



11 Spaces of Power, Places of Hardship

Rethinking Spaces and Places through a Gendered Geography of Water

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Water plays a crucial role in all life and livelihoods. Water also critically influences how daily life is socio-spatially organized and structured, and the ways that social inequalities are (re)produced through spatial practices of water. This chapter focuses on the ways that gender, space, and place come together to interplay with domestic water needs in mediating the ways that people negotiate and (re) produce social and spatial relations, particularly in the context of development practices. While concepts such as place and space have been long debated in geography and other disciplines, theorizations of place and space have been richly enhanced by feminist scholarship in recent decades. In this chapter, I engage such scholarship to further extend conceptualizations of space and place by bringing attention to the role of nature as well as gendered social power. Drawing on research conducted in several rural districts in Bangladesh, I look at the spatial distribution of drinking water sources and how their contamination from arsenic has come to influence gendered spaces, spatial practices, and meanings of place (see also, Sultana 2006, 2007a, 2007b, 2007c, 2009a, 2009b). The chapter elucidates that places and spaces are intricately intertwined in the ways that individuals and households relate to water and how water management comes to complicate gendered spaces and places. By engaging with feminist geography debates on space

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and place, as well as those of feminist political ecology, I highlight that micro-scalar geology/ecology play important roles in the ways that gendered spaces and places are constructed and negotiated. As such, the ways we understand space and place are not only through social power relations and discourses, but also local geological/ecological contexts and everyday resources management practices. The gendered geographies of water thus come to complicate our understandings of places and spaces.

SPACE, PLACE, GENDER, WATER

Scholars from different theoretical backgrounds and disciplinary leanings have studied how gender comes to matter in the ways spaces and places are constructed, as well as the ways that gender relates to environmental management in the context of development. Feminist scholars have criticized development approaches that have tended to be gender biased, arguing for greater analysis of gendered relations and social power (Jahan 1995; Kabeer 1994; Momsen and Kinnaird 1993; Moser 1993; Visvanathan *et al.* 1997). Scholars have also argued that focusing on the highly gendered nature of knowledge of, access to, control over, and utilization of natural resources is critical to understanding broader nature–society relationships (Agarwal 1992, 1994; Carney 1993; Jackson 1993; Joekes *et al.* 1995). Feminist geographers studying nature–society relationships have noted that struggles over nature/water often reflect gendered struggles over power (Rocheleau *et al.* 1996). Further scholarship has posited that gender is constituted through environmental practices (Carney 1993; Nightingale 2006; Schroeder 1999; Sultana 2009a). Feminist geographers have long argued that gender varies historically and geographically, and is a product of specific practices, places, spaces, and discourses (Domosh and Seager 2001; Jones *et al.* 1997; Massey 1994; McDowell 1999). As such, water management practices can play an important role in how gender is constituted and understood in specific contexts (Crow and Sultana 2002). For example, certain notions of masculinity and femininity are associated with certain tasks related to water management. In many parts of the world, as in Bangladesh, irrigation is often constructed as a masculine activity, while drinking water provision is constructed as a feminine activity, and each type of water is often sourced from different places and gendered tasks are spatially organized accordingly. Such socio-cultural practices and beliefs tend to reproduce the gender division of labour vis-à-vis water, and thereby stabilize certain gendered identities and masculine/feminine

behaviour through different spatial practices in relation to water. As a result, in addition to class, caste, and other axes of social difference, water can come to play a role in how certain social inequalities and subjectivities are produced and constituted in different places and spaces (see also, Sultana 2009a).

