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Access to Water and Sanitation in Refugee Settings: Success and Setbacks in Bangladesh

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Abstract— Ensuring safe and adequate water and sanitation services in refugee settings have always been a complicated and cumbersome task. In most of the cases a vast majority of the refugee population are children and women who are highly vulnerable and almost completely rely on the external help. So managing the fundamental rights like access to water and sanitation is not always straightforward. United Nations High Commissioner for refugees (UNHCR) is working together with the Government of Bangladesh to pursue the protection, assistance and solution for the refugees in the country. This paper will try to review the initiatives and interventions carried out by the agencies to eradicate the suffering of these vulnerable peoples and ensure the basic rights to water and sanitation.

INTRODUCTION

Everyone has the right to water disregard of race, color and religion, though one third of the earth's population is suffering lack of safe drinking water [1]. Sanitation is another important aspect and a major indicator of health and nutrition status. Some time it becomes very difficult to entirely meet the standards and indicators of providing water and sanitation facilities in the refugee operations following the emergency guidelines. Geographic location, attitude of the migrants, availability of physical infrastructure and stance of the host government; all these factors significantly determines the standards of support in a refugee camp. Furthermore the situation could be worsen when the surrounding host community response hostilely. Currently Bangladesh is hosting more than twenty eight thousand refugee from Northern Rakhine state of Myanmar. These people are living in two refugee camps in Cox's Bazar district. To provide the legal security and humanitarian assistance UNHCR is supporting the Government and working together in both the camps. They have installed and constructed several type of physical infrastructure to ensure safe water and sanitation in the camps. Moreover to increase awareness and buildup ownership among the refugees to ensure sustainability, Hygiene Promotion activities are strongly recommended and being implemented. Integrated approach of both hardware and software intervention have trimmed down the sufferings of the people and reduced the rate of morbidity and mortality in the camps.

BACKGROUND

In mid 1991, some 250,000 refugees from Myanmar's Northern Rakhine state fled by boat and on foot to neighboring Bangladesh, where they were sheltered in 20 camps at the Cox's Bazar district. While the majority of these refugees eventually returned home, some 20,500 people mostly Rohingya, a Muslim minority ethnic group remains in two of the original camps. Currently more than 28,000 refugees are residing in two camps: Kutupalon and

Nayapara [2]. Although Bangladesh is not a signatory to the 1951 Refugee Convention, constructive government policies and international support have resulted in tangible improvements in living conditions for the refugees.

Beside the refugees in the camps around 200,000 unregistered people of concern originated from the same places as the refugees are living outside the camps. UNHCR continues to pursue a comprehensive approach to the situation of refugees from Myanmar, endeavoring to attain more equitable living conditions for registered refugees, unregistered people of concern outside the camps and the Bangladeshi host population [2].

ACCESS TO WATE AND SANITATION

Water

Water cross-cuts several vital sectors directly related to human life. It is closely related to food and nutrition, sanitation, health, education, camp planning and shelter etc. In a refugee camp setting, providing water is not just installing facilities and providing the ownership to the community to ensure the longevity. One has to consider the protection and dignity issues of the refugees, especially in Bangladesh where the refugees are not allowed to go outside the camp without the consent of the government.

In Kutupalong camp the main source of water is ground water, extracted using manually operated shallow tube wells. The tube wells are installed in the valley around the camp with an average boring depth of 25 meter. For every 107 refugees there in one functioning tube well in the camp. Refugees get there drinking water as well as the water for domestic uses, bathing and sanitation purposes from the tube wells. Repair and maintenance is a regular activity for the tube wells in the camp. Due to the high use of tube wells in the boundary of the camp by the people from outside, the facilities need more maintenance than the others. Currently government is taking care of water sector in this camp by the technical support from the WASH team of UNHCR. To ensure the safeguard of the tube wells caretakers were selected from the user refugees. The users of each tube well provide rice to the caretaker of that particular tube well in weekly basis. Earlier few deep-set hand humps were installed in the camp, but higher maintenance and unavailability of water in the dry season have proved those inappropriate in this setting.

The other camp is in Teknaf sub district beside the tidal river Naf. Unlike the other camp groundwater is not available in this area due to hydrological constrain [3]. In order to provide water, an artificial reservoir was constructed within the boundary of the camp. Currently three water treatment plants are functioning in the camp for purifying and supplying the water to the refugees. The conventional treatment process e.g. sedimentation, filtration and chlorination is followed in these plants.

