

Dewan, C.; Buisson, M.-C. and Mukherji, A. 2014.
The imposition of participation? The case of participatory
water management in coastal Bangladesh.
Water Alternatives 7(2): 342-366



The Imposition of Participation? The Case of Participatory Water Management in Coastal Bangladesh

Camelia Dewan

Department of Social Anthropology, SOAS, University of London, London; c_dewan@soas.ac.uk

Marie-Charlotte Buisson

International Water Management Institute, New Delhi, India; m.buisson@cgiar.org

Aditi Mukherji

The International Centre for Integrated Mountain Development, Kathmandu, Nepal; amukherji@icimod.org

ABSTRACT: Community-based Natural Resources Management (CBNRM) has been promoted as part of the development discourse on sustainable natural resources management since the mid-1980s. It has influenced recent water policy in Bangladesh through the Guidelines for Participatory Water Management (GPWM) where community-based organisations are to participate in the management of water resources. This paper reviews the extent of success of such participatory water management. It does so by first discussing the changing discourses of participation in Bangladesh's water policy from social mobilisation to decentralised CBNRM. Second, Bangladesh is used as a case study to draw attention to how the creation of separate water management organisations has been unable to promote inclusive participation. It argues that the current form of decentralisation through a CBNRM framework has not resulted in its stated aims of equitable, efficient, and sustainable management of natural resources; rather it has duplicated existing local government institutions. Finally, it questions the current investments into community-based organisations and recommends that the role of local government in water management be formally recognised.

KEYWORDS: Community-based natural resources management, participatory water management, local government institutions, Bangladesh

INTRODUCTION

Community-based Natural Resources Management (CBNRM) is based on a simple and attractive assumption that communities, defined by their distinct and integrated social structure and common interests, can manage their natural resources in an efficient, equitable, and sustainable way (Blaikie, 2006). CBNRM has been promoted by most major International Financial Institutions (IFIs) since the mid-1980s as part of the development discourse on sustainable natural resources management (Blaikie, 2006; Mansuri and Rao, 2003). Decentralisation is defined in this paper as any political act in which a central government formally cedes powers to actors and institutions at lower levels in a political-administrative and territorial hierarchy (Ribot et al., 2006). It has been argued that any form of decentralisation should increase efficiency, equity, and democracy "by linking the costs and benefits of local public services more closely" (World Bank, 1988: 154). In the mid-1990s governments, international development agencies and large non-governmental organisations (NGOs) began to decentralise by transferring power to a wide range of local institutions, including private bodies,

customary authorities and local NGOs (Ribot et al., 2008). CBNRM involves decentralisation of power to community-based organisations where the underlying rationale is that decentralisation to communities may increase local ownership, responsiveness to local needs and accountability to local people (Ingham and Kalam, 1992). The promotion of CBNRM thus coincided with a majority of developing countries legislating decentralisation reforms (Crook and Manor, 1998). This illustrates the way in which decentralisation does not always entail *democratic* decentralisation, the latter exclusively referring to powers being transferred to existing local and democratically elected government institutions. Larson (2003) argues that democratic decentralisation has in fact been neglected in favour of these alternative transfers of power, where CBNRM illustrates how community-based organisations are favoured over local governments in implementing projects.

