

Fluid lives: subjectivities, gender and water in rural Bangladesh

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This article seeks to contribute to the emerging debates in gender–water and gender–nature literatures by looking at the ways that gendered subjectivities are simultaneously (re)produced by societal, spatial and natural/ecological factors, as well as materialities of the body and of heterogeneous waterscapes. Drawing from fieldwork conducted in Bangladesh on arsenic contamination of drinking water, the article looks at the ways that gender relations are influenced by not just direct resource use/control/access and the implications of different types of waters, but also by the ideological constructs of masculinity/femininity, which can work in iterative ways to influence how people relate to different kinds of water. Conflicts and struggles over water inflect gendered identities and sense of self, where both men and women participate in reproducing and challenging prevailing norms and practices. As a result, multiple social and ecological factors interact in complex and interlinked ways to complicate gender–water relations, whereby socio-spatial subjectivities are re/produced in water management and end up reinforcing existing inequities. The article demonstrates that gender–water relations are not just intersected by social axes, as generally argued by feminist scholars, but also by ecological change and spatial relations vis-à-vis water, where simultaneously socialized, ecologized, spatialized and embodied subjectivities are produced and negotiated in everyday practices.

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Introduction

Scholarship in the emerging field of gender and water has engaged with the ways in which water influences gendered relations and livelihoods in a variety of contexts (Cleaver and Elson 1995; Crow and Sultana 2002; Jackson 1993; Jordans and Zwartveen 1997; Meinzen-Dick and Zwartveen 2001; O'Reilly 2006; Van Koppen and Mahmud 1996). This growing body of literature is generally linked to broader nature–society and gender-development literatures that have looked at the ways that gender division of labor, ownership and control of productive assets, and intra-household distribution of resources influence the responsibilities, roles, rights and norms that constitute the relations that men and women have to natural resources (e.g. Agarwal 1992, 1997; Jackson 1993, 1998; Mies and Shiva 1993). Critical scholarship has also engaged with issues such as gendered knowledge, political mobilization and local–global linkages, thereby highlighting the gendered nature of struggles over resources and decision-making powers in natural resource management (Jackson 1998; Rocheleau, Thomas-Slayer, and Wangari 1996).

Recent scholarship has extended these debates to look at the ways in which gender identities are constructed through environmental struggles and practices (Carney 1996;

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Schroeder 1999). Understanding gender differences as created through practice and performativity (Butler 1990, 1993), scholars have further pointed to the ways that gender is re/negotiated and re/articulated in various environmental, social and political contexts, where contingent and fluid relationships exist between gender and nature, and both gender and nature are constituted through practices and discourses (Harris 2006; Nightingale 2006). Following from such recent developments, I posit that understandings of gender–water relations are better filtered through analyses of embodied subjectivities that are simultaneously constituted socially, spatially and ecologically. As demonstrated in later sections, gender identities and subjectivities both produce and challenge gender relations in water but in uneven ways. These gender relations are linked to gender division of labor, norms and rights as well the spatiality and materiality of different kinds of waters. While much scholarship has focused on absolute water scarcity in terms of lack of adequate quantities or supplies of water, I show that water quality and the very materialities of water/nature itself can come to influence both the constructions of gender and of resource struggles.

To understand the complexities of gender–water relations and why people respond/relate to water the way they do, I examine existing literatures in gender–environment and gender–water in relation to feminist scholarship on space, body and subjectivity. Rather than seeing women as rational resource users or victims of environmental degradation, I argue that greater attention needs to be given to the ways that gendered and embodied subjectivities are produced and negotiated through (water) resource management practices. My starting point is the rich body of scholarship on the ways in which gendered subjectivities are socially and discursively constructed but also materially constituted; subjectivities are produced through practices and discourses, and involve production of subject-positions (which are usually unstable and shifting). Subjects are always embedded in multiple relations of power, and are interpellated differently across space and time. Feminist scholars have argued that places and spaces are gendered and that socio-spatial subjectivities are produced and emplaced (see Bondi and Davidson 2003; and Longhurst 2003 for overview of the debates). While Bondi and Davidson (2003, 328) argued that gender is ‘inscribed on “natural” and built environments, as well as, and as a way of, marking and adorning bodies’, feminist scholars engaging in debates about subjectivity have not given much attention to the ‘natural’ environment. In order to contribute to these debates, I engage with the ways that ecological components and nature’s differentiated spatiality and materiality interpellate people differently, thereby influencing the ways they come to understand themselves and relate to others as well as to their natural environments. My analysis situates social identities, spatial processes and ecological settings that co-constitute and reconfigure gender relations to water. This article aims to demonstrate that gender–water relations are not just intersected by social axes, as generally argued by feminist scholars, but also by physical location, hydrogeological conditions and spatial relations vis-à-vis water.

Drawing on primary research conducted on arsenic contamination of drinking water and subsequent poisoning of people in rural Bangladesh, I focus on the ways that gender relations are influenced not just by direct resource use/control/access but by multiple knock-on effects (e.g. water poisoning from arsenic consumption). This article is based on ethnographic research conducted between 2003 and 2005 in 18 villages in four arsenic-acute districts of Bangladesh, involving participant observation, 232 semi-structured interviews with men and women of different socio-economic/educational/age/religious backgrounds, 15 focus group discussions with men and women, and case studies (with individuals and households facing water crises and/or water poisoning).¹ All the villages

in the study were predominantly agricultural (with high percentages of landless subsistence farmers involved in share-cropping arrangements through patron–client relations with a few wealthier farmers); the villages had significant levels of inequality and poverty and did not enjoy built infrastructure such as piped water systems. Water was overwhelmingly obtained via tubewells accessing groundwater in the deltaic landscape.

