

## MEANINGS OF WATER IN BENGALI CULTURE

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### Summary

A general review of Bengali speakers' water-related beliefs and practices may help improve public communication about the problem of arsenic in drinking water from "shallow" tube wells. This paper summarizes findings from several applied studies in both rural and urban areas since 1997, and also presents ethnographic material from more recent interviews in three districts of Bangladesh: Noakhali, Comilla, and Tangail. These interviews are the beginning of a more systematic, ethnographic study. Water has been considered a powerful force for creation and purification since the earliest days of philosophical and religious speculation in South Asia. It continues to inspire and fascinate people at all levels of society. Water is carefully managed in the home. Multiple water sources are used for different purposes. Tube well water remains the preferred source for drinking. Ponds figure in practical, social, and spiritual life. Cycles of 'purity' and 'pollution' – related to sexuality, birth, and menstruation -- are marked by bathing. Rites of passage all include some use of water, as do other folk rituals. Folk healing often requires special waters, some over which prayers have been spoken or blown, and others brought from holy sites. Water is assumed to have certain special qualities and powers. Some of its presumed qualities are: transformative, absorptive, capacity to remove sin, healing and protective, an enforcer of moral codes, a promoter of growth. Larger volume and strong flow are thought to improve the quality of water. The report concludes with some thoughts about arsenic as a public health problem, how and why public awareness is not as good as it might be, and ongoing needs to be met by public agencies. Preliminary findings from this study to date suggest some leads in adapting public communication to cultural beliefs and practices. [286 words]

Key words: Water, Cultural beliefs about water, Arsenic, Bangladesh, Rites of passage, Women's health

### 1. Introduction

There is a slow-moving but serious public health crisis in much of Bangladesh and the adjacent eastern districts of West Bengal, India. The drinking water of many parts of this region has very high concentrations of arsenic, over 50 micrograms/liter. Chronic arsenic poisoning causes skin discoloration, skin lesions, calluses on palms of hands and soles of feet; and it can lead to cancers of the skin, lung and bladder. The epidemiology of arsenicosis remains only partly understood. There is no proven treatment that reverses the symptoms apart from cessation of drinking contaminated water. The use of vitamins is known to reduce susceptibility, perhaps because vitamins and anti-oxidants promote greater excretion of arsenic. Very serious conditions require services of specialists and tertiary care facilities available only in large metropolitan centers.

The public response to this crisis has been disappointing. Technical problems are daunting. There is a huge population at risk – possibly as many as 40 million altogether in Bangladesh and West Bengal<sup>2</sup>.

Resources are never enough, and projects may or may not be well managed even when they are well funded. Raising public awareness, however, was the most challenging problem of all, according to some 45 professionals interviewed in 2004 in Bangladesh and India. Even if people realized that there was a problem, they said, all too many did not seem to view it seriously enough to actually change their primary sources of drinking and cooking water.

There is a need for new ideas about how to communicate with the public about the arsenic problem, how to persuade people, especially women, to modify their water consumption practices in ways that will reduce health risk levels. Arsenic mitigation projects focus narrowly on water used for cooking and drinking, and more recently, also for watering food crops. This is logical, as cooking and drinking habits have important public health consequences. Water in this part of the world, however, has a great many more uses and meanings beyond the most commonly recognized practical ones.

This report is the start of a larger-scale ethnographic study which we plan to conduct in the future in multiple locations. The purpose of our current ethnographic research is to explore the framework of cultural meanings, behaviors, and beliefs in terms of which Bengali-speaking people relate to water. We are building on a series of studies we have done since 1997. The first was a baseline study of water and sanitation in 23 Bangladesh towns of three southeastern districts. (DHV 1998, 1999) Others included program evaluation studies of large water and sanitation projects, a general review of Bangladesh's water and sanitation status, and evaluation studies of two major arsenic mitigation projects (BKH and Planning Alternatives for Change 1998; Hanchett 2001; WaterAid 2001, 2002; United Nations Foundation 2003; and Planning Alternatives for Change 2006a, 2006b). In the course of doing these applied studies using rapid appraisal methods, we have done hundreds of in-depth interviews and visited a great many locations throughout Bangladesh, and a few places in West Bengal as well.

During the past year we have done a series of interviews on water-related beliefs and practices in three regions: Noakhali District, Comilla District, and Tangail District. Most of the examples cited here are from these recent interviews, but others are drawn from our earlier work.

## **2. Literature Review**

Several types of anthropological and other scholarly research attest to the cultural centrality of water in South Asia. Classical scholars on ancient India and Islam emphasize the importance of water as a creative and purifying force. In early Hindu science water was identified as one of four (or five) basic elements, earth, air, fire (and sometimes ether) being others. Water was established in early mythology as a sacred symbol in itself -- e.g., one form of the goddess, Ganga, or a cosmic ocean. (Basham 1959) Medieval literature speaks of "...The earth, the upper and infernal regions, and all their beings [having been] shaped out of the cosmic waters of the abyss." (Zimmer 1972:62) This long history of fascination with water still influences the thinking and sensibilities of people at all levels of society.

Rivers, ponds, rain, clouds, the sea and other forms of water, for example, have inspired hundreds, perhaps thousands, of poets, folk singers, and tale-tellers. In one long, Bengali tale, "Behula and Lakhindar," for example, a large portion of the story is taken up with the heroine's travel down a long river as she strives to bring her dead husband back to life. (Dimock 1963:195-294)

Ethnographic studies offer many details on water-related beliefs throughout South Asia. Feldhaus (1995), for example, uses Maharashtra State interviews and textual analysis to argue that fecundity is the "central meaning of rivers in India in general." (186) Rivers are considered good places to give alms and perform sacrifices, she finds, because they "embody the natural world's generosity to humans and thus inspire humans to perform rites of generosity of their own." (79) In her survey of "The Socio-Cultural Force of Water" in Goa, Gomes (2005:274-275) argues that, for Goans, the wide

variety of meanings conveyed using water “form a part of [the] quotidian ethos.” “Water,” she continues, “has generated communities and fostered a sense of community, charted the course of history, evolved beliefs and ritual, contributed to oral traditions of proverbs and idioms, and it remains the matrix of social life for the Goan people.”