Ostrom (1990) in her 'framework for analysing institutional choice' argues that communities can forge cooperative action that prevents over-exploitation of resources associated with the 'tragedy of the commons' (cf. Hardin, 1968). Her work was influential in promoting CBNRM as a viable institutional alternative in natural resources management and inspired participatory irrigation management, where community-based organisations like Water User Associations were created to look after day-to-day operation and maintenance (O&M) of public irrigation systems. However, Mosse (1999) argues that such theories based on collective action do not question the idea that the economics of resources use (individual costs/benefits) is an independent principle of social organisation. There is therefore a tendency within this framework to neglect historically determined and culturally specific notions of 'resources', where rights and obligations tie resources management to wider social and political forms (Mosse, 1999: 324-325). In fact, several studies and evaluations in Asia and Africa have found that CBNRM policy has failed to deliver on its stated aims (efficiency, equity, sustainability) (Agarwal, 2001; Shackleton and Campbell, 2001; Shackleton et al., 2002; Arntzen et al., 2003; Mansuri and Rao, 2003; Blaikie, 2006; Sultana, 2009a). In a review of community-based water user associations in Asia, it was found that, at best, results were mixed, with many failures interspersed with only a few successful cases (Mukherji et al., 2009). Studies in South Asia critique CBNRM for how it is founded on a misleading myth of a homogenous community, bereft of internal politics and power dynamics (Agrawal and Gibson 1999; Leach et al., 1999; Agarwal, 2001; Cooke and Kothari, 2001; Mosse, 2001; Kothari, 2001; Sultana, 2009). Sultana (2009), writing on drinking water management in coastal Bangladesh, points out that CBNRM schemes that see communities as homogenous entities overlook complex realities where access and control over water resources vary by multiple, interlinked and hierarchal systems of differentiation. A 'collective action' framework centred on the economics of resources use may therefore divert attention from wider power relationships that frame local development problems and is in danger of actively depoliticising development (Williams, 2004).

Despite such criticisms, Bangladesh has seen significant involvement of major IFIs and donors in promoting CBNRM and decentralised water management in its water policy reforms. The National Water Policy (MoWR, 1999) and the Guidelines for Participatory Water Management (MoWR, 2001), shifted away responsibilities for water management from state implementing agencies to externally initiated community-based Water Management Organisations (WMOs), with limited involvement of local government institutions. To date, evaluations of participatory water management projects in Bangladesh's coastal infrastructure (embankments/polders, sluice regulators, canals) limit themselves to analysing outcomes in light of stated project aims without questioning the theoretical framework of CBNRM (cf. MoWR 2001, 2005; ADB 2007a, 2007b; BIDS, 2008; Fujita, 2011); or how WMOs as parallel structures may undermine or compete with the role of local government institutions (Summers, 2001). This paper will therefore critically assess participatory water policy by using qualitative and quantitative data collection in order to understand communities' own perceptions of participation. By analysing the gaps between participation in policy versus participation in practice, it seeks to illuminate the weaknesses of decentralisation of water management through CBNRM and its inability to address coastal water challenges, while highlighting how it marginalises local government institutions. It first

discusses the changing discourses of 'participation' in Bangladesh's water policy. Second, it uses field data from coastal Bangladesh to evaluate CBNRM against its stated aims of efficient, equitable and sustainable water management. Third, it discusses these findings in relation to the role that democratically elected local governments play in water management. It will conclude that maintenance funds should be increased and made permanent through existing funding channels and that the role of local government in water management must be revised.

METHODOLOGY

In order to analyse these queries, this paper draws on large and original qualitative and quantitative data sets. First, information on how donors have been important in shaping water policy were gathered through 28 Key Informant Interviews (KIIs) with government officials, donors, academics and project consultants from participatory water management projects in Bangladesh. They were asked about their experiences of community participation, the role of the various stakeholders and the degree of 'success' of participatory approaches. The interviews were conducted in Dhaka from December 2011 to March 2012.

Second, to understand how local populations from various socio-economic groups and interests perceive water management and the performance of community-based WMOs, 57 semi-structured Focus Group Discussions (FGDs) and 92 KIIs were conducted in the southwest coastal zone. This qualitative work was conducted from January 2012 to September 2012 in five Bangladesh Water Development Board polders: P3 (19,430 hectares [ha]), P31 (14,831 ha), P30 (7209 ha), P24G (25,856 ha), P43-2F (5622 ha), and four Local Government Engineering Department sub-projects: Jainkathi (31 ha), Jabusha-Beel (1211 ha), Bagachra-Badurgacha (385 ha), and Latabunia (168 ha). These nine study areas were purposively selected from three different agro-ecological zones in coastal Bangladesh in order to capture differences in terms of environmental constraints (salinity, waterlogging) and their differing institutional backgrounds for water management (small scale vs. large scale; managed by different government implementing agencies). In each selected area, FGDs were first conducted with a general group of community members and then separately with the executive committees of WMOs and with Labour Contracting Societies consisting of male or female day labourers. KIIs were held with local government officials (male and female, respectively), project field staff, the executive chairs of WMOs, women WMO members, paddy farmers, shrimp farmers, women household heads and the landless (men and women, respectively). Ultimately, eight FGDs were conducted with female only groups and 12 key women informants were interviewed. The resulting 2000 pages of transcripts were then coded and entered into the Atlas Ti qualitative analysis software. Queries were generated on perceptions of participation, ability to influence water management and the state of the infrastructure, and were disaggregated based on the type of respondents.