Historically, gender hierarchies and understandings of gender relations have been culturally constructed, socio-spatially organized, and ideologically sanctioned in Bangladesh. As such, public activities and wage labour are historically seen to be the domain for men and housework and domestic realms are seen to be the domain for women. Gendered locations also influence access to, control over, and knowledge of natural resources. Gender articulates and intersects with multiple axes of difference, such as class, caste, age, and geographical location, in complex ways in determining the position and power that individuals have in accessing and using scarce resources, such as safe water. In a predominantly patriarchal setting, social constructions of gendered rights, responsibilities, and roles complicate the ways by which men and women's livelihoods and lives are affected by water scarcity and stress. In general, women and girls are responsible for collecting and providing for domestic water needs and managing household water usage, irrespective of the availability of water nearby. Scarcity of safe potable water can thus considerably influence gender relations as well as hardship. As such, access to water—deemed as a basic need and even a basic human right—is a gendered question. Changing water regimes and related ecological degradation can, as a result, have adverse gendered impacts, particularly for poor women.

In large parts of Bangladesh, such concerns have become critical with the discovery of arsenic in groundwater sources, which has exacerbated drinking water scarcities and conflicts over water in many districts. Scarcity of safe potable water has resulted due to the presence of variable amounts of naturally occurring arsenic in groundwater sources that provide drinking water to up to 80 million people, currently exposing over 35 million directly to arsenic poisoning (Ahmed and Ahmed 2002; Atkins *et al.* 2007). Arsenic contamination of drinking water emerged as an issue due to widespread usage of groundwater sources in recent decades via the installation and usage of handpumps known as tube wells. Smith *et al.* (2000), writing in the World Health Organization (WHO) Bulletin, poignantly stated that the current situation in Bangladesh presents the largest mass poisoning of a people in history. The lack of alternative drinking water sources, the growing incidences of arsenicosis

(arsenic poisoning), and social implications of water poisoning remain a problem. Yet, gendered analysis of this crisis has been largely neglected, while the outcomes are clearly gendered.

This drinking water crisis is particularly being felt along gender and class lines in rural areas of Bangladesh, where water provision is not centralized and varied water access regimes exist in a densely populated landscape. In addition to increasing hardship from reduction in safe water sources in recent years due to arsenic, health-related impacts from consuming contaminated water are also playing out along gender lines, where illnesses result in both challenges to fulfilling socio-culturally defined gender roles and responsibilities as well as increasing ostracization of those showing visible signs of arsenicosis (Sultana 2006, 2007c). Gendered locations thus intersect with spatiality of water contamination to produce situations where poor households are further marginalized. In this chapter, I demonstrate that space, place, gender, and geological/ecological conditions interact in producing spaces and places of power and hardship in social relations, thereby exacerbating spatial inequalities. The chapter also highlights the ways water management practices come to constitute and reinforce certain notions of gender difference and thereby mediate socio-spatial organization of everyday life.

SPATIALIZING AND PLACING THE WATER CRISIS IN BANGLADESH

Bangladesh is predominantly in a deltaic landscape where arsenic (a toxic, carcinogenic metal) occurs naturally in the aquifer sediments in many parts of the country (Ahmed and Ahmed 2002; Smith *et al.* 2000). Millions of Bangladeshis drink water from tube wells that pump up groundwater, which contains arsenic in varying degrees of concentration and risk. Unfortunately, drinking water was not tested for arsenic for many years until the late 1990s, when the Bangladesh government, along with international donors and non-governmental organizations (NGOs), undertook sampling of tube wells in several parts of the country and found that the arsenic levels in over 50 per cent of the tested water sources were much higher than permissible levels.¹ Arsenic occurs mostly in the shallow aquifers (approximately 10–70 metres below surface), which is where the vast majority of the drinking water and irrigation tube wells tap into; high levels of arsenic have shown up in drinking water in majority of the districts in the country, albeit with considerable spatial heterogeneity (Alam *et al.* 2002; Kinley and Hossain 2003; Paul and

De 2000; WSP 2002). Amongst the millions of people who have been consuming, and are continuing to consume, trace amounts of arsenic in their water, morbidity and mortality rates are increasing.

