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Research Article – Social Science

Water and Sanitation Practices and Health: A Study on the Tea Garden Workers in Moulvibazar District, Bangladesh

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Abstract

Access to safe drinking water and hygienic sanitation facilities are extremely important for a healthy life. Without these, a healthy, sound and harmonic life is impossible. In many countries around the world, especially underdeveloped and developing countries, access to safe drinking water and hygienic sanitation facilities aren't satisfactory. The present paper tries to find out the water and sanitation practices and their health-related impacts on the tea garden workers. This study focused on the two areas of Moulvibazar District, Alinagar and Madhabpur, two of the most tea gardens brimming areas in Bangladesh. The data were collected from 60 households (30 from each area). The study observes: in both of the areas, people use open defecation or very unhygienic latrines and dependent on the open and unsafe sources of water. This paper analyzes the impact of these conditions on the health of the tea garden workers.

Key words: Water and sanitation practices, Health, Hygiene, Tea garden worker

Introduction

Safe and readily available water is crucial for public health with no substitute. Improved water supply and hygienic sanitation in addition to better water resources management can drive the countries' economy. Safe water and hygienic sanitation are two of the basic needs of people for their well being. But billions of people around the world, mostly in underdeveloped and developing countries, are deprived of these two basic and important rights. Every year, due to diarrhoea, around 842,000 people are estimated to die. The main reasons of the diarrhoea are unsafe drinking water, sanitation and hand hygiene (WHO 2015). In 2015, 32 percent of the world's population (2.4 billion) lacked improved sanitation facilities and 663 million people used unimproved drinking water (UNICEF 2016). According to United Nations, by the middle of this century between 2 billion to 7 billion people will be faced with water scarcity. So there is little wonder that water has been described as "the oil of the twenty-first century" (Schumacher 2005).

Safe water and improved hygienic sanitation can play a significant role in poverty alleviation and economic development across the countries (Coles and Wallace 2005). According to World Health Organization (WHO), every dollar spent on sanitation brings a return of $ 5.50, in the form of lower health costs and improved productivity ("Why sanitation should" 2014). In addition to this, the people who don't have the access to toilets will continue to face the indignity of defecating in the open, with the risk of diseases, and even the abuse that it brings (Barbara 2007). On the other hand, access to safe water should be easy for the countries around the world. If the access to safe water is not easy, many poor families around the world can no longer afford the access to it (Swarns 2002).

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The majority of the victims of the lack of improved water and sanitation facilities live in poor countries; they are not able to maintain their health of their own (Das 2015). As there cannot be any hygiene without safe water, there is an urgent need for management to be apprised of scientific work and the uncertainties with it (Trudgill 1999).

Bangladesh is one of the most populated countries in the world. In Bangladesh, improved water and sanitation facilities are not ensured for all, although significant improvements have taken place. But when it comes to the marginalized groups, for example, tea garden workers, the water and sanitation conditions are among the worst in the world. In Bangladesh, there are 358,550 workers are now working in around 164 tea gardens (Chowdhury et al. 2011). Tea garden workers are among the most marginalized groups in Bangladesh and are deprived of many fundamental needs and rights to a great extent (Das and Islam 2006).

Moulvibazar district of Sylhet division is one of most tea producing areas in Bangladesh. According to Bangladesh Tea Board, there are 90 tea gardens in Moulvibazar district where thousands of people are working. This paper tries to find out the water and sanitation practices and their health-related impacts of the tea garden workers of Alinagar and Madhabpur union of Moulvibazar district, Bangladesh. It also focuses on to find the impacts of the water and sanitation practices on the tea garden workers' socioeconomic lives.

Methodology of the study

The data were collected through questionnaire from 60 households (HHs) of Alinagar and Madhabpur Union, two of the most tea gardens inundated areas of Moulvibazar district, Bangladesh. All the respondents are tea garden workers and dwellers.

Objectives of the study

The objectives of the study are:

1. To explore the water and sanitation practices of the tea garden workers.
2. To find out the reasons of the existing water and sanitation practices of the tea garden workers.
3. To explore the impact of existing water and sanitation practices on the health of the tea garden workers.
4. To explore the impact of water and sanitation practices on the socioeconomic life of the tea garden workers.