Third, descriptive statistics from a quantitative survey conducted in a subset of the study areas (P3, P30, P43-2F, Latabunia, Jabusha and Jainkathi) were used in order to illustrate qualitative findings. The survey drew a sample of 1000 representative households from 44 villages randomly selected in the study areas.

WATER POLICIES IN BANGLADESH: PARTICIPATION IN THEORY

History of water projects: From top-down engineering to small-scale interventions

The current practice of CBNRM in the water sector of Bangladesh is closely tied to a long-standing discourse of people's participation and the perceived top-down mentality of government engineering departments. For example, the BWDB held key responsibility for irrigation, flood control, and drainage in Bangladesh from the 1950s to the late 1990s. It constructed over 100 embankments across the

coastal zone in the 1960s to protect coastal communities from flooding, established irrigation systems and employed local gatemen called *khalashis* for the operation of sluice regulators. This initial construction was seen as an infrastructural investment in the hands of engineers, without any participation from, or consultation with, local communities. Nevertheless, the embankments, known as polders, with their canals and sluice gates became fundamental in the struggle against flooding and salinity intrusion while they simultaneously established themselves as a key source of water for agriculture, aquaculture, and other productive activities.

In the 1970s and 1980s, donors focused on projects that moved from top-down mega constructions to small-scale local interventions. Donors such as the Swedish International Development Agency (Sida) and the Embassy of the Kingdom of Netherlands (EKN) introduced and financed participatory projects to be implemented by the Bangladesh Water Development Board. They were to use social mobilisation NGOs to organise excluded and marginalised groups to take part in income-generating maintenance work through local groups named 'Target Groups' for the poor and 'Landless Contracting Societies'. This trend continued until the early 1990s and includes the Early Implementation Project (1972-1995), the Land Reclamation Project (1978-1991) and the Delta Development Project (1981-1991) (Dutta, 1997; Duyne, 1997). It was further emphasised that the landless and the poor were to become active in the decision-making processes of water management. The emphasis on social equity and challenging power inequalities through focusing on the poor reflected a wider movement of participation at the time. The 1970s and 1980s saw a proliferation of social mobilisation NGOs that promoted women's empowerment and the strengthening of the rights of the landless. Notable NGOs were *Nijera Kori* ('We do it ourselves') and *Gono Shahajjo Sangstha* (GSS, 'People's Help/Aid Organisation') that effectively encouraged their members to compete in local government elections and/or engage in local politics (Hashemi, 1996; Thörlind, 2000). These examples illustrate the early interest in participation emerging in the 1980s within the NGO community, strongly influenced by Robert Chambers's (1983) idea of 'putting the last first' to promote a power shift among stakeholders (Williams, 2004).

Paradigm shift in the 1990s: Community participation for upkeep of infrastructure

Swedish and Dutch donors were funding both social empowerment NGOs and participatory water management projects, where the politicised participation in the former affected the discourse of participation in the latter. However, as Mollinga (2008) points out, 'participation' is a central theme in water policy discussions and has obtained several different meanings over time. There are thus divergent views on participation, how it is defined, whom it is expected to involve, what it is expected to achieve and how it is to be brought about (Agarwal, 2001). Over the 1990s and 2000s, a depoliticised concept of participation consolidated in the donor community, who came to prefer service delivery to social mobilisation as the latter became too politically contentious (Wood, 1994; Hashemi, 1996; Edwards and Hulme, 1997; Holloway, 1998; Sogge, 2002; Rahman, S., 2006; Dewan, 2009). By the 1990s, participatory discourse rapidly became part of the official aims and objectives of governments and international development agencies (Williams, 2004). In his later book, Chambers (1997) argued that participation through the incorporation of local knowledge transforms top-down bureaucratic planning and may even reverse deep-rooted patterns of social power and hierarchy. As Agarwal (2001) points out, a central idea of people's participation in development is the inclusion in decision-making of those most affected by the proposed intervention.