Chronic exposure to arsenic-laced water through consumption results in arsenicosis, which generally manifests largely through skin lesions and spots, often followed by cancer of the skin, liver, lungs, and kidney, and various internal organ failures that can lead to death. As clinical manifestations of arsenicosis can take up to 10–15 years (from chronic exposure to arsenic poisoning), increasing numbers of patients are materializing as people continue to consume poisoned water due to a lack of alternative options as well as awareness of the severity of the problem, since arsenic-laced water looks, tastes, and smells like normal water (Ahmed and Ahmed 2002; Karim 2000). Very few households can afford existing expensive filtering technologies, and alternative water sources (such as traditional surface water sources) have dried up, been landfilled, or polluted. As a result, there is a dearth of safe water sources, leading to greater hardship in finding safe water for women and girls who have the daily task of fetching water for their families (see also, Sultana 2006, 2007c, 2009b).

While news of contamination of water sources was initially received with panic, recent media campaigns to inform people of the source and nature of the problem have sensitized many people, but tensions still prevail. Moreover, awareness campaigns without adequate alternative water provision options hardly solve the problem. For those already ill with arsenicosis (at varying stages of bodily manifestation), the outcomes of social isolation as well as economic loss are disproportionately burdening the poor, especially poor women (Sultana 2007a). Higher percentages of morbidity and mortality from arsenicosis have been reported amongst poorer households in arsenic-afflicted areas (Chakraborti *et al.* 2002; WHO 2000). While the poor have a weaker voice, poor women have the weakest voice—their general lack of resources to deal with the ramifications of the arsenic problem compounds poverty and gender-related marginalization and suffering. This is particularly so for poor women—with limited resources and burdens in procuring scarce safe water—whose exposure to arsenicosis has worsened (Hanchett *et al.* 2002; Sultana 2006, 2007c). Gendered location thus makes a difference in arsenic-contaminated areas. Overall, loss of economic productivity and earning capacity from arsenicosis-related health problems and deaths in families has led to social hardship for many (Ahmed 2002).

The spatial distribution of arsenic contamination has complicated daily social realities as there is high spatial variability of arsenic in the groundwater (differences within a few hundred yards, leading to neighbours having different arsenic concentrations in their tube well water). The variability in contamination levels comes from minor soil differences and variations in Holocene soil deposits (Caldwell *et al.* 2003), where the hydrogeology thus plays a critical role in both water quantity and quality. As a result, the specific places of the water crisis are not evenly spread out throughout the countryside, but rather appear in differentiated pockets with varying degrees of severity. Government efforts at identifying and marking contaminated tube wells have been to paint the spout of unsafe tube wells the colour red and paint safe tube wells the colour green. Many places have high concentration of red tube wells, placing greater pressure on the green tube wells (which are usually the expensive, deep tube wells tapping aquifer levels below the contamination layer). This creates a situation where many households come to depend on the few green tube wells in their locality, thereby greatly increasing the number of people who rely on these green tube wells as compared to before. Most households generally obtain water from their own tube wells or from those of their neighbours (far and near); few households depend on water from public sources like local schools, mosques, bazaars, or government institutions. Wealthier households are able to afford expensive, deep tube wells that access the deep aquifer that is mostly arsenic free, and thereby exert control over access or use of the water from their safe wells. The distances involved, the extra time, and negotiating with people in procuring safe water, often place extra burdens on women and girls from households that do not have their own tube wells. These factors can act as disincentives where households often resort to using closer water sources, even if contaminated and unsafe (BRAC 2000; Caldwell *et al.* 2003; Jakariya 2003; Sultana 2009a). Thus, gender, class, and place intersect to create situations where richer women generally have better access to safer water, or can employ poorer women to fetch safe water for them. There is also an age differential as younger women and daughters-in-law generally are tasked to procure domestic/drinking water, thereby increasing their burdens and labour time in fetching water.