Major Findings of the study

Water and sanitation practices of the tea garden workers

Water and sanitation practices among the tea garden workers in Moulvibazar district are not up to the mark. The major sources of drinking water of the tea garden workers are tube-well, water reservoir, pond, and ring-well (Table 1). As the availability of water sources is limited, tea garden workers are often forced to take their drinking water from more than one source. This study found that 65 percent collects their drinking water from the tube-well followed by water reservoir for 23 percent. Here the water reservoir is a very common drinking water source for the tea garden workers. The garden workers make it only through digging a hole in the ground with no other safety measures like boundary wall or cover on the top of it. As a result of these, the water is not clean and safe to drink. 17 percent pond as their drinking water source that is equally unsafe and polluted as the water reservoir. 8 percent described ring-well as their drinking water source.

Table 1: Source of drinking water

Types of Source	Percentage
Tube-well	65
Water reservoir	23
Pond	17
Ring-well	8

N=60

For the daily activities like cooking, washing clothes and dishes, and bathing, tea garden workers use different water sources based on the availability (Table 2). 58 percent informed that for their daily activities they use the tube-well water. But tube-well is not available for all tea garden workers in the study area, so they had to turn to other options too. Canal (local name: Charra) is also a water source for the tea garden workers to do their daily necessities (45%). The other water

sources of tea garden workers for their daily activities are water reservoir, pond, and ring-well.

Table 2: Source of water for daily activities

Types of Source	Percentage
Tube-well	58
Canal (Charra)	45
Water reservoir	25
Pond	20
Ring-well	10

N=60

Sanitation practices of the tea garden workers are miserable and far from minimum standard. This study finds that 67 percent is habituated to open defecation and they never used any sort of latrine, both hygienic and unhygienic, in their entire lives. For defecation, they go to an open place near a water source, locally known as Chara Bari, a place that is slightly hidden and they never wear sandals or hardly wash their hands with soap after defecation. 27 percent inform that they have latrines but that are also not hygienic and often they go to *Chara Bari* for defecation (Table 3). Only 13 percent use hygienic latrines and also use sandals while going to the latrine, they also mentioned that they wash their hands properly with soap after defecation.

Table 3: Sanitation practices

Types of Practice	Percentage
Open defecation	67
Unhygienic latrine	27
Hygienic latrine	13

N=60

This study finds that the problems of water and sanitation practices among the tea garden workers are very severe. Due to the unsafe water and unhygienic sanitation practices, tea garden workers are often victims of different water and sanitation related diseases (Table 6) and face many socioeconomic problems (Table 7).

Reason of existing water and sanitation practices

Historically, tea garden workers in Bangladesh are a community of deprivation and poverty and preclude from almost all basic needs and rights. As most of the tea gardens in Bangladesh are situated far from the mainstream and in hilly areas, tea garden workers generally excluded from normal working facilities and earning. Daily income of tea garden workers in Bangladesh is very less. The tea garden workers in Moulvibazar earn BDT 69 a day, that is hardly enough for them to maintain their daily needs.

The main reasons mentioned by the tea garden workers for using the unsafe water sources are different, ranging from poor family economy to lack of initiatives from the government (Table 4). 80 percent informs that they are not capable of installing a new tube-well by their own. As the tea gardens in Bangladesh are situated in hilly areas, the geology is hardly suitable to install any sort of safe water option there, 63 percent mentioned this for not installing water option. In addition to this, according to 53 percent HH, the level of arsenic and iron in the water often exceeds the approved level. This also discourages the tea garden workers to try to install tube-well. Besides all these, lack of initiatives from both the tea garden authority and government also mentioned.