In most of rural Bangladesh, the proliferation of tubewells that pump up groundwater has enabled people to access drinking water more readily over the last couple of decades. These tubewells have been predominantly privately owned and installed (in households, markets, schools, mosques, etc.), although public tubewells are also installed by the government. Tubewells have been heavily promoted by the government and development agencies as ‘safe’ water sources compared to surface water sources (e.g. ponds, rivers) that are often chemically and pathogenically contaminated (and frequently led to high morbidity and mortality rates from water-borne diseases). However, the same groundwater via tubewells that was deemed a public health success story only a few years ago is now poisoning millions of people, as naturally-occurring, tasteless, odorless, colorless, carcinogenic arsenic from the aquifer geology is showing up in drinking water sources.² As a result, while availing water had become easier with tubewells being installed in homesteads and public spaces, the discovery of arsenic has reduced water security and increased pressure on tubewells that are still providing safe water (these are often the more expensive deep tubewells that are accessing the deep aquifer that does not have high concentrations of arsenic in it; deep tubewells are generally owned by those who can afford to purchase them and drill that deep). The majority of rural households use shallow tubewells that access the shallow aquifer, where arsenic is present in high concentrations as a naturally-occurring metalloid.

It is in such landscapes that access to safe drinking water becomes contentious, where women and girls labor several times every day over various distances to fetch pitchers of water for their families. Recent government initiatives to alert people to arsenic in water sources has included painting red the tubewells that are producing unsafe levels of arsenic-laced water (to visually signify that drinking water from that tubewell is dangerous). Tubewells that are deemed safe are painted green.³ As a result of the considerable heterogeneity in the geologic distribution of arsenic in the aquifer, the rural landscape is dotted with red and green tubewells (sometimes clustered, sometimes randomly distributed, with tubewells in close proximity to each other producing different concentrations of arsenic in the pumped-up water). Households with green tubewells thus have secure access to safe water, while those with red tubewells have to configure whether to fetch safe water, at what social/personal/familial cost, or to risk consuming contaminated water (and take the chances of falling ill from chronic arsenic poisoning, or arsenicosis, which can lead to various health complications over time and eventually death from prolonged exposure).

In my study, the villages had clusters of red tubewells at a variety of scales – sometimes a few adjacent households in a neighborhood, sometimes entire neighborhoods, or sometimes the entire village only had red tubewells. In all instances, households were immediately facing the challenge of securing safe water if their water source (their own tubewell or someone else’s tubewell they obtained water from) was deemed to be unsafe, or from having to negotiate new realities of sharing water with others if their own source was found to be safe. With arsenic being discovered in tubewell waters, more people have come to depend on fewer tubewells in their vicinity, that is, those that are still producing safe water (at no or low concentrations of arsenic). The majority of households reported increases in the time, distance and energy needed to fetch safe water after arsenic was identified in water sources in their village.

Elsewhere I have argued that arsenic contamination as well as arsenic poisoning leads to changes in gender relations in everyday life and at multiple scales (see Sultana 2007a, 2007c, 2009). In this article, I take these arguments further to analyze the ways that water comes to produce certain subjectivities that are simultaneously spatial, ecological and social, yet are unstable and reproduced/challenged in a variety of ways. I explicate the ways that gendered subjectivities are reinscribed and rearticulated through struggles over safe water. Relations to water are inherently embodied and negotiated through bodies, spaces and locations that are drenched with symbolic meanings, multiple identities and constructions of gender. Conflicts and struggles over water are found to be related to gendered identities, where both men and women participate in reproducing and challenging prevailing norms of masculinity and femininity in water management. Gender and water resource struggles are thus influenced by the production of contested gendered subjectivities in water use, control and access, as well as by the heterogeneous distribution of water and arsenic. Such a framing sheds light on the multifaceted and profound implications of arsenic in drinking water, with people continuing to consume contaminated water amidst an escalating public health crisis.

Gender and water in rural Bangladesh

In general, women are seen as rational users of water, particularly domestic water, and are expected to benefit from whatever water options are available to provision water for their households. While scholars have argued that better attention is needed to address gender in water management, there is little focus on the role that broader societal and ecological factors play in the ways that gender is implicated in water management – and the ways by which gendered waterscapes are produced, reproduced and challenged. In studying gender–water relations, it is important to look at who does what with which type/source of water and why, where, and what such relations mean for broader social relations and production of gendered subjectivities.

Household structures are quite hierarchal in rural Bangladesh, where there are generally clear demarcations about the gendered division of labor and rights. Men do not participate in fetching domestic water (drinking, cooking) as that is deemed a feminized task for the women of the household, especially younger women and girls. Power relations within the household generally mean that the patriarch (oldest brother or father) has greatest say in decision making on various issues in the household and control over the labor and behavior of other household members. The senior woman (matriarch), who may be the mother, grandmother or eldest daughter-in-law (*boro bou*), is able to leverage control over certain activities such as allocating the arduous task of fetching drinking water to younger daughters-in-law. The weak social power of daughters-in-law often results in greater subjugation and weakens their bargaining power in the household and community. Others being able to command their labor generally perpetuates such sentiments. Young women, especially new brides, often do not challenge their mothers-in-law in intra-gender oppression, such as verbal and physical abuse if water is not fetched on time or in sufficient quantities.