However, the shift away from social mobilisation changed the meaning of participation to one that increasingly obscured power inequalities. Depoliticised terms such as 'stakeholder consultation' replaced the use of 'Target Groups' that had explicitly focused on the poor and the use of 'Labour Contracting Societies' removed the focus on the landless from 'Landless Contracting Societies'. The early 1990s saw a growing tension between these competing meanings of participation. On the one hand, civil society and NGOs promoted participation as 'an end in itself', reflecting the legacies of the 1970s and 1980s where empowerment was an end (Dutta, 1997; Duyne, 1997; Hanchett, 1997). On the

other hand, donor-funded projects began to increasingly advocate participation as a means to an end, the end being involving communities for maintenance and upkeep of water infrastructures. In the latter, participation was relegated to public consultation, while it was used as an excuse for transferring responsibilities without delegating actual decision-making power (Hanchett, 1997: 278; Cornwall and Gaventa, 2001). Williams (2004) also suggests that enlisting and demonstrating 'popular participation' became a crucial measure of scheme success and a key condition of donor approval in development projects. This 'mainstreaming', he argues, has spread participation to a wide range of development policies and programmes of international agencies and governments from the global South alike (Williams, 2004).

This latter, depoliticised and 'mainstreamed' version of participation came about in a context of a wider decentralisation agenda, where 'community participation' included the devolution of responsibility over O&M from the state to communities, while state agencies such as the BWDB were being simultaneously weakened. For example, in 1992, the World Bank recommended that the Land and Water User Directorate would be closed, ending the unit that provided BWDB with the staff and expertise to interact with local water users and farmers (MoWR, 2005). The BWDB Act of 1998 reduced staff size from 24,000 to 8000, replacing government-employed gate operators with operators who were to be appointed and paid by communities, while many of the staff that had worked with the empowerment projects of the 1980s retired and were not replaced. The National Water Policy of 1999 formally transferred responsibility over O&M to WMOs (MoWR, 1999). Despite a considerable reduction in size and the closure of Land and Water User Directorate, BWDB was now required to engage with communities on matters of water management (MoWR, 2000). As a result, both the BWDB and the Local Government Engineering Department (LGED) have relied heavily on donor-funding to implement participatory projects in order to comply with the National Water Policy and the Guidelines for Participatory Water Management (GPWM) (MoWR, 2001).

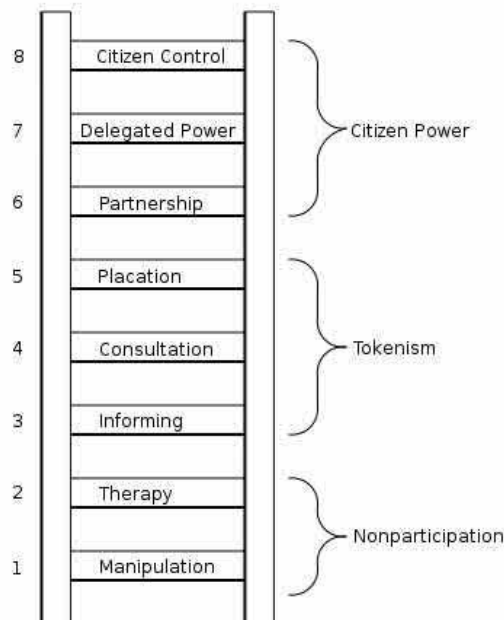
Despite the National Water Policy's attempt towards decentralisation, in the GPWM no formal mention is made of local government institutions beyond that they 'raise awareness' of water management issues and supporting, facilitating and coordinating assistance to the concerned WMOs (MoWR, 2001). It frames a decentralisation agenda where the central government transfers powers to private actors, in this case WMOs, rather than democratically elected local institutions (Larson, 2003). As will be discussed later in the article, local governments are nevertheless highly active in water-related issues and coordinate various development projects and social programmes in local areas. The creation of water management organisations in order to implement projects may therefore, as Summers (2001) points out, duplicate the functions of local government in a way that detracts funding and legitimacy away from existing democratically elected local institutions.