Earlier different sizes of Oxfam type tanks were used in the plants as treatment chambers. During 2008-2009 Ferro-cement water tanks were installed in two plants. This was done to increase the capacity of the plants and also to make it more sustainable in cost effective way.

Drinking water is supplied in total 56 tap stands inside the camp through a pipe line network. The refugees can collect water twice a day; morning and evening. The current average amount of water supplied is 19 L/P/C/D (Letter per capita per day). The refugees collect the water from the tap stands using different size of containers.

The reservoir was constructed to collect rainwater and spring water coming from the hills outside the camp. Approximate capacity of the reservoir is 50,000 meter cube. Due to the cultivation activity at the upstream of the reservoir; it gets filled up by silts and eventually reduces the capacity. So re-excavation of the reservoir bed is a regular activity that needs to be carried out after every 3-4 years [3]. Water from the reservoir is obtained by using pump engines and after the treatment the water is stored in the distribution tanks. Finally from the distribution tanks it is supplied to the refugees through tap stands. Alum for sedimentation and bleaching powder for chlorination is used to treat the water.

Though the refugees get 19 Letter of water each day but it is not enough for all the activity especially in the dry season. So in quest of alternative technology many initiatives have been taken up to now. Setting up Rainwater Harvesting System (RHS) in community center and in a school was one of them. Some dug wells were also installed around the camp to supplement the main supply. Manually operated hand pump is attached with the dug wells to extract water. Beside the installation of these dug wells the refugees have installed some well by themselves around the sheds. The water from these wells is not safe for drinking but can be used for cleaning purpose. To monitor the supplied water quality UNHCR conducts regular water quality testing in the camps.

There are also few ponds in the camp which are used as source of water during dry season. The maintenance of these ponds is carried out by the refugees themselves. Like the Kutupalong Government is the responsible agency for water in Nayapara camp.

Sanitation

Several facilities were installed in both the camps to ensure sanitation services and to maintain a hygienic environment. As the camps were set in response to the emergency influx in 1992, the cultural sensitivity and social norms of the Rohingya Muslims were not entirely taken into account while setting up the infrastructure initially [4]. But later many initiatives were taken to improve the situation and to meet the standards in the camps. Different NGOs working in the camps during last 19 years have tried to improve the situation by introducing many effective and useful initiatives. In recent years communal latrines (comprise of 5 units of single latrine) were constructed in all the blocks of each camp. There is one unit of latrine for maximum of 20 refugees (20 in Nayapara and 17 in Kutupalong). All these 05 units are connected with one common pit. When the pits are about to fill up, dislodging is done and the sludge is buried in a

suitable place closer to the latrine. The dislodging is accomplished by the waste management volunteers (refugees). A bio-gas plant was installed last year by connecting the pit of 5 communal latrines which is operational now and the gas is being used by the nutrition center to prepare food for the malnourished children and mothers.

Separate Bathing cubicles were installed in the camps for both men and women. There is no direct water connection in the cubicles but the sites were selected considering easy access to the water source e.g. tube well for Kutupalon and tap stands for Nayapara camp. Beside the bathing cubicles some wash slabs were also constructed to facilitate the cleaning activity and to reduce the pressure on the cubicles. The drainage network in both the camps helps to convey the used water and also the rain water out of the camps. Several new drains were constructed around the camps to mitigate the problem of stagnant water and provide hygienic environment in the camps. As both the camps are situated in the hilly areas so it has always been a problematic task to design and maintain the drains in these areas.

A number of garbage pits have been constructed in the camps to ease the waste management activity. The pits include three chambers for different type of wastes. There is also one incinerator in each block to burn the wastes as there is limitation of space in the camps to dump them. Beside this some refugees were also trained to produce compost from the organic waste. Cleaning the drains, garbage pits, latrines etc are the routine activity of the waste management volunteers. Furthermore to buildup awareness and gradually shoulder the maintenance responsibility to the refugees, sets of sanitation kits (spade, hoe, wheelbarrow, broom etc) were provided in the camps.