Table 4: Reasons of existing water practices

Reasons	Percentage
Poor economic condition	80
Difficult geology	63
Indifference of the tea garden authority (TGA)	62
Unsafe water	53
Indifference of the government	25

N=60

Similar to using unsafe water sources, 87 percent directed to their poor economic condition for not to setting up hygienic latrines. As they believe that they won't be able to bear the cost of setting up new hygienic latrines. In a surprising note, this study finds that 65 percent said they go to open places for defecation as they are just used to it and not very interested in setting up and using hygienic latrines. 20 percent are not aware of the benefits of having a hygienic latrine although they are suffering from both economic and health aspects due to this. The tea garden authority and the government should play a more active, significant and participatory role on this issue. Tea gardens in Bangladesh often get neglected by both the garden authority and government (32%) (Table 5).

Table 5: Reasons of existing sanitation practices

Reasons	Percentage
Poor economic condition	87
Habit	65
Lack of awareness	33
Lack of initiatives of TGA and government	32

N=60

Impact of existing water and sanitation practices on health

As a consequence of poor unhygienic sanitation practice and unsafe water for drinking and daily activities, tea garden workers are chronic victims of many severe but avoidable diseases. This study found that many tea garden workers used to open defecation and normally they go to a place with water flow (*Canal/Charra*) but at the same time many use the same canal water to do their daily necessities (Table 2).

Diarrhoea is the most common and frequent disease among the tea garden workers as they practice very unhygienic sanitation and drink unsafe water. 87 percent inform that they frequently suffer from diarrhoea. Scabies and dysentery are the next two health problems they suffer. Among other water and sanitation-related diseases malaria, typhoid, intestinal worms and cholera have been reported (Table 6). Trachoma is also another problem among the tea garden workers, as 10 percent of study says they are suffering from eye problems too. Lastly, 7 percent mentioned that some of their members are also suffering from the Arsenicosis and that represents the existence of arsenic in the tube-well water of the tea garden areas.

Table 6: Impact of existing water and sanitation practices on health

Types of Source	Percentage
Diarrhoea	87
Scabies	72
Dysentery	63
Malaria	48
Typhoid	28
Intestinal worms	23
Cholera	15
Trachoma	10
Arsenicosis	7

N=60

Impact of water and sanitation practices on the socioeconomic life

Poor sanitation and unsafe water have long been associated with different diseases. But both of these two have some absolute impacts on the socioeconomic lives of its users, here on the tea garden workers. This study finds that tea garden workers, especially women and girls, are continuous victims of open defecation and unsafe water for drinking and other uses.

Unhygienic sanitation and unsafe water have many socioeconomic impacts on its users (Table 7). The impact of continuous diseases is reflected in the loss of their income (88%) during the disease time they cannot go to work and earn. Continuous expenditure for treatment is another big issue for them (77%). As the daily income of the tea garden workers is very less, spending constantly on treatment is nothing but a burden for them.

Table 7: Impact of water and sanitation practices on the socioeconomic life

Types of Source	Percentage
Loss of income	88
Extra expenditure for treatment	77
Security	65
Indignity	75
Abuse	45

N=60

But the major victims of poor sanitation are women and girls. 65 percent female members inform that as they do not have any latrine, they have to go outside for their natural needs in the night. And that makes it dangerous for them as there is no security. Many of the female members mentioned that they confronted many problems only for going outside during the night. 45 percent also mentioned that not having a latrine is also a loss of their dignity and it is women who suffer most from it. Many women and girls mention that sometimes they had to wait for the night to go for defecation. Not only that causes serious pain or health problem for them, it also causes physical and verbal abuses (45%) for them.

Conclusion

This paper studied the water and sanitation practices and their impacts on the health of the tea garden workers of the Moulvibazar district of Bangladesh. It has been found that the water and sanitation practices among the tea garden workers are miserable. Many people are used to practicing the open defecation for a very long time now and have never used any sort of latrine. They do not use sandals while going outside for defecation and also do not wash their hands with soap after it. This type of sanitation practices makes them vulnerable from both health and economic aspect, as they suffer from different disease and spend money frequently.

Similarly, for drinking water, not all of tea garden workers have access to tube-well or other types of safe drinking water options. As a result, they often depend on unsafe water to drink and to do other activities. This causes many diseases, and also makes them vulnerable in their daily lives. And the most vulnerable groups among them are women and girls.

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