Islam (1985), Blanchet (1984), Ellickson (1972), Gardner (1997) and others describe water-related practices in the life of Bangladesh villagers. Water is generally understood to remove temporary ‘pollution’. Bathing is therefore of great importance. Water can ‘cool’ the person or Hindu deity whose head is anointed with it. Ponds and other water bodies are mentioned frequently. Ellickson (1972), for example, describes repeated trips to ponds to immerse items used in wedding rites. Blanchet (1984:90) reports a belief that a placenta is thought to be best buried near a river or pond, to ensure that a new mother’s milk supply will be adequate. Rivers, like jungles, she says, are considered ‘natural’, wild or untamed, places in comparison to land, which is perceived as ‘cultural’, or under human influence.

Ethnographic descriptions of South Asian folk rituals -- both cyclical rites and rites of passage -- portray complicated uses of water as one among numerous other symbolic items. Although the majority of Bangladeshis are Muslims, Hindus and Muslims conduct some similar folk rituals, but the Muslims perform them without reference to Hindu deities<sup>3</sup>. Like Hindu peoples of other South Asian regions, Bengali Hindus designate a river or pond as the marital home, to which a goddess, such as Durga, thought of as a married-out village daughter, may be returned after a festive ceremonial visit.

In 1896 Crooke wrote about a “god of water,” known as Kawaj or Pir Badr in Bengal, propitiated by both Hindus and Muslims during rites of passage, boat trips, and on other occasions. In her 1984 ethnographic study of Bangladesh village women’s concepts of pollution, birth rites, and related cultural practices, Thèrese Blanchet mentions “Kwaz, the guardian of water...” as one of several godlings who “usually help enforce a code of conduct which maintains society in a civilized state.” (Blanchet 1984:41)

In this paper we first will review some day-to-day ideas about practical management and uses of domestic water sources for bathing, drinking, and cooking. Then we will discuss and analyze some of the less obviously practical dimensions of water -- its presumed magical and healing powers; its poetic uses, its spiritual value. We will conclude with some general observations on the arsenic problem.

### **3. Domestic Water Sources: Preferences, Choices, and Feelings**

There is much water in the Bangladesh and West Bengal region, which includes the delta of the Ganges, Brahmaputra, and Meghna rivers<sup>4</sup>. Parts of the region are dotted with rain-fed ponds. The ocean is nearby. Nonetheless, some areas face environmental problems related to water and water flow. There are areas that suffer from periodic droughts. Water in coastal regions has high salinity. Experiences with water are therefore not the same from one region to another.

The day-to-day picture of domestic water use is very complicated in Bengali-speaking rural communities. Especially in rural areas several different sources of water often are used for various domestic purposes. Although they may not always have access to their ideal sources, people have strong preferences.

#### *Bathing and Washing*

In one, well-watered southeastern Bangladesh area, Noakhali District, the most-used water source in both urban and rural areas is the family pond, most often a rain-fed water body<sup>5</sup>. It is used for all purposes except drinking: bathing, cooking, washing clothes, cleaning utensils, and washing cattle. Almost all of the more solvent Muslim residential compounds<sup>6</sup> of this area have two ponds. Each is

designated for use by different people and for somewhat different purposes. One pond is said to be located 'outside' -- i.e., just at the boundary, usually near the entrance. It is generally used by males and children. A different, 'inside' pond, located well within the compound boundary is used by women<sup>7</sup>.

The 'outside' pond is usually larger and cleaner than the 'inside' pond. The 'outside' pond is the preferred place for washing cattle; and the water is considered better for cooking. Men use this pond for bathing, washing some of their own clothes, and also for purification before prayer. The 'outside' pond is not used for washing kitchen utensils or preparing food for cooking. In some parts of Noakhali town people pump water from their ponds into their houses. Usually women wash kitchen utensils in the 'inside' pond. For cooking they send others to collect water from the 'outside pond', as they tend not to have easy access to it.

Rural and urban areas have many drainage canals for removal of rain water; some people use canal water for bathing, washing clothes, and other domestic purposes. Canal water tends to be polluted with trash, fecal matter from 'hang latrines', and waste from small industries. (Ponds also may have latrines emptying into them.) People in many parts of rural Bangladesh use canal water adjacent to their living areas for bathing, washing clothes, fishing, and other domestic purposes. Many express the view that canal water during the rainy season is not polluted, because it is 'flowing water'<sup>8</sup> and 'new water' that comes with the abundant rains.

Women in various parts of Noakhali District say that they like pond water for bathing and cooking because it feels 'weightless/light'. Pond water, because it is exposed to large amounts of sunlight and air, is said to be less 'cold' and not to cause 'fever' or 'nasal sinus congestion'. Pond water cleans clothes nicely. It is easy to wash in a large quantity of pond water. Pond water is thought to clean away all dirt better than tube well water<sup>9</sup>. Similarly, bathing in a pond cleans the body: every pore of the skin and every hair follicle is penetrated, making the body pure according to religious norms<sup>10</sup>. On the other hand, tube well water, coming from underground, is considered to be 'heavy', 'cold', and likely to cause fever and other cold-related sickness if used for bathing. Children are thought to be more vulnerable than others to this danger.

### *Drinking*

Most people drink only tube well water<sup>11</sup>. People love to drink tube well water, because, they say, it is 'nice', 'cool/cold'<sup>12</sup>, germ-free, and tasty. It looks clean and 'white', comes from under ground, and is a gift from God. In those places where no tube well is available people are still drinking pond water after adding alum, or in a few rare cases, after boiling it<sup>13</sup>.

### *Cooking*

For cooking, people of Noakhali mostly prefer to use pond water. Women say that it does not change the color or the taste of food. (Women of other areas express the same view. Most say that pulses are best cooked in pond water, because they become softer.) And they say that food cooked with pond water remains fresh for a longer time than food cooked with tube well water. In some cases people bring cooking water from large, protected ponds; but normally people use water from their common ponds for cooking.

Some changes have come with increasing tube well water usage over the past 20-30 years. For example, people who have their own tube wells occasionally use tube well water for cooking, but they first let the water sit overnight to allow time for iron oxide contents to settle. (High iron content is common in the water of this area.) Those who do not have access to ponds mostly use tube well water for cooking<sup>14</sup>.