Understanding class as a social relationship highlights that households within a socio-economic bracket can have members of the household who will have differentiated access to and control over resources (Gibson-Graham 1996). Class and gender relations are intricately intertwined in rural Bangladesh and one cannot be studied without looking at the other (White 1992). In a hierarchical family structure, different members are positioned differently within the household class relations and thereby command

differential access to cash, food, decision-making powers, education and other resources.⁴ While women within a household generally have weaker class status, when comparing households across socio-economic brackets differences are noticed amongst the women as they are able to command different powers and resources based on their membership in particular households. While women in wealthier households may be powerless within their own families, they may have access to the family's tubewell (and thus easier access to water), which places them at an enormous advantage compared to poorer women of other households who do not own their own tubewells. Or, when women are members of a landowning or powerful family, they are generally able to command some control over the women in sharecropping, agricultural laboring, or poorer/dependent or kin families, in helping them fetch safe water. Thus, class positions are important in the ways that gender relations come to play out in society and especially with respect to water.

Socio-spatial waters: gender and space in water

In order to understand the ways that a spatialized resource (safe water versus unsafe/arsenic water) comes to influence gender/social relations, I turn to the contributions of feminist geographers, who have long argued that spatial and social processes are co-produced – social processes occur in specific spaces and places, which in turn influence the constitution of the social processes and the spatial configurations (Besio 2006; Massey 1994; McDowell 1999). Generally, public spaces have been historically construed as masculine spaces and private/domestic spaces as feminine. Male and female bodies that are seen to labor (and leisure) in private and public spaces respectively are often seen as 'out of place' (Creswell 1996). Female bodies that are seen to be 'out of place' outside of the private realm are often thought to be in need of greater control (Domosh and Seager 2001). Notions of *ijjat* (honor) and *lajja/sharam* (shame) are often used to regulate female bodies in public spaces, in both limiting their mobility as well as dress code and behavior in rural Bangladesh. Similarly, notions of *purdah* (veiling, seclusion) also operate in defining appropriate feminine behavior (Rozario 2001). While public-private boundaries may be blurred and often are for various reasons, they can also be maintained through cultural and material practices with regard to water (e.g. men irrigate farm land; women manage domestic water needs).

Laws (1997, 52) argues that 'patriarchal social structures and institutions create embodied female identities, and these in turn limit women's spatial mobility'. Mobility of women and girls can be constrained by broader socio-cultural norms, but are also inflected by age, class, education and position in the household. While some studies have found that spatial fixity is a problem for women across different social categories (Kwan 1999; Laws 1997; Massey 1994), it is influenced by local customs, norms and endowments of women. Intersections of class, marital status and age are important in determining which women will be burdened with the menial task of water fetching (as poorer women are more likely to have to fetch their own water, whereas wealthier women can employ or compel others to do so; similarly, younger women and girls are generally given the task of fetching water, especially daughters-in-law).

However, mobility is often circumscribed within specific spaces and places (e.g. within a *bari*, which is a homestead consisting of a kin-based cluster of households around a common courtyard; or a neighboring *bari*). As a result, it is more difficult for women (especially younger women and unmarried/teenage girls) to fetch water from water sources in overtly public and masculine places such as bazaars, mosques and roadsides. The public-private and home-outside divides become problematic when safe water

sources are increasingly in distinctly public spaces. The binary gendered constructions of public–masculine and private–feminine come into conflict with each other when women are forced to fetch water from public spaces where the only safe water source may be, whereby a domestic/feminine task is constrained by the spatiality of arsenic distribution and tubewell locations that necessitate crossing the boundaries from the private into the public in order to fulfill the private/domestic duties. As such, the private space activity of performing a gendered task (provisioning of household drinking water) spills out into the public space, where women may have to venture out into public roads, bazaars, mosques and schools to fulfill their domestic duties in procuring safe water (transgressing socio-spatial norms of *purdah*). Yet such bodies in public spaces and under the male gaze disrupt appropriate gendered behavior while fulfilling a distinctly gendered task of fetching domestic water. The private and public gendered spaces collide as a result of the need for water. In this respect, the distribution of arsenic and tubewells come to play a role in such spatial relations and spatialized constructions of gender.

Most people in my study stated that problems of collecting water from outside the *bari* or from farther away were linked not only to physical distance/time, but also the social significance of extended travel. For many of the men interviewed, having a red tubewell in their homestead (that they erstwhile could use but now cannot) means that women and girls from the household have to venture out into public spaces to get water, which was a major concern for the men. Most women identified the main concern of having a red tubewell to be having to travel further to get water or to having to use someone else's source, followed by a concern that they do have to go into public spaces to access water. Furthermore, collecting water in the dark when the water source is outside the *bari*, as well as sense of social insecurity in traveling longer distances, are concerns that both women and men have in dealing with the water crisis.

In some instances, women face restrictions from their own family members in venturing too far to get safe water and may thereby be forced to fetch unsafe water for their family from a closer source. As one teenage girl said 'My father said we'll have to drink this water [from the red tubewell] and that we shouldn't go to the bazaar to get water from the green tubewell. It is not allowed.' Such sensitivities often result in entire families continuing to consume contaminated water in a trade-off between safeguarding family honor and taking the risk of consuming unsafe water (especially as the health impacts of arsenic poisoning are not immediately felt but develop over time). The fear of loss of honor and shame when younger women from a *bari* are seen fetching water in distinctly public spaces, or traversing public spaces to access someone else's tubewell, act as discouraging factors in families accessing safe water. As one older woman said '*Oi barir boura bahir theke pani aney, amader barir boulderke ta korte deina ami*' ('The daughters-in-law of that other household get water from outside, I don't allow our daughters-in-law to do that', implying that it is disgraceful that the womenfolk from the other family go to public places to get water, whereas she does not expose her daughters-in-law to such socially risky practices). It is a sign of family honor to be able to keep daughters-in-law within the *bari* and not subject them to public visibility. The sentiments of wealthier households were stronger on this front, whereas poorer households argued that they do not have the luxury to have such sentiments: '*Bahir theke pani na anle amaderke ke pani ene dibe?*' ('If we don't get our own water from outside, who will bring water for us?'). The woman further wryly commented that her mother-in-law does not have a choice but to let her get on with livelihood needs, or the mother-in-law herself would have to do it, which is a less desirable option. What thus emerges is a struggle between purity of bodies and purity of water. These are difficult choices. People are forced to contend with purity and pollution in both symbolic and material terms on a daily basis.

