB expects that water options are maintained and communities are able to access safe water and sanitation independent of external assistance. The increased level of awareness among community people will lead reducing water borne diseases. WAB expects 6 million beneficiaries will be able to practice safe water handling at the end of project.

Water Quality Protocol and Water Safety Plan are helping WAB to offer better services and facilities to the communities with less cost due to involvement of communities; in turn it is ensuring sustainability.

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