### *Water Storage*

Noakhali District women interviewed are very much conscious about in-house methods of preservation of water for different purposes, as are women of other areas. After bringing water from a pond, they store it in at least two separate pots: one for cooking and drinking, and the other for common uses such as cleaning after defecation or urination. They never use one pot's water for the other pot's intended purpose. This is a strict observance. Noakhali women and others almost never fail to maintain this separation. If women do not keep their household waters separated, they will be socially criticized. People say that violation of this norm is 'hateful', making food 'unpleasant to eat' and 'distasteful, causing an unpleasant feeling'(DHV 1998).

### *Ideas About Pond Water*

The majority of people in the Noakhali region, like those from other regions, both men and women, think pond water is very good due to its large volume. One low-income man told us that according to Moslem doctrine (*hadith*), if somewhere more than 40 maunds – technically about 1500 kg., meaning 'a huge amount' -- of water exists, that water cannot be 'impure'<sup>15</sup>. Others have said that if the content of water is more than one 'leg' (approximately 18 inches, or one cubit) in depth is 'pure'<sup>16</sup>.

We have heard a variety of comments about the cleanliness of pond water. According to one Noakhali man, for example, pond water has no 'germs' and can clean all kinds of dirt, because dirt and germs go to the bottom of the pond, where fish clean the water by eating the germs. Another, more affluent man expresses the opposite view, that pond water can be contaminated with germs. Insects grow in pond water, whose surface may be covered with a layer of white or green scum. These germs are created, he says, by excessive washing of dirty clothes and utensils in a pond. The pond can be purified by using lime. Women of the Noakhali area say that water can be contaminated by rotten leaves falling from trees growing by the pond.

A report from Tangail District mentions some spiritual techniques for pond water purification<sup>17</sup>. Both Hindus and Muslims use such pond water purification method. The Muslim practice is described as follows:

A man walks down the steps leading into a pond. He takes some water in his hands. He recites some Koranic verses over the water and throws it into the pond, to purify the pond, [making it suitable for washing domestic items, such as dishes or clothing]. This is done for ponds, rivers, or canals. Women may also do this, following the same procedure<sup>18</sup>.

## **4. Water-related Beliefs, Rituals and Stories**

Cultural notions of 'purity' and 'pollution' are associated closely with ideas of water's spiritual power. Water is the purifying element above all others. According to Hindu belief, bathing in the Ganges River will remove all sins. One common saying is, 'Flowing water cleanses sin from the human body and the mind as well'. Both Hindus and Muslims wash before praying. Water plays an essential role in Islam. Without washing in water one cannot join in the daily prayer. Both men and women are prohibited from addressing God if the body is unclean. Head-to-foot washing with water is required of both sexes wishing to perform the rites of the minor pilgrimage and the great pilgrimage to Mecca. Muslims believe that holy water from *Jamjam* in Mecca will ensure fulfillment of any kind of wish, curing illness, succeeding in childbirth, and so on. People who bring it distribute it to many others including family and neighbors, who mix it with normal water to 'purify' it altogether.

### *Purity, Gender, and the Life Cycle*

Women's water usage is restricted at various stages of the life cycle. The most stringent restrictions are those imposed on women between menarche and menopause. When a girl matures, restriction of water use becomes an important part of her life. At the time of menstruation women are not allowed to touch common water sources such as ponds or tube wells. Nor are they to step on water access places: a pond's raised boundary, the steps leading down to a pond, or a tube well platform. A woman cleans polluted menstrual cloths with water outside of the commonly used sources, sometimes using highly polluted water from ditches or drains. These practices put women at risk of skin diseases and genital infections.

A menstruating woman is spoken of either as being 'sick' or 'impure'. Menstrual blood is regarded as a defiling substance that weakens women. Physical contact with menstrual blood is thought to destroy men's strength. A menstruating woman cooks for her family only after she has cleaned herself somehow. During menstruation women are forbidden to go to the river. It is believed that a boat carrying passengers may capsize if a menstruating woman is in it. A menstruating girl commits a sin if she sits in the place where elder family members sit or sleep. After her menstrual period is completed, a woman is required to bathe in a special way before resuming sexual relations with her husband.

A young wife is advised not to go to the pond in the presence of male members of the household. She is allowed to go in the company of few other women of the residential compound (*bāRi*). It is not permissible for a respectable young woman even to wash clothes in public places such as river banks, canals or pond access steps, because men might find parts of her body attractive, according to Aziz and Maloney (1985)

Men in Noakhali (and elsewhere) say that women are discouraged from using the 'outside' ponds because of purdah and their monthly polluted condition. One man said, 'Women's bodies are beautiful' and attractive. So, if a woman takes a bath in an open place, men will be sexually attracted and watch her lustily (*ku-drišTi* 'a harmful/sexual/evil look'). As purdah rules in Muslim communities forbid women from showing their bodies to 'outsiders' and 'unrelated men', women often must use comparatively dirty water from smaller, 'inside' ponds for bathing. In some cases, however, women go to the 'outside' ponds at night when nobody can see them.

According to women of Noakhali District and elsewhere, after having intercourse a woman must take a bath before sunrise. Similar practices are found among women of all religious groups. This must be done in the dark, so that nobody can see her 'shame'. She should not perform any household chores until she has bathed. In Islamic religious scripture there is a strict law requiring early bathing for both women and men after intercourse. The method of washing is 'head-to-foot'. In the case of women the requirement reportedly is more strictly followed, because they are primarily responsible for household chores, especially preparation and serving of food.

Restriction of water use comes again when a woman gives a birth to a child. According to Noakhali women of various socio-economic classes, and those from other rural areas as well, a woman is not to use water from the common pond for washing her body and unclean clothes just after giving birth. She very privately cleans her clothes and herself. If she does not have access to better sources, she will do so in a bushy, usually unhygienic place with dirty water from a ditch or drain. After her clothes and body have been cleaned roughly in such a place, they can be washed again in the common pond. Women learn these cultural rules from local 'elders/wise people' after marriage.

Bengali-speaking women of both Muslim and Hindu backgrounds observe a period of isolation after giving birth. It is the practice of Muslims to regard a woman's body as 'impure' for the first 40 days after she gives birth, a period called 'impure time'. Among Hindu and Muslim families alike it is the custom to have a mother and her newborn child stay in a special, separate room for some period of time. Women of both religious groups must wash their bodies by means of a special bathing method in order to return to a 'pure' state.