Overall, while the opportunities for women to be in public places have dramatically increased in recent years (e.g. greater engagement with markets, educational opportunities, jobs), this is explicitly regulated through proper attire, one that has spatial and social meaning. Women in public spaces are required to cover their bodies more carefully than when they are within their homesteads (especially when not in front of men, especially outsiders, elders and non-familial men). Usually the custom is for women to put the *sari* over their heads in public places as a form of proper decorum (referred to as putting on a *ghumta*, or draping the end of the *sari* over the head). A woman in public without the *ghumta* is often seen in a negative light, as wanton and inappropriately behaving. While *ghumta* often slip off, or are not given much attention when women are working in agricultural fields, it is deemed more important when they are walking about, going places, or doing less physically demanding work (which is what fetching water is often categorized as compared to field labor). The constant need to pull the *ghumta* back on means that at least one hand has to be free, which is possible if one pitcher of water is being carried; if not, then women will put pitchers down to fix their *ghumta* before proceeding, especially if men are nearby.⁵

While there is flexibility in such veiling practices, it is also a class issue, as wealthier and middle-class households adopt such practices of proper attire more readily than poorer women (who often have to work in physical labor in public places and are less subject to social regulation of their attire). Thus, bodies in public spaces that conform to proper attire with the *ghumta* are less subject to punishment than those without it. The spatial practices of such embodied sentiments reflect the ways that women have to negotiate their attire and identities in different spaces. As a result, the body becomes the site of social control of women and water comes to play a role in whether, how often and for how long female bodies are 'out of place' in fetching safe water, and thus subject to social norms, gazes, policing and punishment. In this respect, fetching water is a particularized burden for women, as notions of honor, shame and decorum affect quite literally their access to water.

However, conventional gender roles are also reworked somewhat by women to their advantage in landscapes of water scarcity. Some women were able to argue that having to fetch water from farther away meant that they had to go into public spaces, which they could avoid if their husbands would install a tubewell in their own homestead. By invoking what is seen to be appropriate gender behavior (i.e. confining to the *bari*), women were able to argue that fetching water forced them to deviate from the norm, thereby challenging social status and family honor, and that the issue could be resolved by investing in their own tubewell (with the hope that it would be able to access water from an arsenic-free part of the aquifer). As such, arsenic becomes an ally that is conveniently maneuvered to obtain easier access to water and reduce hardship. By invoking the men's fear of dishonor caused by women having to go outside of the *bari* and the men being seen as not sufficiently providing for their family via installing a tubewell, many women participated in reproducing certain notions of femininity and masculinity and thereby patriarchal sensitivities (cf. Kandiyoti 1988). By resorting to such strategic essentialisms, women are able to use the spatial nature of arsenic contamination to their advantage, even if in limited ways. However, some younger women used the daily necessity to fetch safe water from farther places as a way to get out of the confines of the *bari* and to socialize with others during the activity of fetching water. One development project worker commented '*Pani ante prem korte jay*' (roughly translating to 'Having an affair while fetching water'). While such a comment may be pejorative to women's mobility in public spaces and their honor (especially young unmarried women's), it is often said that water collection is one of the domestic duties through which younger women are able to leverage

outside mobility. Again, arsenic and water become useful allies in manipulating power relations to increase mobility. However, some families do circumvent such situations by continuing to use their contaminated sources, or making alternative arrangements (e.g. paying hired labor if they can afford it, sending sons if possible, or sending younger women with other women who will act as chaperones). One mother said 'It's not good to send our unmarried daughters to get water so far away, people will talk and it is bad for their prospect of marriage.' While some women exercise their limited agencies in a variety of ways, it would appear that majority of the women have internalized certain norms of female behavior in their understandings of what it means to be a good mother, daughter or wife (see also White 1992).

In securing safe water access and use, women also invoke other identities depending on the context. Affiliation with certain powerful or wealthy households can be invoked when trying to gain privileged access to a safe water source. Similarly, invoking the identity of elderly or a widow (age and seniority status) are used to claim certain rights to safe water sources. Women also use notions of femininity associated with mothering to claim safe water, arguing that their children need safe water to survive. Some women also use kin and fictive kin status with other women ('*shoi*' or sisterly friend) to get help in fetching water if they themselves are unable to. Such informal networks and relations help in securing access to water, but are increasingly challenged as safe water sources are fewer and further apart.

Beyond these social relations and strategic (albeit limited) maneuvers by some women/girls, the prevalent gendered division of labor in water management was highlighted by both men and women to have a significant bearing on the ways they relate to water. In many instances, irrespective of the social standing within the household, women felt that all family members of their household should fetch water if they are capable of doing it. With tubewells in their own *bari*, fetching water was not as laborious as it was in the past (when pond water had to be hauled from greater distances). Some women said that with the convenience of tubewells, whoever was able and available to quickly get a pitcher of water would be asked, within reason (e.g. matriarch and adult male members generally would not be asked). Among sisters-in-law, there may be clear-cut delineation of who can fetch water for whom and in exchange for what, but often children and younger men were seen fetching water as and when needed for whichever hearth needed it within the *bari*. However, with greater distances now needing to be traversed outside of the *bari* to get safe water, older patterns of gendered divisions of labor are resurfacing, thereby increasing women's burdens in providing water for their families. Furthermore, women are less likely to go and fetch water for another household when they can barely find time and energy to fetch their own water. Lack of ability to command the labor of others to fetch water also results in some people continuing to drink unsafe water from their tubewells rather than venture out. Similarly, as seen above, concerns over the mobility, behavior and implications of daughters and daughters-in-law in public spaces while fetching water poses a challenge to families wanting to secure safe water.