Politicised and depoliticised participation

The problem of water management is inherently political and as such attempts to keep politics out of it is futile and even counterproductive. As Mollinga (1998: i) aptly put it: "water management and use are contested at all these levels, that is, that water control needs to be understood as a political process". As have been noted in other development contexts, management reform processes are often captured and reshaped at the local level, where patterns of formalised participation tend to reflect existing power asymmetries rather than evening them out (Mosse, 2005: 19; Molle, 2008: 132). Mosse (2004) points out that it is often assumed that development practice is driven by policy. He suggests that the things deemed as 'good policy' legitimises and mobilises political support, while in reality the same things make the same aim difficult within its chosen institutions. For example, while 'participation' is seen as a 'good policy', it may be difficult to implement. Rather, critics argue that policy labelled as 'participatory' or 'community-driven' provides more effective instruments to advance external interests and agendas while further concealing the agency of outsiders, or political manipulations of local elites (Cook and Kothari, 2001; Mosse, 2001).

Considering the different meanings and uses of 'participation', Arnstein's (1969) ladder of participation (Figure 1) will be used to differentiate between the different levels of politicised and depoliticised participation in which water management organisations operate.

Figure 1. Arnstein's ladder of participation.



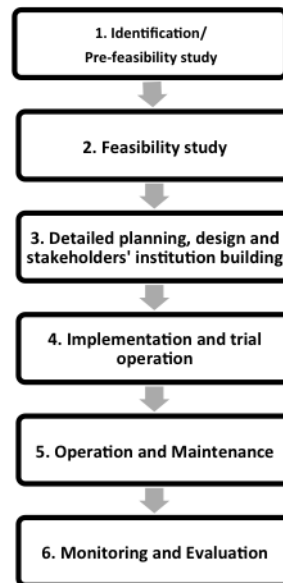
Source: Arnstein (1969).

The lower half of the ladder reflects a depoliticised approach to participation, or 'tokenism', where participation is limited to information, consultation, and placation. The top of the ladder envisages participation similar to that of the empowerment work of social mobilisation NGOs of the 1970s and 1980s, where the redistribution of power enables citizens presently excluded from the political and economic processes ('have-nots') to be deliberately included in decision-making. This is directly tied to discussions of citizen power, where Ribot et al. (2006) define citizenship as the right and ability of people to be politically engaged and shape the fate of their polity. As such, high levels of citizen power may therefore also correlate with democratic participation. The next section discusses how the GPWM with its depoliticised framework and limited conceptualisation of participation is prone to tokenism.

PARTICIPATION IN PRACTICE: TOP-DOWN BLUE PRINTS

Figure 2 illustrates the key participatory stages of the GPWM that implementing agencies BWDB and LGED must follow when executing new water projects. The GPWM aims to ensure community ownership and involvement in water management, both in planning, decision-making, and financial and physical participation.

Figure 2. Guidelines for participatory water management.



Source: Ministry of Water Resources (MoWR, 2001).

Lack of efficacy: Top-down and sub-optimal planning of infrastructures

The first three stages in the GPWM (Figure 2) aim to ensure that local stakeholders have ample opportunities to provide feedback and shape water management projects. The GPWM requirement of feasibility studies sought to address the perceived top-down planning associated with BWDB. It also aimed to place the decision-making power in the hands of local stakeholders through the WMO, rather than through the implementing agency. This component was integrated into the methodologies of LGED's Small-Scale Water Resources Development Sector Project (SSWRDSP) for sub-projects under 1000 hectares and BWDB's Integrated Planning for Sustainable Water Management (IPSWAM) for larger projects.