According to Aziz and Maloney (1985), a ritual is done for a child on the fifth or seventh day after birth. The newborn's hair and nails, which have come in touch with the blood of mother's womb, are considered impure and are removed. The baby is then bathed. After that a fresh mud wash is applied on the house. On the seventh day after a Muslim boy's circumcision, which is done by a professional Hazam, water is poured on his head, and he is bathed, according to the same source..

After death a body is always washed with water. In southeastern Comilla District Muslim families the water for this bath is heated, and some leaves of the *boRoi* plant are added to the water. This same community also has the custom of emptying a new clay pot of water on a grave at the end of a funeral. The pot is left resting upside-down on top of the grave before mourners depart. This is said to bring peace to the departed soul. From Delduar sub-district of Tangail District, another use of water in funerary ritual is reported: At the very end of a Muslim funeral, as people are preparing to leave the burial ground, the Imam throws some water onto the grave. Further information is yet to be collected from specific regions on rites of passage: birth, maturation, circumcision, marriage, widowhood, and death.

#### *A Fortune-telling Event After a Marriage*

In Delduar sub-district, of Tangali District, there is a custom observed by rural people when a bride first enters her husband's family home:

A man comes to his own house with his new wife. In front of all relatives and others, someone throws some water on the courtyard. The bride goes into the house, walking over that mud. The meaning is to ensure a good future, good fate. She is not wearing shoes. People observe her footprints and predict whether she is 'having a good future/lucky'. This ensures a good future.

#### *Efforts to Bring Rain*

For people whose principal occupation is agriculture, proper rainfall is essential. There are several ways in which farmers try to ensure adequate rainfall. Many pray, sometimes offering prayers in the genre of songs known as those to invite rain.

Another report from Tangail District describes a ritual to bring rain. This activity is (or was) done jointly by residents of a village regardless of religion. The last reported event was in the mid-1970s. The report is as follows:

At the dry season people feel worried and anxious. They pray for rain. A 'Spiritual leader' performs 'Vedic prayer/incantation', setting a large water pot in a certain place and reciting the prayers. The prayer gives the water some 'heavenly power'. This water is poured all over the earth of a courtyard. The spiritual leader brings young children into the courtyard with no clothes on. He requests the naked children to roll in the soil and make it 'muddy'. This is done in one specific neighborhood. The children roll around in the mud. It is believed that God will give rain. Then the spiritual guide gets rice from everyone in the neighborhood as

payment for his service. This is a kind of business for him. Muslims and non-Muslims -- Buddhists, Christians, or Hindus -- all participate.

### *Pond Myths*

Many of the larger ponds or lakes in the Bengali cultural region have their own myths. Often one hears of a pond in which some spirit is said to live; or a pond which would not hold water unless some type of sacrifice was made; or a pond which gives up wealth to people in the vicinity. Three such myths are presented below.

1. In Delduar Town, of Tangail District, there is one huge pond/lake that was dug by a zamindar, a wealthy land-holding revenue collector during the British colonial period. His daughter was very ill. All efforts to treat her failed to cure her illness. One night the zamindar was told in a dream to dig a big pond and offer it for the use of all the people, not to use it privately. He was told in the dream that his daughter would be cured soon if he did this. It worked.
2. One Noakhali District (Ramganj sub-district) pond is located at Kanchanpur Dorga Bari. To this place an especially spiritual Muslim man and his sister came from Baghdad to spread Islam. They died in this place. The pond close to the graveyard gave forth all kinds of cooking and eating utensils made of gold and silver every year for use in a festival named Orosh. It is said that once a golden spoon was stolen, and the pond never provided the vessels and utensils again. Many people come to the graveyard to have special wishes granted.
3. The third is more of a folktale than a myth. But similar types of stories are told about specific water bodies of the Bengali cultural landscape. This is the story of "Shorola-Gorola":

One day two girls talked as they played with each other. One said, 'Your mother is good/simple (*šorola*)', and the other said, 'Your mother is not-good/'complex' (*gorola*)'. As they were playing, they fell into the pond. The 'good' girl went down under the water, where she saw an old woman weaving. She felt upset, bad about upsetting her, and apologized. The old woman, upon seeing her, gave her a nice smile. She gave her a box filled with gold and silver. When she touched the box, Shorola changed from being a child into a pretty adolescent girl.

When Gorola and her mother saw the young woman, they wanted to know how she had become so grown up and pretty. When they heard about Shorola's experience, the mother told Gorola to go under the water as she had done. Shorola told her that under the water she would see an old woman weaving. She told her what to do.

When Gorola got down under the water and saw the old woman weaving, she spoke to her in a demanding voice. 'You gave Shorola a box. Give the same box to me'. The old lady became unhappy but did give her a gold box. When Gorola touched the box, she became an adolescent too, but an ugly one. Her face was very ugly.

### *Wish-granting Ponds*

Some believe that water from a mythic water body can fulfill wishes and cure sickness. In Noakhali District, for example, there is pond named Fuldan. The myth of the pond is:

Once there was a man name Fuldān, he dug a pond but no water was there. Then he disappeared within the pond and the hole was instantly filled up with ground water. People believe this was a 'miracle of God'; and ever since then, the water of that pond has been considered to be holy water. Many people, both male and female, visit the place with 'wishes'. Women from different areas come to visit in hopes of conceiving a child, having a son, finding a missing son, retrieving lost items, such as missing gold ornaments, and curing illness. Some women said that whenever they need to, they come for fulfillment of a wish. They bathe in the pond, drink the water, and bring some water to their houses for later use as a healing agent. One woman said she went there after she had a dream in which she was advised to visit there. Many agree that their wishes have come true after using that holy pond water.

Langalbandh is a place of Hindu pilgrimage in Narayanganj District, at the Brahmaputra River. According to Hindu people's beliefs, the river is the son (*putro*) of Lord Brahma, the god of creation. Every year on the 8<sup>th</sup> day of the lunar month of Chaitra (March-April) people come to dip in the holy waters of Brahmaputra. This act is thought to allow pilgrims to be absolved of their sins, and also to acquire multiplied merit equivalent to several pilgrimages at a time.