While gender makes most women less powerful in households and societies, the differences amongst women of different households are noticeable, especially in relation to access to safe water. In a few instances where a safe tubewell was in the homestead of a poor family, their unusual and new power was through the ownership of a safe water source in a landscape of poisoned tubewells. While some wealthier women were reluctant to get water from there, many were forced to overlook such social status infractions to have to depend on the poor in an odd reversal of power relations. While some exerted existing power relations in securing this access, it went against the sensitivities of most

of the wealthier households. Fetching water from specific places thus holds meaning, especially when from a poorer *bari*. Heterogeneous distribution of arsenic and safe water has thus come to play a role in the overall power/status that the household had, especially the women of the poorer household. While having the safe water source did not destabilize trenchant patron–client relations and hierarchical class structures, it did provide the poor with some leverage (however small). As such, gender, class and geographical location intersected in reducing the water insecurity of a few households in unexpected ways.

Gendered bodies, subjectivities and relations to water

In order to better understand the ways that different people relate to different kinds and locations of water, I turn to the scholarly contributions that analyze the ways that bodies in different environments are produced and relate to the material environments within which they are situated. Attention to the corporeality of the body as the ‘materially-situated self’ highlights that female bodies are lived experiences that are a product of both the material and the social (Bondi et al. 2002; Longhurst 2000, 2002; Probyn 2003; Valentine 2007).⁶ As a result, gender constructions are embodied, simultaneously limited by and liberated from the material confinements of the body in that both ideological, social and physical dynamics shape the lived experiences and realities. Such attention to bodily experiences is important in understanding how and why people relate to water the way they do (e.g. women’s physical burdens of fetching water can influence the decisions they make in securing arsenic-free water). As Butler (1990) notes, the body is governed by various regulatory practices, but it can also be governed by the materiality of the body itself (dis/ability, age, health), without falling into biological essentialism. The notion of embodied subjectivity is useful here, as it draws attention to the ways that subjectivities are not abstract notions but are lived in bodies, in spaces, through practices and have materialities that need attention. Embodied subjectivity thus locates feminine subjectivity in the body, the site of the physical, symbolic and discursive (Braidotti 2003); corporeal materiality in feminist thinking focuses on both bodily experiences and discourses that discipline the body.⁷ Such insights further explicate the gendered relations to water and arsenic, and the ways that arsenic-laced water as well as arsenic-free water have come to inflect subjectivities and gender–water relations.

Jackson (1998) argued for focusing on the embodied livelihoods and embodied subjectivities of women in water resource management where women and men are seen to exert agency within structural constraints, which explains what they do with water and why they do it. This focus was primarily on social factors that shaped subjectivities and bodily experiences of people. In a recent article Cleaver (2007) furthers this argument that agency shapes and is shaped by institutions and social relationships. Both these articles contribute to ongoing debates about agency and constraints in collective action in water resource management. I further these arguments to posit that embodied subjectivities are simultaneously material, social, spatial and ecological in any given context, where the source of water, water quality and water technology interact with the ways that gendered subjectivities are re/produced, reconfigured, lived and experienced. Experiences with water are inherently bodily and physical, and even visceral – quenching thirst from drinking water, cleansing and bathing in water, cooking with clean water – are intimate bodily acts. Similarly, headaches, backaches and bodily deformities from hauling heavy loads of water, as well as health implications from consuming unsafe water, further the embodied relationship that people have with water vis-à-vis water quantity and quality. Such interactions can influence decisions about how far/where to get water from,

how often, how much, and how to allocate usage of the water. Compounding such physical and bodily relations to water are social factors such as gendered/classed constructions of appropriate behavior, labor relations and water rights (as discussed in the previous section).

A materialist focus emphasizes the importance of the corporeality of the body within the context of discourses and texts. The material nature of bodies, water and tubewells are all imbricated in the discourses of water management, suffering for water and gendered spaces. The inseparability of the material from the discursive is often, however, not recognized in abstract discussions of social processes or socio-ecological change. A focus on the body by feminist scholars has attempted to bring back attention to the experiences of the body and the way bodies in space do matter (Nelson 1999). The female body that fetches water in public spaces is subject to the male gaze and chastised for being 'out of place'. This is important in understanding the ways in which people access water. The physical hardship and pain endured in hauling water daily form the bodily experiences of water. Experiences with water are also mediated through the physical exertion needed to pump tubewells to extract water, of hoisting and lifting heavy pots, of negotiating muddy/slippery paths in carrying the water pots on hips (which has been reported to cause disfigurement and is difficult during pregnancy). Arsenicosis ravaging a body further complicates the relationships with safe/unsafe water. Corporeal experiences with water are often occluded in abstractions of water–society relations. Such attention to the lived bodily experiences of water show how the experiences are inflected by gender, class and locational differences. Constructing women's bodies and spaces through socio-cultural practices, where water is fetched from, how far from one's home, in what type of space, and in what attire (status of the *ghumta*), all are entangled with bodily consumption of water among all family members. As such, attention to the materiality of human bodies becomes important in understanding social constructions of gender in dialectical terms. Gender power relations, often theorized in disembodied and abstract ways, thus come to be embedded in bodies, spaces, places and actions within particular water contamination and ecological contexts.