What is evident is that limited mobility for many women in public spaces often constrains their obtaining water from public sources or going further distances beyond nearby *baris* or homesteads (see also,

Sultana 2007c, 2009a). This is clearly linked to social constructions of the domestic/private being feminized spaces, whereas the public spaces are seen to be masculine and thereby not a place for women. Notions of honour and shame are often invoked to control gendered mobility, and such issues are internalized and practised by both men and women in reinforcing who is allowed to go where, for how long, how far away, and why. How particular spaces are given meaning is dependent not only upon historical gender regimes and social norms, but also on the water access regimes and management practices in any given context. While some spaces are considered masculine and women there are seen as being out of place, they are also destabilized when survival needs push women/girls into those spaces. This is more visible in arsenic-acute areas, where women and girls traverse long distances in their search for water. Contamination of water, thus, disrupts patriarchal control and constructions of gendered spaces. The naturalization of gendered spaces to be inside of the bari compound are troubled by the presence of arsenic, since when safe water sources are located in far away places or distinctly public spaces, women increasingly have to go to such places to fetch water and fulfil their gendered domestic duties. While women have always fetched water from various sources in the past (for example, from ponds and rivers), their mobility was curtailed to water sources nearby with the proliferation of tube wells in the last few decades. Also, while women's mobility for wage labour has increased in general in rural areas, there was a reduction in the distances that women had to go to for water, enabling sedimentation of gendered spaces and mobilities to homesteads for such tasks that occur three to four times a day. With arsenic poisoning the waters of many tube wells, this convenience has come under threat, thereby challenging patriarchal customs of practicing purdah or seclusion that many households had either gotten used to or aspired to (in their understanding of what 'proper' feminine behaviour is to maintain the honour of the household).

The places of safe tube wells hold specific meanings, as publicly placed tube wells will result in the water from that tube well being wrapped up in socialized and gendered constructions of the space; few women may come to fetch water from a tube well in a market or a public institution, even if it is producing good quality water, due to social customs and gendered spatial practices in public areas. Conversely, more women may be forced to defy social norms in their search for safe water, congregating in places they otherwise may not. Water needs

and water source locations, thus, come to inflect the ways spaces and places are constructed, experienced, and inhabited. These fluid spaces are resisted and negotiated, often on a daily basis, by people seeking safe water for survival.

The shifting realities demonstrate that places are constructed not just by social relations, but also the local geology as well as the technologies used to extract water; in this particular case, it is about the amount of arsenic in the aquifer, the quality of water, and ways that water is locally managed. Places are created by both tube well technology and contaminated groundwater, such that place making at a micro-scale comes to be produced by these factors as well as social power relations. The micro-scale politics of places, thus, play out at the locations of tube wells. When tube wells produce arsenic-laced or unsafe water, those places come to have significant meanings in that it is a source of concern and grief for people who had erstwhile depended on the tube well for their daily water needs. People make meanings out of places and spaces through their daily struggles with water—where water is fetched from, who is doing this task, who is allowed to go where to perform the task, and what constraints are embodied in different places.

As noted earlier, while public spaces have historically been constructed to be masculine, many public places with safe tube wells are increasingly being inhabited by women and girls who are converging from different distances to fetch this safe water. Similarly, since domestic tasks are constructed as feminine, many men and boys are unwilling to fetch their own water unless it is within their own homestead and out of the public gaze (that is, not in public/masculine spaces and places). As a result, social organization and spaces are reworked and renegotiated while people try to access different sources of safe water. Historical placement of tube wells, arsenic levels in the local geology, and access rights to particular water sources end up changing the spatial patterns of water use and movements of women/girls on the landscape. In other words, social differences interact with the spatial variability of arsenic contamination to mediate how different spaces and places are used and experienced. Such changes in the values of particular places (that produce safe water versus those that do not) end up complicating the processes of marginalization and hardship that people face, where gendered differences and inequalities are produced not only socially, but also through water quality, its use and management.