Hygiene promotion (HP) and awareness rising is an effective and sustainable tool to motivate a community and encourage practices to reduce waterborne diseases. Research shows that hygienic practices can have an equal or greater impact on disease prevention than water supply and sanitation facilities [5]. In order to achieve better performance of the installed water- sanitation facilities and maximize the benefit, HP programme is embedded with the regular WaSH activity. Total 41 hygiene promoters (refugee volunteer trained in HP) are working in the camps. Moreover, emphasize has been given by UNHCR on developing ownership among the refugees. To implement this one pilot initiative has been taken by UNHCR. The latrines of one block in the Nayapara camp has been handed over to the refugees by assigning one unit to four families. The families will be responsible for cleaning and maintenance of the latrines. The report from the evaluation of this pilot initiative is positive except some over enthusiastic refugees, who locked the door to prevent uses by others. The overall effect of the HP activity is optimistic and the situation is gradually improving.

CONSTRAINTS

Water and sanitation are critical determinants of human survival and dignity [6]. The pathway to ensure this basic right is not always easy and straight forward. One of the

major limitations of the refugee camps in Bangladesh is: unavailability of space. The spaces for the camps are fixed and refugees have to accommodate all their activity within this area. Due to limited space it was not always possible to design all the facilities properly following the guidelines. The alignment of the shelters, location of the latrines, bathing cubicles, garbage pits etc were not constantly installed considering the proper standards.

Soil erosion is another significant challenge in the camps. As both the camps are in the hilly areas so during the rainy season huge amount of soil erosion takes place. After 2-3 years of constructing a drain it becomes higher than the surrounding area and water flows outside the drains during rain. This phenomenon causes more erosion and ultimately ends up by collapsing the side walls of the drain. The soil deposit in the reservoir at Nayapara camp reduces the capacity gradually. Sometime after a heavy rainfall the drains get blocked by silts and cause flooding of the surrounding sheds. In many cases the refugees collect soil from the surroundings to elevate the plinth of sheds which aggravates the situation and increases the rate of erosion. The catchment of the reservoir is outside the camp, so the camp authority has no control over the land. This is also a threat to the reservoir, because the cultivation of paddy in the catchment using fertilizer and pesticides deteriorates the water quality of the reservoir.

Stalling and vandalizing the facilities are another main concern in the camps. Sometime the doors of latrines and bathing cubicles, the taps and hand pumps in the water points are stolen. During the dry season it is not possible to maintain equal pressure in all the tap stands. So a common practice by the refugees is to remove the tap from the pipe to increase discharge. Few modification was made in the design of the tap stands to improve the situation but it was not possible to stop the incident completely.

Due to limited space and high population density, problem regarding dislodging is aggravating gradually. The population of the camp is increasing. Moreover due to different livelihood and income generating activities the refugees are trying to make the best use of their surrounding lands by setting up kitchen-gardens. So during dislodging it becomes tough to find a suitable space which is not occupied by the refugees.

The most significant challenge in the camp is the lack of awareness and ownership among the refugees. As the camps were constructed to respond to the emergency situation in 1992, no long-term initiatives about developing ownership were initiated at that time. Later many NGOs have worked to improve the water and sanitation situation in the camps but the issues of awareness and ownership were always neglected except last few years. The main focus was always to install facilities to meet the standards. As a result the attitudes of the refugees have changed. Even in normal emergency situation it is difficult to run awareness programs [5]. The refugees are dependent on the aid agencies for almost all the aspects of their life. So it is really tough to initiate an awareness programme focusing on shouldering the responsibility on the refugees.

CONCLUSION

There have been several initiatives taken by UN, government and non-government agencies working in the camp to maintain the services regarding water and sanitation. Many facilities were installed in the camps to meet the standards and indicators of UNHCR. Alternatives like rainwater harvesting systems and dug wells were installed to establish sustainable water supply system. Water tracking was carried out to meet the demand of the refugees when the main system failed by drying up the reservoir. Construction of semi-permanent communal latrines was one of the major steps regarding the improvement of sanitation status in the camps. It has significantly reduced the rate of open defecation and made the living environment more hygienic. The on-going hygiene promotion activity is also helping to develop the situation substantially. But still there is lot to do to ensure the standard services for all the refugees and overcome the existing challenges. Collective approach of both government and non-government agencies with active participations of the refugees can eradicate the problem and ensure the human right and dignity of this stateless people.

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