Butler (1990) argues that gender is a process that is performed over time and space, one that is regulated and produces subjectivities that are unstable. As such, the subject reiterates and performs its subjection (Butler 1997, cited in Bondi 2005; Katz 2005; Probyn 2003), while s/he is being 'hailed' or interpellated into different subject positions through discourses and practices. Probyn (2003) argues that through multiple interpellations of heterogeneous ideologies in different ways, subjectivities are informed under particular circumstances. Such enablers and curtailments can occur in realms that are social and spatial as well as ecological. In other words, production of and changes in social differences and subjectivities do not occur in abstract space, but occur within particular ecological contexts (see also Nightingale 2006 and Robbins 2007).

I further argue that components of nature become important factors in re/producing social relations and subjectivities, where people are interpellated by differentiated nature/water in different ways.⁸ As such, water and arsenic come to be key elements in the production of gendered subjectivities, in how people's time/labor/work is valued or not, and how different groups of people feel powerless/empowered to act to change their access to safe water. Certain subjectivities are created vis-à-vis water (safe and unsafe), whether it is in decision making about water management, water collection activities, or suffering from water's effects. The constellation of ways that water comes to play a role in the production of identities and subjectivities can vary by community and context, but overall gendered subjectivities appear to respond to changing water conditions in the following

ways: gendered labor, activities, or roles can change with manifestations of arsenic in water, where gendered labor and the spaces of gendered bodies in the landscape change, and in the ways that gender is negotiated in terms of water access and use, and in the ways that individuals come to negotiate a sense of self in relation to the complexities of unsafe waterscapes. Since teenage boys and adult men are still resistant to helping fetch water, entrenched gender ideologies are generally maintained; but for those men who are more open to fetching water and for women who are also supportive of this change, there are changes in gender roles and norms due to water poisoning. As such, water comes to play a role in how gender relations are negotiated and experienced. Water and arsenic bring into sharper relief the negotiations of masculinity and femininity in relation to how safe water is acquired, but it can also blur the boundaries in instances where resistance to such subjectivities is manifest. Therefore, a spatialized and ecologized gendered subjectivity that is lived, embodied and contested emerges.

As a result, it is important not only to pay attention to the different gender roles and meanings attached to activities that come to reinscribe gender in water, but also to the way water struggles themselves come to reconstitute and reinforce different subjectivities (Jackson 1998). Environmental struggles can end up reinforcing gender relations and power relations, and highlight the inequalities that exist, which are not substantially reconfigured even if they are contested by some, as people can both internalize and challenge gender notions. Arsenic has tended to largely retrench patterns of inequality in the division of labor and hardship, and people's sense of themselves in relation to water. There appears to be an intensification of traditional gender roles as a result of arsenic, as more women are burdened with water fetching, which had reduced as tubewells had become available in many homesteads. When tubewells are located in the *bari* or near the kitchen area (i.e. more private spaces), sometimes men get their own water without too much fuss, but now that there is greater dispersal of safe water sources, men are more reluctant to be seen participating in such a gendered task. Thus, notions of 'traditional' femininity are reinforced as a result of tubewell contamination and the spatialized nature of this manifestation. As one woman argued: 'Even if we are ill our men will not fetch water for us. It is not a man's job to fetch water, but it would be nice if they did sometimes. But we do not ask.' Yet another highlighted the gendered control of labor relations in water management: 'Why should men fetch the water? That is a woman's job.' Similarly, a man justified the social norms that regulate embodied subjectivities in water: 'I would die before I fetched water for a woman. If I did, people would think I am mad.' Such socialized norms are common in maintaining the gendered division of labor in relation to water. However, another man confided: 'Sometimes I help my wife get water, or my son does. This arsenic problem is for all of us.' These sentiments however are not common.

However, this does not mean that people do not renegotiate gender norms and behaviors. Struggles over water end up being struggles over gendered identities. In responding to whether men should help more due to the arsenic situation, a strikingly similar percentage is seen in the responses across men and women: 80% of both men and women said men should help more and 20% said that men should not. The reasons given in the affirmative are often qualified by statements such as, men should help only when women are ill, unable, too busy, or it is too difficult for them. Those opposed argued that fetching water is a woman's job and society looks down on men for doing a woman's task. In general, older women compared to younger women expressed less eagerness to have men participate in collecting drinking water, while younger men compared to older men appeared to be more supportive of helping women. Poorer households were more supportive of gender equality in this respect than the slightly better off; this could perhaps

be related to perceived social status concerns for the wealthier households if men in their household participated in drinking water collection. In households with people who have fallen ill from arsenic poisoning, men were more open-minded in challenging traditional norms in accessing safe water for their families. Some of the younger, educated men who were more aware of arsenic's impacts were more willing to help get water once in a while from farther afield if needed, especially if they had bicycles to transport the water (this was not very common though as bicycles are less available among poorer households). Approximately a third of the 232 people interviewed, both male and female, claimed that men do occasionally/sometimes help in getting drinking water in their households in light of increased hardship in procuring water due to the arsenic contamination of large numbers of tubewells in their villages. The majority, however, agreed that men did not help at all.

In instances when men get water 'sometimes', it is usually when the water source is within the *bari* and for his own drinking water needs (a quick drink of water or to make tea). What was also interesting to note was that while poorer men were more open to ideas that they should help fetch water given the arsenic crisis irrespective of proximity, wealthier men only agreed when the water source was in close proximity within the *bari* and not in public places. This would otherwise result in public opinion that men were seen doing feminine tasks and threaten their masculinities; within one's own *bari* it was seen as less of a problem. As such, the spatial nature of arsenic and safe tubewells influenced the opinions that people had in challenging gendered roles and identities, and the construction of masculine subjectivities vis-à-vis water.