IPSWAM was funded by the Embassy of the Kingdom of the Netherlands to rehabilitate water infrastructure in the coastal zone. It is seen as one of BWDB's most successful examples of participatory water management and was implemented in nine out of 123 polders.¹ Full-time socio-economists and community organisers spent 18 months mobilising each of the IPSWAM polder communities to promote a sense of ownership over the project. This involved a bottom-up, door-to-door process where each household identified and prioritised its water problems.² Despite such mobilisation, physical rehabilitation work started before the creation of WMOs and thus before WMOs could provide input (EKN and BWDB, 2011). For IPSWAM and other BWDB polder communities a key constraint arose with the requirement of WMOs; they must create community organisations 50 years after the initial construction of polders in order to receive government assistance for maintenance and rehabilitation. BWDB polders struggle with the lack of resources needed to create and sustain the WMOs required for accessing rehabilitation and maintenance funds.³ Our fieldwork suggests that without a project budget to create and support WMOs in the local communities, BWDB field engineers would rarely consult

¹ Two of the five BWDB study areas (P30 and P43-2F) were included in IPSWAM.

² KII, Project Consultant for IPSWAM and SSWRDSP, Dhaka, 1 February 2012.

³ FGDs in P3, P31, P30 and P24G from February to August 2012.

communities on periodic maintenance, e.g. where to excavate canals or repair the embankment.⁴ Instead, FGDs and KIIs reveal that BWDB use external contractors rather than hiring local people, a practice seen as removing rural employment opportunities.⁵

The difficulty of incorporating local feedback was also evident in LGED's SSWRDSP sub-projects. Fieldwork and focus group discussions revealed several examples of inadequate technical solutions. These include an unsatisfactory number of regulators, too low or weakly constructed embankments, flawed sluice gate shutters, and superficial canal re-excavation. The inability to incorporate local needs was further exemplified by a cross-section of respondents in these sub-projects stating that their request for a larger, wider, and more robust embankment had been ignored, resulting in the embankment being now in poor condition.⁶ A striking example of poor design can be found in Badurgacha-Bagachra where the gate is operated provisionally using bamboos and rope, a consequence of LGED's disregard of local residents' request for a steel shutter rather than a now-broken wooden shutter. Similarly, respondents in the Jainkathi sub-project stated that they had warned LGED about placing regulators on private land. The result was that the landowner took control over the infrastructure; consequently, only one out of two regulators in Jainkathi is active and the second canal in the sub-project has become silted and unproductive. The emerging picture from LGED sub-projects is that the final decision-making power over physical construction also remains largely in the hands of the implementing agency rather than those of the WMO or community, a finding supported by an evaluation of the LGED project (ADB, 2003). LGED has been able to institutionalise community engagement (local contact at sub-district level, permanent coordinating unit at headquarters). However, even with such institutionalised support, the sub-projects still suffer from flawed technical problems.

The experiences of IPSWAM and SSWRDSP provide a case to question the efficacy of the feasibility studies and formation of WMOs made mandatory by GPWM. Rather than providing a high degree of citizen power, the current arrangement seems to fit on the lower end of Arnstein's ladder, near 'tokenism' through placation, consultation, and informing. The degree of citizen power, i.e. to exert control in decision-making, at this stage seems to be that of participation that is limited to a specific project intervention and then only through the channel of an externally initiated non-functional water management organisation. Though the GPWM attempts to involve and empower local communities in implementing agencies, the current guise of participation is perhaps used as a 'tool' to give a 'human face' to depoliticised and technocratic projects (Palmer-Jones et al., 2010). This may reflect a mismatch of incentives between project implementers and stated goals of the projects, where more tangible and measurable goals like physical construction of infrastructure can easily take precedence over longer-term goals like participation and empowerment (Mosse, 2001; Araral, 2005). This type of CBNRM is therefore arguably ineffective in involving local stakeholders in decision-making.