Madhob Kunda is another Hindu pilgrimage center situated in Moulvi Bazar District, in northeastern Bangladesh. Pilgrims come to this place on the 13<sup>th</sup> day of the lunar month of Chaitra (March-April). They take a bath in the waterfall coming down from a natural water reservoir, or *kunDo*. This bathing is called *Baroni Snān* (*snān* means 'bath'). It is believed that all sins are released into the water.

### *Healing Waters*

A few medical anthropology studies document rural Bengali people's beliefs about illness, health, and healing. Patterns of belief are generally similar throughout north India and Bangladesh. Illness is most often attributed to the actions of 'wind', the physiological effects of 'hot' or 'cold' foods, and/or the whims of mischievous or destructive 'ghosts' or other spirits.

According to ethnographic reports from Bangladesh (especially Blanchet 1984 and Islam 1985), women primarily seek help from folk healers – known as *kabiraj*, *fakir*, or by other titles -- who specialize in herbal remedies and/or detecting the causes of illnesses and channeling spiritual forces that can combat or fend off perceived causes. The allopathic medical system is available in district, sub-district, and some union-level health centers. The system, however, is not always accessible or affordable to poor people or women. Rural clinics are not always fully staffed. Expensive medical treatments in governmental or private clinics and hospitals are more frequently used by males than females in the same family. This seems to be true of all socio-economic groups, according to literature (Islam 1985) and our informal observations.

Water-related cures are used widely by folk healers in Bangladesh. (Blanchet 1984, Islam 1985). Islam mentions that a healing amulet, for example, might be immersed in water, which absorbs its spiritual power and can heal a patient who drinks that water. Similar beliefs and practices are described by Lewis (1958), Freed and Freed (1979), and other in northern India ethnographers.

Other folk healing practices include manipulation of water as a purifying or healing substance. Women of Noakhali go to a religious person for 'healing waters', provided by either a Moulvi or a Gunin, a healer who works with holy book and water, to help grant wishes. Specific problems mentioned by women are: problems with child birth, infertility, problem in menstrual period (pain, bleeding, 'blocked blood'), fever, protecting marital life and relationship, and others. The spiritual persons collect water from some specific places, such as river water at the time of tidal changes, or water from special, private ponds that are restricted from use by the general public.

Further health-related reports, from Tangail District, are as follow:

1. If someone is seriously ill, feeling abdominal pain, s/he goes to a folk healer, a *kabirāj* or a *fakir*. The healer suggests taking some tidal river water while facing to the west. The water must be collected in a new earthen pot. The kobiraj/fokir recites some blessings/words and blows three times on the water. The water is then drunk by the patient.
2. If a woman is in labor too long, a fokir may come to her house and give her ‘fokir water’ over which some blessings have been said. Or an Imam may say some prayers over ‘*Jamjam* water, collected from a pilgrimage/*hājj* [to Mecca]’. The woman drinks it.
3. Water is used by a Fokir to treat a mental patient. He has puffed/blown on the water while reciting some special words. This water thus attains the capacity to remove ‘ghost power’ assumed to be causing the mental problem. The application procedure is: sprinkle the water around the house and/or around the patient’s body; or give it to the patient to drink.

This type of remedy, along with other water-related cures, is also mentioned in Bangladesh ethnographies. (Blanchet 1984, Islam 1985). Islam mentions that a healing amulet, for example, might be immersed in water, which absorbs its healing power and can heal when drunk by a patient. The amulet contains a paper with a prayer written on it.

#### *Medicinal Uses of Hail*

People of Delduar, in Tangail District, collect hail in a bottle and keep it for later use. People believe that this water can remove any kind of problems, mental or physical.

### **5. Interpretation: Culturally Defined Qualities and Powers of Water**

Some cross-cutting themes emerge from this brief overview of water-related beliefs and practices. Some of these cultural representations of water clearly indicate assumptions about its qualities and powers. Some other assumptions are only hinted at in this corpus of ethnographic information. Qualities and powers implicitly or explicitly attributed to water are summarized in Table 1.

**Table 1. Some Implied Attributes, Qualities, and Powers of Water**

<b>Implied Attribute, Quality, or Power</b>	<b>Illustration: Cultural Practice, Belief, or Story</b>
<p><b>Transformative</b></p> <ul style="list-style-type: none"> <li>• Can produce changes in status</li> <li>• Divides one status/condition from another</li> </ul>	<p>Bathing/Washing: removes ‘pollution’, creates a state of ‘purity’</p> <p>Washing/pouring water in rites of passage, such as birth, circumcision, death</p> <p><i>Jamjam</i> water from Mecca:</p> <ul style="list-style-type: none"> <li>• Used to purify household pond water;</li> <li>• Sprinkled around in ceremony for a new home</li> </ul>
<p><b>Absorptive</b></p> <ul style="list-style-type: none"> <li>• Capable of absorbing spiritual messages, thoughts, powers, and holiness</li> </ul>	<p>Water from Mecca carries holiness</p> <p>Putting amulet (containing a written prayer, a <i>tābīj</i>) into water, which then gains healing power</p>

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<p><b>Absorptive</b></p> <ul style="list-style-type: none"> <li>• Capable of absorbing spiritual messages, thoughts, powers, and holiness</li> </ul>	<p>Water from Mecca carries holiness</p> <p>Putting amulet (containing a written prayer, a <i>tābīj</i>) into water, which then gains healing power</p>
<p><b>Carries away sins</b></p> <ul style="list-style-type: none"> <li>• Absorbs and removes sins from a person’s body</li> </ul>	<p>Hindu and Muslim pilgrimages to bathe in special waters</p>
<p><b>Healing/Protective</b></p>	<p><i>Jamjam</i> water from Mecca:</p> <ul style="list-style-type: none"> <li>• Used in healing illnesses;</li> <li>• Sprinkled in house to protect it from evil spirits or possession by dangerous ghost powers</li> </ul> <p>Healing waters of special ponds</p>
<p><b>Enforces moral codes</b></p> <p>A Demander, Provider, and Challenger of humans</p> <p>A home for spirits who give to and take from humans:</p> <ul style="list-style-type: none"> <li>• A subterranean/under-the-surface home of spirits with power to bestow wealth on human beings;</li> <li>• Place of spirits who demand sacrifice in exchange for bounty to be provided;</li> </ul>	<p>Large Ponds/Lakes (<i>dighī</i>) that</p> <ul style="list-style-type: none"> <li>• Produce wealth</li> <li>• Respond negatively to misdeeds, especially violation of moral codes. (Example: Kanchanpur Dorgabari, producing gold and silver vessels until someone stole a spoon)</li> <li>• Require human sacrifice before they will hold water (Example: Fuldan pond that filled with water only after a man was sacrificed to it)</li> </ul>
<p><b>Changes earth into a material supportive of food &amp; other plant growth, and perhaps metaphorically promotes family growth as well.</b></p>	<p>Creation &amp; use of mud as part of folk rituals (extent of this practice unknown):</p> <ul style="list-style-type: none"> <li>• Mud (water+earth) Absorbing the footprint of a new bride in the ‘central courtyard of a rural home’, forecasting her future contribution to the family</li> <li>• Naked children rolling in mud as part of rain-making ritual</li> </ul>