Despite increasing disruption of the meanings and practices of the private/public divide, notions of femininity and masculinity are constantly reproduced and renegotiated through the ways that water is accessed and managed. While few men have engaged in the market as water sellers or vendors, gender divisions of labour in procuring water rests on women and girls with little change in gendered responsibilities and ideologies even during a water crisis. It is rare for men to participate in domestic water management or procurement, as that is seen as a distinctly feminine task and holds social significance. The following quotes display how water management practices operate within the context of gendered identities and spaces:

Four brothers lived in a family in a village. All were married. The youngest brother was newly married and felt sympathetic with his wife, who was pregnant. She had the job of lifting water from a dug well and pouring it into the cattle bowl outside their home. One day he started to help her to pull her water pot up from the well, because the ground was very slippery, and the pregnant woman would have to cross the yard carrying the large, heavy pot. As he helped her with this task, the other three sisters-in-law mocked the man for doing womanly work. His elder brothers feared that his manliness was suffering. Observing her husband taking this abuse, the wife grabbed the rope, pulled up the water pot from the well, and marched across the yard to fill the cattle bowl by herself. The young man then sat smartly away from his wife and took up the manly work of smoking a *hooka*. (quoted in Hanchett 2004: 15)

Why should men go outside to fetch the water? That is not a man's job. (Woman in focus group discussion with author, January 2005)

People look down at any man who gets water for his wife. (Man in interview with author, November 2004)

This entrenched gendered division of labour displays certain hegemonic gender ideologies and identities, which are reinscribed through spatialized water management practices in poisoned waterscapes. Thus, it is seen that while gender differences cannot be seen isolated from other social axes of difference, it is an important marker of difference and inequality in rural Bangladesh. Gendered locations are thereby influenced by water management realities, which influence how gendered identities and roles are understood and reproduced. It is seen that both men and women take an active part in the reproduction of gendered inequalities and relations to water. Places of contaminated water, and spaces of gendered labour (private–public), come to critically influence the ways that people relate to each other and water in socio-spatially organizing their daily lives.

It is also seen that decision-making roles pertaining to drinking water are often gendered in that men participate in more formal/official and public settings in water management, where women are often marginalized (both in terms of actual attendance at such fora or being able to speak up and participate if they are there); there is a general sense that women's role is limited to deciding where to fetch the water from, and less so in terms of how to alleviate the access, control, and managerial aspects of most water options (Sultana 2009b). Despite increasing awareness of women's rights and greater mobility of women in rural areas, there remain entrenched divides in what kind of task is deemed appropriate for whom, where few women partake in public discussions or speak up in front of men, especially in public places. Again, places and spaces of such gendered decision-making practices become important in curtailing gendered participation (see also Cornwall 2000).

SPACES OF POWER, PLACES OF HARDSHIP

The dynamic interplay of gender, water, place, and space impact different groups of the rural population in significant ways, demonstrating the transformations and reconfigurations of meanings of places and spatial practices with changing water contaminations and water access regimes. As such, historical focus on patriarchy and societal constraints needs to be extended to include the ways by which nature/water plays a role in how gendered lives and realities are understood, experienced, and lived. Paying attention to the spatiality of water contamination, tube well access, and safe water control provides greater insights into how gendered spaces and places are constituted through water management and how gendered relations are linked to water. There is simultaneous stabilization and unsettling of gender norms and spatial relations that come to (re)produce social inequalities. Thus, while gender is generally understood in relation to other social axes, it is also implicated in the ways the local water practices and ecologies affect socio-spatial organization. While tube wells may be seen as 'women's places' due to the specific locations of drinking water sources and the gendered nature of water fetching, such notions are wrapped with broader issues of geology, understandings of contamination, and spatial relations. While it is important not to essentialize places or give fixed meanings (Massey 1994), it is important to recognize the ways that ecological/geological conditions and technologies come to shape the constructions and meanings of particular places and spaces.

This chapter has attempted to show the ways that water use, conditions, and management are all spatialized and place-based, and come to play critical roles in how gendered power relations are manifested and reproduced in society, in any given context. Such spatial practices and gender norms are intersected by class, age, and educational status, and are complicated by the ways that spaces and places of water contamination are perceived and enacted upon. Places and spaces are thus created not just socially or discursively, but also by interplays of gendered spatial practices and ecological/geological factors. In these ways, spaces of power and places of hardship are (re)produced and (re)negotiated in everyday life.

NOTE

1. These are at 50 micrograms/litre in Bangladeshi standards, which are more lax than WHO's standards of allowable levels at 10 micrograms/litre.

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