What explains the trend in opinions across classes is that poorer households largely do not own their own tubewell and the men are more willing to go outside to fetch water; conversely, richer households tend to own their tubewells within their *bari* and thus more men are willing to get water from such sources, as this does not transgress social norms drastically. The middle class households that often do not own their own source and worry about social repercussions and gendered identities in fetching domestic water, are less willing to have their men get water from other places. The visibility of men fetching water and the distances and spaces involved appear to be deterrents, as both the middle and wealthier households are generally more concerned about social norms than the poorer households and the implications of this for masculine subjectivities, and thereby family honor and social standing. Thus, it is seen that the spatial distribution of arsenic and tubewells and the spatialized nature of water collection are important in the construction of such gendered subjectivities, influencing the relationship that men and women have with water and with each other. This entrenched gender division of labor and gendered identities in relation to water management may come under challenge in the future as water scarcity forces more active participation amongst all household members in procuring safe water, but at the moment only a minority of men are willing to engage in this activity.

Conclusion: fluid lives

Drawing from key insights in feminist socio-spatial studies and nature–society geographies, this article has attempted to show that simultaneously socialized, spatialized, ecologized and embodied subjectivities that operate in the context of water management play important roles in the ways that people relate to water and how water comes to reconfigure social relations. The ways by which gender–water relations are conceptualized in the existing literatures are varied but limited and scholars can benefit from exploring and explaining the range of gender regimes and the socio-ecological and

hydrological factors within which differentiated resources and subjectivities are located, produced and contested. In order to situate gender relations within water management, it is important to recognize the similarities and differences of experiences, perceptions and realities of both men and women in any given context.

Attention to gender brings into sharper relief the ways in which women as a group experience environmental degradation differently from men, but that there are a variety of ways that women and men are differentiated that is predicated upon both social and natural contexts. In this respect, intersectionalities of gender, class, age and geographical location were found to be most pertinent. Multiple factors interact in complex and iterative ways to complicate gender–water relations, where gender divisions of labor, responsibilities and rights, the material and symbolic resource conflicts and identity production in water management end up reinforcing sufferings for/from water in different ways.

A prevailing sense of masculinity/femininity and social norms of appropriate behavior, responsibilities and position are compounded by nature's heterogeneity and perceptions of nature's harm (arsenic poisoning), where these very sensitivities often prevent men and women from acting to reduce their families being affected by unsafe water. While some people do directly challenge or negotiate existing subjectivities and ideologies, the majority do so less directly, if at all. Such realities end up compounding exposure to arsenic and unsafe water consumption, the ways people are affected by arsenic and water, and the health implications arising from arsenic poisoning.

As a result, attention to gender subjectivities that are produced through and responsive to complex environmental change demonstrate that struggles over nature are not only over access, control and/or use, but also gendered power relations. Such a conceptualization of gender–water relations, where spatial distributions of arsenic and contaminated tubewells influence the ecologized and spatialized subjectivities that are negotiated in water management and gendered subjectivities are produced simultaneously socially–spatially–ecologically, is also useful for practitioners and policy-makers in gauging the ways that individuals and households access un/safe water, respond to water contamination, and participate (or not) in water management projects in their locales (see also Sultana, 2009).

This article has attempted to contribute to feminist and nature–society scholarship by demonstrating that while geographers have rightly argued that gender is spatially constituted, such understandings of gender can be further extended to include heterogeneous natural/physical environments, whereby gendered relations are contested and produced through the ways people relate to the ecology, natural resources and variegated waterscapes that affect their lives. In this respect, gendered subjectivities are constituted through not just social axes of differentiation, but through heterogeneities in water resources, where differences in water availability, scarcity, or pollution can come to influence the ways that people negotiate their lives and sense of self. While intra- and inter-household relations influence both labor/work and wellbeing of individual gendered subjects, people can accept, negotiate or reproduce various identities and unequal relations, through willingness or challenging different water-related tasks and understandings of water-illnesses. It is through the re/negotiations and re/understandings of their waterscapes and hazardscapes that people come to relate to their environments and to each other.

Paying attention to embodied subjectivities demonstrates the ways that embodiment and spatial relations both enable and constrain certain relations to water. Gendering is thus a social, spatial, ecologized and contested process for men and women, and water and arsenic are implicated in this process. Spatialized constructions of masculinity and femininity (as practice, ideological and material) thus come to interact with the spatial

heterogeneities of arsenic and water, bearing directly on everyday water practices and social relations. This reconceptualization of gender as a socio-spatial-ecological process enables greater clarity in understanding how gender–nature relations evolve in any given context, thereby enriching debates in feminist political ecology, development and gender literatures.

