Summary Document of Nominee

Introduction

As a rain water harvesting device, a special type of pitcher is made of mud and cement, has been developed by a local water resources expert named Mr. Mustafa Bakuluzzaman for the south-west coastal region's households of Bangladesh, where drinking water scarcity is acute due to increasing salinity in surface and in ground. Thousands of people in this region are suffering from diarrhea, dysentery, anemia and liver dysfunction, where women are mostly at risk for maternity. Though rainwater harvesting system is nothing new in the world, this system was out of poor in the catchments area due to it's affordability. Besides, maintenance and purity was a question for preserving the water for a longer period of time. Considering this situation, an innovative technological solution has been renovated to collect and store drinking water inclusively in the monsoon period and serve it rest of the crisis months. This technology is scientifically proved and harvested water using pitcher devices retained acceptable limit recommended by World Health Organization (WHO). In addition, it is easy to install, requires low cost, no social barrier, environment friendly, requires no technical expertise to manage and its construction and repairing materials are available locally.

Description of pitcher technology:

A pitcher size of 1.1 meter height and 9 meter diameter can contains 700 liters of water. It is made up of mud and round or oval shape and contains a mouth on the top of the body Generally, it is made in dry season. Both sides of the pitcher's wall are laminated with white cement to increase longevity and bacterial protection against possible contamination due to porosity.

Two types of catchment system are developed and used for harvesting of rainwater under this project. Firstly, four strong stands made by bamboo poles are used for hoisting the ractangular clothes or polythene with strong ropes to harvest rainwater during rain. The accumulated rainwater are collected by a bucket and preserved in the pitcher after filtration by plastic hand filter. Secondly, in another way, the rain water are harvested directly from tin roof through pipe. A plastic or tin shade are used by the down side of the tin roof. Harvested water are transferred through pipe into pitcher in a safe place in the household.

The project followed the testing system to check the purity of harvesting rainwater when the rainy season came. One is to identify appropriate catchments time of harvesting rainwater through scientic testing. Another is to identify standard preservation time limit of harvesting rainwater through scientific testing as per WHO standard. Finally, samples are collected and tested scientifically to know whether the microbiological and chemical parameters are within the acceptable limit recommended by WHO or not from International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDRB) or Department of Public Health & Engineering and Science Laboratory of Bangladesh.

Union level disaster management committee meeting had been organized with the community people for awareness raising on safe drinking water harvesting technology e.g. pitcher technology. Beneficiaries were selected through surveying and their financial status, their demand. The selected beneficiaries were provided training on operating of this technology.

Contribution to community people

Installation of rain water harvesting pitcher technology has put impact on the social, economic, environmental sector of the community. Now women at the household do not need to go far to fatch water so frequently. They can provide their time in productive and another household activities which are contributing towards economic development of their family. These women are now earning money by involving themselves in cattle rearing, handicraft making, vegetable cultivation, crab cultivation etc. Business is created for the pottery at the community as the pitcher is made of earthen materials. Using rain water harvesting pitcher technology contributes to the environment as this technology does not need any source of power or does not pollute the water environment in anyway as it harvests the rain water in a natural way.The community does not need to pay for this water and at the same time this technology is very low cost effective and easily handable.The household women can operate this technology easily as they received training on handling of this technology.The impact of this technology has put contribution at the local level of the community at a large scale as community people become concern the advantages of this technology and they now become

interested to install this technology in a large scale at the household level. The project covered 50 households through installation of pitcher technology at each household level at Kaligonj and Shaymnagar sub-district under Satkhira district of Bangladesh. Total 250 final beneficiaries (6 members in each household) whereas 50% is male and 50% is female, covered as direct beneficiaries under this project. Indirect beneficiaries were 6250 (50 households x 25 neighbors X 5 members each family). This technology has now become a model for other affected areas of coastal regions where there is scarcity of safe drinking water and women has to collect drinking water far from their home.

Rain water harvesting using pitcher technology is one of the most innovative technologies in Bangladesh because it is easy to install and operate, can be used upto 10 to 12 years. Local people can be easily trained to implement such technologies, and constructions of materials are also available in the locality. This technology is flexible and the family members can handle this technology easily which greatly reduces operation and maintenance problems. Running costs are almost negligible as well. Moreover, this technology can be disseminated at the community level which ensures the sustainability of this developed pitcher technology. Peoples in the coastal areas of Bangladesh suffer from impure drinking water. Currently, they become habituated in rain water collection using pitcher technology to meet the demand of drinking water.

Work and achievement of Nominee

With 10 years experience in water sector, it is seen that people in coastal areas of Bangladesh suffer from impure drinking water and water borne diseases. Having field experience on different water related projects namely; 1) Community Based Rain Water Harvesting Plants Project for Safe Drinking Water; 2) Promoting Environmental Health through Sustainable Provision for Safe Water and Sanitation; and 3) Enhancing Environmental Health by Community Organization', 4) HYSAWA Project (Capacity Building of Private Latrine Producer in Noakhali, Feni and Laxmipur Districts); and 5) Union Parishad Led Safe Water, Sanitation and Hygiene Promotion in South-West Coastal Area, it has observed that safe drinking water scarcity is the prime reason of water borne diseases in coastal areas of Bangladesh. Considering peoples need and community demand, a rain water harvesting devices named Pitcher Technology has developed in south western coastal areas of Bangladesh. Currently, it becomes popular among coastal people, as it is user friendly, technically sound, environment friendly, scientifically tested, cost-effective, affordable, easy installation, construction and repairing materials easily available in the locality. A family can easily meet its demand of drinking water from the harvested rain water using a pitcher.

Major achievement of previous research and project work

Major achievements of the project Union Parishad Led Safe Water, Sanitation and Hygiene Promotion in south-west coastal area are improved adequate safe water and sanitation services among households and communities, rural people practicing hygienic sanitation. Picture drama, Watsan fair, rally, Watsan day observation, installation/renovation of safe water points, school hygiene session conducted in the project. Three disaster resilience community ponds were re-excavated for reserving of fresh rain water for the community and 250 pond sand filters (PSF) installed in project areas from where 3000 households getting their drinking water.

Promoting environmental health through sustainable provision for safe water and sanitation, major achievements were the improvement of personal hygiene practices and behavior of vulnerable community of south west coastal region, sustainable management of safe water supply system and efficient community sanitation facilities. Community peoples were given training on how to use and maintain hygienic latrines. This project contributed towards safe water, environmental sanitation and hygiene promotion. Community people started to use hygienic latrines because they are aware about the harmful effects of use of unhygienic latrines.

By the project Enhancing Environmental Health by Community Organization, almost 24,950 peoples are accessing to safe and adequate water, student of 264 Schools getting safe sanitation and menstrual hygiene facility, restaurant and food vendors practicing better food hygiene, and mass people getting benefit at public places (bazaar) through public toilet. This project has positive contribution to society because water and mosquito borne diseases reduced, people's working hours and student's attendance in school increased.

Outstanding performance

Considering above projects, it has realized that drinking water facilities is very limited and time consuming and not easily accessible by poor community of coastal areas of Bangladesh. Among implemented projects, 'Dessimination of Knowledge on Rainwater Harvesting through Pitcher Technology' was the most innovative. From 2008 to till 50 pitchers are demonstrated and during last 3 years it is seen that pitcher technology becomes popular among rural hardcore people of coastal areas of Bangladesh.