<b>Implied Attribute, Quality, or Power</b>	<b>Illustration: Cultural Practice, Belief, or Story</b>
<p><b>Transformative</b></p> <ul style="list-style-type: none"> <li>• Can produce changes in status</li> <li>• Divides one status/condition from another</li> </ul>	<p>Bathing/Washing: removes ‘pollution’, creates a state of ‘purity’</p> <p>Washing/pouring water in rites of passage, such as birth, circumcision, death</p> <p><i>Jamjam</i> water from Mecca:</p> <ul style="list-style-type: none"> <li>• Used to purify household pond water;</li> <li>• Sprinkled around in ceremony for a new home</li> </ul>
<p><b>Absorptive</b></p> <ul style="list-style-type: none"> <li>• Capable of absorbing spiritual messages, thoughts, powers, and holiness</li> </ul>	<p>Water from Mecca carries holiness</p> <p>Putting amulet (containing a written prayer, a <i>tābīj</i>) into water, which then gains healing power</p>
<p><b>Power increases as volume increases</b></p>	<p>Comments that large volume of water in ponds, lakes, and rivers ensures ‘purity’</p>
<p><b>Strong flow improves quality</b></p>	<p>Comments about water being especially good and ‘new’ during the rainy season</p>
<p><b>Dynamic, moving force: metaphor for time, tradition</b></p> <p>Also can represent:</p> <ul style="list-style-type: none"> <li>• Historic change-<i>cum</i>-continuity in a family</li> <li>• Strengths of personal character based on history, cumulative tradition</li> <li>• Possibly also: Metaphor for family growth</li> </ul>	<p>River imagery in proverb: ‘A black daughter from a good family is good; and muddy water from a [big, strong, high volume] river also is good’.</p>

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## 6. Public Health Implications

Safe water protects people from all sorts of health problems, especially diarrheal diseases (cholera, dysentery), typhoid, hepatitis, and arsenicosis. So there is a need for a comprehensive approach to over-all water safety. Some agencies are adopting such an approach nowadays.

The cultural beliefs about water’s magical or spiritual properties discussed in this report do not prevent behavior change. In fact major changes in domestic water use have occurred in recent decades. Increasing numbers of people have stopped drinking surface water and installed tube wells. Tube well water, which is relatively pathogen-free, is widely preferred for drinking for this reason. From the early 1980s until recently, the public responded energetically and positively to the concerted efforts of governmental, non-governmental, and international agencies to promote tube well water as ‘safe’ water. Despite their affection for ponds, most rural people came to recognize that drinking surface water could cause disease.

The problem of making safe drinking water generally available, however, was not solved. Just as most people came to trust their tube well water, Bangladesh and West Bengal were inundated with messages that it was in fact contaminated with one kind of ‘poison’, namely arsenic. As the water of some 17% of Bangladesh ‘shallow’ tube wells have been found to have unacceptable levels of arsenic, the affected public once again faces official pressure to change drinking water habits<sup>20</sup>. Cooking habits also need to change, because boiling increases the concentration of arsenic in water, making it even more unsafe.

The present situation is rather confused. Some people think that boiling can remove arsenic, perceived as a germ or disease. Others think that the problem is in the tube well mechanism itself and that a new tube well might solve the problem. We have met people who are so frightened, that they will not even wash their clothes in arsenic-affected water. A few have gone back to drinking surface water. Some doubt the accuracy of water tests done by trained village screeners. A great many somehow ‘forgot’ about the arsenic problem, when no deaths were officially attributed to consumption of arsenic-contaminated water. Acute arsenic-related illness occurs only in a few places. Most people in affected populations do not recognize arsenic’s health effects, even if they are present. Anxiety levels have declined.

Those who do recognize the problem face numerous practical challenges in solving it. Arsenic removal technologies are successful in many places, but they tend to be somewhat expensive. Deep tube well installation is not an option for many communities. Filtering pond water or river water is technically feasible, but ponds are inherited like land and thus owned by multiple families, who must all agree to reserve them for drinking purposes only. Some changes require that people of one locality cooperate in maintaining their new sources, and that they share them. This is important obstacle, as the shallow tube well was greatly appreciated as a way of avoiding conflicts that inevitably arose when people of different households (or even different neighborhoods) used to share water sources.

At the beginning of this paper we mentioned the problem of raising public awareness. One intellectual difficulty involved in educating the public about the arsenic problem is the idea of a ‘slow-acting poison’. It tends to take some years for affected people to develop skin lesions, cancers, or other symptoms of chronic arsenic poisoning. Most Bengali speakers think of a ‘poison’ as a fast-acting agent. A ‘slow-acting poison’ is an almost impossible idea. We have asked village people in arsenic-affected areas, What is arsenic? About half say it is a ‘poison’, and the others say it is a new kind of ‘illness’ recently discovered in water.

We are hoping that public health professionals will be able to use the cultural insights our research is producing. Specific areas of water-related belief and practice need to be explored more fully with specific groups of women and men, in order to test the potential for needed change in habits of thinking about and use of arsenic-affected water sources.

The interpretation already done suggests at least one possible lead. Considering that water is considered to have extraordinary absorptive powers, it seems possible that people assume it is absorbing this arsenic ‘poison’ or ‘disease’. We have not yet been able to pursue this line of discussion in field interviews.