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Notes

1. For greater detail on the methodologies used and the study sites and research participants, see Sultana (2007a, 2007b).
2. Details of the arsenic situation in Bangladesh can be found in Ahmed and Ahmed (2002), Ahmed (2003) and Sultana (2006, 2007a, 2007b, 2007c).
3. While the concentration of arsenic in water may vary considerably within short distances, the policy that is being followed by the Bangladesh government is to paint red tubewells that are producing arsenic at concentrations greater than 50 micrograms/liter and paint green those that are at concentrations below 50 micrograms/liter. It is worth mentioning that the WHO (World Health Organization) standard of permissible arsenic in drinking water is stricter at 10 micrograms/liter. A discussion on the politics of such development endeavors is beyond the scope of this article. For more details see Sultana (2006, 2007a, 2009).
4. I do not have the space in this article to go into detail on the measurements of class or the politics involved in such measurements, but do want to highlight that I recognize it is a contentious, multifaceted and complex issue. In this article, I use three broad categories of class (wealthy, middle, poor) based on overall landholding, income, remunerations and assets. In rural Bangladesh, ownership of land is the largest source of wealth and power and class is closely linked to education and non-agricultural earnings (for further discussion, see Sultana 2007a).
5. Such sentiments are stronger in more remote and conservative areas and less so in areas closer to urban centers, where more women have begun to go about without the *ghumta* and have normalized such attire in line with more urbanite women. A few of the highly educated women or job-holding women in villages may be seen without a *ghumta*, but they are often seen as exceptions to the norm due to their education/earning status. While religion does play a role in this irrespective of social location, as more conservative Muslim families will practice covering than less conservative Muslim or Hindu families, *ghumta* is practiced among Hindus too, but less stringently.
6. Jacobs and Nash (2003: 270) capture the arguments put forth by Probyn (2003) in the following poignant way: 'Probyn is not specifically concerned with cultural institutions, but she is concerned with how we live with difference and, in particular, the "the material contexts which allow and delimit our individual and collective performances of selves" ... Probyn reminds us that all is not choice and play in the making and remaking of subjectivities; rather, she wishes to know better the things (ideologies, institutions, bodies, distances, emotions, noises, smells) that "drag ... upon us as we move through space"'.
7. Focusing on the body is not essentialist, but involves locating agency, work, subjectivity, emotions and imaginations in bodies that exist in negotiated realities of family, work, socio-political norms, customs and rights. Thus, bodies have agency and are constrained, they perform tasks, are inflected and imbued with meaning and regulation and physically situated within various social locations. Bodies suffer pain from illness, are regulated when 'out of place', take part in institutions and produce the realities of nature–society relations; thus abstract notions of bodies are not particularly helpful in understanding how water comes to influence lives and

social relations. Embodied subjectivity highlights the ways that individual bodies are inscribed with difference. Specificity, multiplicity and complexity are embodied in subjectivities that take into account bodies, experiences, spaces and places. A focus on subjectivity is not to resort to physical essentialism or reductionism, but to recognize the ways that bodies and embodiment are important in the daily lived experiences and realities of differentiated peoples and places. Active agents are involved in embodied subjects (Braidotti 1994, 2002), where agency of gendered subjects is seen as subjectivity having agency, of being in the world (Jackson 1999).

8. As Katz argues, however, 'if being "hailed" or recognized as a subject comes with particular terrain of practice, then by definition agency is curtailed' (Katz 2005, 233). This is a useful point as people demonstrate various levels of constrained agency in arsenic waterscapes (as discussed above). See also Robbins (2007) and Agrawal (2005) for various ways by which subjectivities in relation to nature/environment are being debated.

Notes on contributor

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ABSTRACT TRANSLATION

Vidas fluidas: subjetividades, género y agua en el Bangladesh rural

Este artículo busca contribuir a los debates emergentes en las literaturas sobre género-agua y género-naturaleza analizando las formas en que las subjetividades generizadas son simultáneamente (re)producidas por factores sociales, espaciales y naturales/ecológicos, así como por las materialidades del cuerpo y de los heterogéneos paisajes de agua. Basándose en trabajo de campo sobre contaminación con arsénico del agua para beber, llevado a cabo en Bangladesh, el artículo estudia las formas en que las relaciones de género son influenciadas no sólo por el uso/control/acceso directo de un recurso, y las implicancias de los diferentes tipos de agua, sino también por las construcciones ideológicas de masculinidad/feminidad que pueden trabajar en formas iterativas para influir en cómo la gente se relaciona con los distintos tipos de agua. Los conflictos y las luchas sobre el agua inciden en las identidades generizadas y del sentido de uno/a mismo/a, donde tanto hombres como mujeres participan en reproducir y desafiar a las normas y prácticas prevalentes. Como resultado, múltiples factores sociales y ecológicos interactúan en formas complejas e iterativas para complicar las relaciones género-agua, donde las subjetividades socio-espaciales son re/producidas en el manejo del agua y terminan consolidando las inequidades existentes. El artículo demuestra que las relaciones género-agua no están solamente cruzadas por ejes sociales, como generalmente los académicos feministas argumentan, sino también por cambios ecológicos y relaciones

espaciales con respecto al agua, donde subjetividades socializadas, ecologizadas, espacializadas y corporizadas son producidas y negociadas en las prácticas diarias.

Palabras clave: género; subjetividad; agua; arsénico; Bangladesh

孟加拉国农村地区的流体生活：主体性、性别、水

本文旨在促进新兴的‘性别-水’和‘性别-大自然’文献研究，并探讨性别主体的(重新)产生过程。其过程同时间受社会、空间和自然/生态因素影响，也(重新)产生于身体的具体性质和异构水景。通过孟加拉国饮用水被砷污染的实地考察，本文探讨性别关系如何受资源直接使用/控制/准入的影响，以及不同类型水域所造成的变化。与此同时，性别关系也受男性/女性的思想构造影响。此思想构造通过迭代的方式，影响人们与不同类型的水的关系。引发冲突和斗争的水源问题，对性别身份和自我意识起着使弯曲的作用，而所有的男性和女性也同样参与了重新产生和挑战普遍准则和惯例的过程。因此，在社会和生态多重因素反复及相互影响下，‘性别-水’关系显得较复杂。另外，社会空间的主体性在水源管理获得重生，也最终加强现有的不公平状态。文章表明‘性别-水’的关系不仅是与社会轴线相交。其观点是普遍女权主义者所持有。‘性别-水’的关系受生态的变化和空间关系影响。其主体性质也在日常生活重新产生和商讨的过程中随着社会化、生态化、空间化及体现化。

关键词：性别;主体;水;砷;孟加拉国