In both India and Bangladesh the arsenic problem, once front page news, has almost disappeared from public discourse. Public health officials nonetheless have an obligation to remain vigilant, even if the general public is not as alarmed as they might be. At a minimum officials must:

- a. Continually remind people that the arsenic problem still exists;

- b. Continue to promote multiple safe water alternatives, such as filters for surface water, protected dug wells, and so on;
- c. Require that water testing become a routine part of new tube well installation;
- d. Make water testing conveniently available and inexpensive;
- e. Train local people to repair water treatment equipment, and/or support repairs and maintenance; and
- f. Encourage locally initiated problem solving.

It is our hope and our expectation that communication about arsenic will improve as cultural insights suggest new ways to talk about the problem – ways that take into account the kinds of cultural assumptions our research is identifying, ways that will resonate with other feelings and ideas that people have about water.

## **7. Conclusions**

The practices described here provide glimpses into the deep thinking and cultural assumptions of some Bengali-speaking people about meanings, types, and uses of water. Water has an important place in daily life, in the life cycle, and in health-related ideas and practices. Some of the water-related practices described above, especially those concerning menstrual and birth pollution, affect women's health. Water related behavior and ideas provide insight into gender relationships, visions of the spirit world, and strong feelings about 'purity' and 'pollution'. Water has been of utmost importance in the transfer of knowledge from generation to generation. Water-related language and practices enable people to express and encode indigenous environmental knowledge and reproduce their cultural values and traditions.

Further investigation will reveal many more such beliefs and practices. Considering the differences among environments of the region, and also variations in regional history, it is clear that water-related cultural traditions and practices will vary from place to place, perhaps also from group to group. But variation among Bengali speakers is likely to occur within the framework of shared cultural themes of the sort indicated above. Present and planned research work can, we hope, deepen understanding of the rich cultural heritage of Bengali speaking people, and also help to improve Bengali-speaking people's capacity to cope with arsenic and other safe water challenges.

## Glossary of Bengali Terms Used

Note: Bengali terms are transliterated according to the following convention: retroflex consonants are indicated in capital letters: R for /ɽ/, N for /ɳ/, T for /ʈ/, and D for /ɖ/. Aspirated consonants, such as /bh/ are transliterated with an -h. The -sh- and -ch- sounds are transcribed as ś and č, respectively. The ‘short’- a vowel, which is pronounced as either /ɔ/ or /o/, is transcribed as a or o depending on pronunciation. ‘Long’ vowels are transcribed as ~, ṡ, ā. There is regional variation in pronunciation.

Alum	<i>fitkiri</i>
Bathing the body	<i>snān</i> [or]
Full, head-to-foot bath	<i>ghuśl</i>
Blocked blood [an illness]	<i>bādhak rog</i>
Canal	<i>khāl</i>
Central courtyard of a rural home	<i>uthān</i>
Cold/Cool	<i>ThāNDā</i>
Dirt/Garbage	<i>nongrā</i> (or) <i>moylā</i>
Distasteful, causing an unpleasant feeling	<i>śok-lāge</i>
Elders/wise people	<i>murubbī</i>
Fever	<i>jor</i>
Folk healers	<i>kabiraj, fakir, gunī n, moulovi</i>
Germs (Noakhali, lit. ‘living things’)	<i>jibānu</i>
Hail	<i>śiler pāni</i>
‘Hand’: from elbow to hand only	<i>hāt</i>
	Hateful/Despicable (Noakhali word)
	<i>ghinnā</i> <sup>21</sup>
Heavenly power [can be bestowed on water by prayer]	<i>upor u-ālār khomotā</i>
Heavy	<i>bhāri</i>
Illness	<i>rog</i>
‘Leg’, from knee to foot only	<i>hāTu</i>
Lime (quicklime, alkalai containing calcium)	<i>čun</i>
Looking at someone with evil intent, lust, or afflicting with ‘evil eye’	<i>čok kārāp</i> , lit. ‘bad/harmful eye’ (or) <i>ku-driśTi</i> ‘a harmful/sexual/evil look’
Luck-producing, having a good future (term used in reference to a bride)	<i>bhaggoboī</i>
Miracle of God	<i>gāyebī</i>
Mud, rubbing and smashing, becoming muddy	<i>kādimāākhāmākhi</i>
Nasal/Sinus congestion	<i>śordi</i>
Neighborhood, section of a village	<i>pāRāā</i>
Outsiders (persons not of the house/family)	<i>begānā</i>
Paper with prayer written on it (enclosed in an amulet)	<i>tābī j</i>
Pilgrimage, minor	<i>omrāh</i>
Pilgrimage to Mecca	<i>hāj</i>

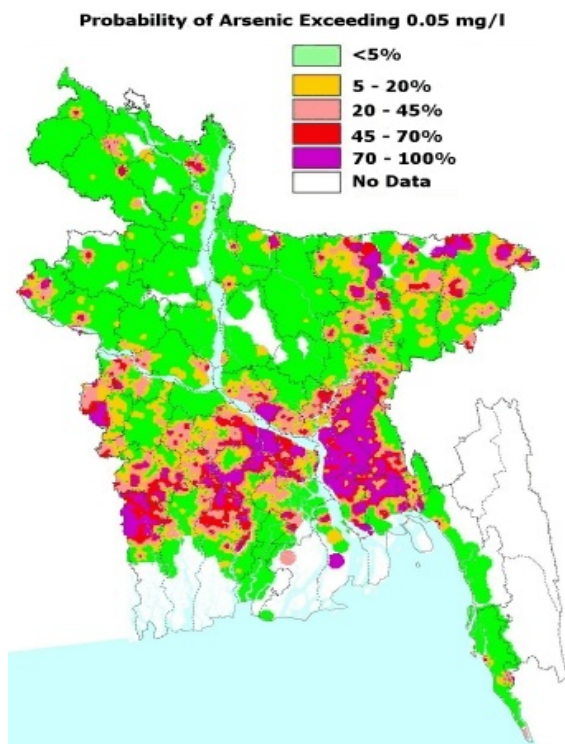
Poison	<i>biṣ</i>
Pollution	<i>āpabitra</i>
Impure	<i>nāpāk</i> (lit. ‘not pure’)
Impure time after birth	<i>nāpāk shomāy</i>
Pond	<i>pukur</i> (‘ordinary pond’)
Raised boundary of pond	<i>dighī</i> (‘very large pond’/‘lake’)
Steps leading to a pond (or river)	<i>pāR</i>
Prayer (Muslim term)	<i>ghāT</i>
Purify, remove sins	<i>nāmāj</i>
Purity	<i>pabitra hoa, pāp močan</i>
Residential compound	<i>pabitra</i>
River	<i>bāRi</i>
River (Noakhali term)	<i>nadi</i>
Room where woman stays after giving birth	<i>dariyā</i>
Shame	<i>chhoTo ghar</i> , lit. ‘small room’ (or) <i>āthur ghar</i>
Sick	<i>lajjā</i>
Spirits, ghosts	<i>soṛī r khārāp</i> lit. ‘bad body’ (reference to menstruating state)
[may cause illness or other troubles]	<i>bhū t</i> ‘ghost’, <i>jī nn</i> ‘mischievous spirit’
Ghost power (a dangerous force)	<i>bhūter āšoR</i>
Spiritual leader (Tangail term)	<i>mantro dātā</i>
Hindu prayers/incantations	<i>vedik mantrō</i>
Spiritual Muslim man	<i>pī r</i>
Steps (see Pond)	
Sunlight and air	<i>ālo-bātāś</i>
Underground	<i>pātāl</i>
Unpleasant to eat [food]	<i>bhakti</i>
Unrelated men (men not of the house/family)	<i>porpuruś</i>
Vessel or pot, to hold water	
Earthen/Other pots used in rituals, healing	<i>kolśī</i> [approx 17 liters], <i>pāilā, pātil, or khoRā</i>
Water:	<i>pāni</i> (or) <i>jal</i>
Flowing water (Comilla District term)	<i>Dhāner pāni</i>
Healing water [has absorbed blessing]	<i>pāni poRa</i>
Natural mountain reservoir	<i>kunDo</i>
New water (Comilla)	<i>noa pāni</i>
Water collected from Mecca pilgrimage	
Also called <i>Jamjam</i> water	<i>ārabir jāmjāmīr pāni</i>
Water blessed by a folk healer (fokir)	<i>fakirī pāni</i>
Weightless/Light	<i>pātālā, hālkāā</i>
Wind	<i>bātāś</i>
Wishes	<i>mānot</i>

Map





Map 1. Bangladesh and



Map 2. Arsenic affected areas of Bangladesh: Map from Arsenic Crisis Information Centre (<http://bicn.com/acic/>)



Map 3. Districts of Bangladesh



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## Endnotes

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<sup>2</sup> .

The exact number of people affected remains uncertain, but it is now generally agreed that between 20-25 million people in Bangladesh alone are at risk of exposure to arsenic, meaning they drink or cook with tube well water containing over 50 micrograms/liter of arsenic, which is the Bangladesh standard. Around 14 million people in eight districts of West Bengal are at risk of exposure (UNICEF, 2004).

<sup>3</sup> . Blanchet (1984) and Islam (1985), who did ethnographic research in two different districts of Bangladesh, both mention that some village women, at least, regard Hindu spirits as real and as having an influence over their lives, although as Muslims they are prohibited from paying them obeisance or performing other kinds of worship for them.

<sup>4</sup> . The average annual rainfall varies from a maximum of 5,690 mm in the northeast of the country to minimum of 1,110 mm in the west. The groundwater, however, provides adequate storage to compensate for annual variations in rainfall and stream flow. The average annual discharge from the three major rivers - a total of 35,000 cusec- is second only to the Amazon. (Discovery Bangladesh, 29 October 2007: [http://www.discoverybangladesh.com/meetbangladesh/rain\\_weather.html](http://www.discoverybangladesh.com/meetbangladesh/rain_weather.html)) Regional droughts may be caused by inadequate seasonal rainfall, by blockages caused by raised road-beds or water control structures, or by diversion of rivers and other human interventions.

<sup>5</sup> . Noakhali information was collected by Shireen Akhter. Some is published in DHV 1998 & DHV 1999.

<sup>6</sup> A residential compound in Noakhali (*bāRi*) typically has multiple households.

<sup>7</sup> . This pattern of 'inside/outside' ponds also is found in some other rural areas. 'Inside' ponds often are fenced in by bamboo, tin sheets, or cloth, depending on the economic conditions of the household. Some encircle the whole pond dike (*p~r*), while others shield only the steps (*ghāT*) leading down to the pond. (Sources: DHV 1998; Shireen Akhter 2007 small group discussions with Noakhali *char* women in Hatiya sub-district; and Kazi Rozana Akhter information on Comilla)

<sup>8</sup> Comilla District term

<sup>9</sup> Source: males, females in Noakhali

<sup>10</sup> . Source: Group discussion in Noakhali *char* 'sandbar island', many women from Hatiya sub-district (Shireen Akhter)

<sup>11</sup> . Two kinds of tube wells are 'shallow', taking water from underground sources from 12 - 30 m., and 'deep', which are usually dug to more than 50 m. Water from shallow tube wells is far more likely to be contaminated with arsenic than that from deep tube wells in affected areas such as Noakhali.

<sup>12</sup> .The positive term for 'cold' (*ThāNDā*) in this context is the same word as the negative term used earlier as an explanation of why it is not good to bathe in tube well water. Used in the negative sense, the term refers to illnesses thought to be caused by exposure to cold. Used in the positive sense, it has the connotation of cooling, soothing, and producing a peaceful feeling.

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. DHV 1998, DHV 1999; Shireen Akhter interviews in Noakhali *char* areas.

<sup>14</sup> . United Nations Foundation 2003

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. A maund is a unit of weight used in South Asia. By the definition of the India Standard Weights and Measures Act of 1956 (amended 1960, 1964) one maund weighs exactly 37.3242 kilograms. To our knowledge, there is no such teaching in the religious texts.(Shireen Akhter 2007 interview)

<sup>16</sup> Source: males and females in Noakhali

<sup>17</sup> . This type of procedure is known to be used in several regions for purification of small (*pukur*) and large ponds (*dighi*), as well as for rivers and canals.

<sup>18</sup> . Information from Anwar Islam, February 2007

<sup>19</sup> . *Jātir meye kālo o bhālo*  
*Nadir jal gholā o bhālo.*

<sup>20</sup> . If the World Health Organization safe arsenic guideline (<10 micrograms/liter) is followed, then the water of more than

<sup>21</sup>. This is a local pronunciation of the Bengali word *ghrin*~, meaning 'hatred'.