Lack of equity: WMO obscuring power differences within communities

Elite capture of WMOs

The GPWM stipulates broad involvement of local stakeholders from all cross-sections of society. Community-based water management organisations were therefore required to use quotas to ensure the representation of women and landless in decision-making processes. In all study sites, WMO members had internalised the rhetoric of participation and broad stakeholder involvement where statements such as, "[t]he water management committee is formed with equal emphasis to all classes

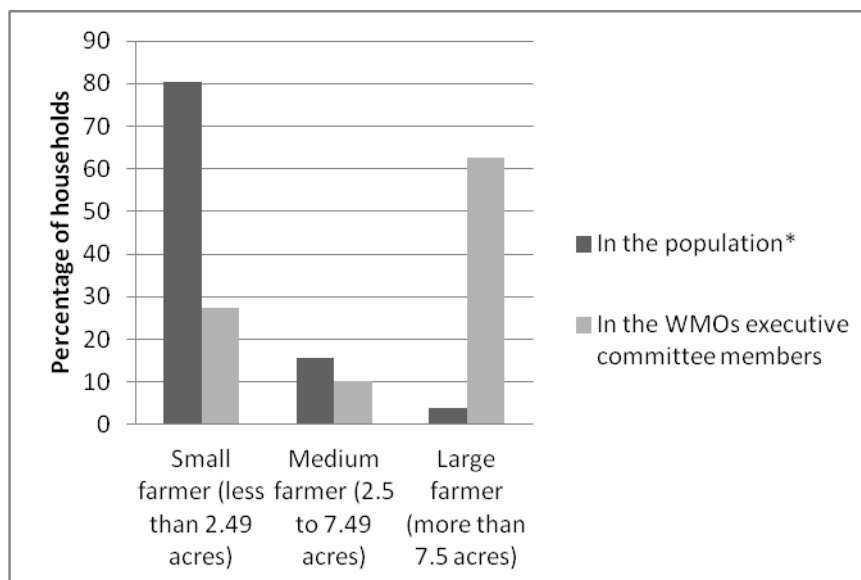
⁴ KIIs with BWDB Upazila field engineers in Khulna and Satkhira Districts, February to August 2012.

⁵ FGDs from P3, P31, P30, P43-2F and P24G, February to September 2012.

⁶ Code: 'Q3. Embankment_condition_poor'. Frequency: 48 total in the four small LGED sub-projects.

of people, nobody is excluded from the committee" were common.⁷ However, in practice the WMO composition often consisted of teachers, local politicians, and businessmen who in some instances were either not directly involved in using water for productive uses, or could benefit greatly from deciding the distribution of water. These findings are corroborated by other studies that found frequent domination of rural male elites in WMO executive committees in Bangladesh preventing participation of general people (MoP, 2005; Rahman et al., 2007; ADB, 2007a, 2008; BIDS, 2008; Nowreen et al., 2011). Elite capture of development projects in Bangladesh is not a new finding. Early literature on elite capture of developmental projects in Bangladesh dating back to the 1980s, viewed local elites as obstacles to progress and were seen to capture external development aid meant for the poor and in the process, create and maintain patronage networks for individual gains (Rahman, 1981; BRAC, 1983; Boyce, 1987). Bardhan (2000) notes that some degree of elite capture is inevitable, especially in highly heterogeneous communities marked by deep inequalities, where elites are often leaders who embody moral and political authority and can effectively communicate with outsiders.

Figure 3. Elite frequency in executive committee composition.



Source: G3 quantitative survey (IWMI, 2013). * From 1000 representative households selected in polders and sub-projects.

Note: 1 acre = 0.405 ha.

Figure 3 illustrates how the WMO executive committee does not reflect the composition of the local community. One of the most common perceptions in the qualitative survey was that the ability to participate is defined by power and economic status,⁸ where non-elites are excluded from participation in water management.⁹ In particular, the majority of poor and women respondents stated that they did not have any information on the activities of the WMOs, WMOs were not seen at platforms where voices of ordinary men and women are heard. This confirms findings from the anthropological literature on CBNRM in general, that though community participation is meant to involve and benefit all sections of the community, they can effectively exclude significant social segments, such as women (Agarwal,

⁷ FGDs in P31, P30, P43-2F, Latabunia, Bagachra-Badurgacha, Jainkathi and Jabusha, February to June 2012.

⁸ Atlas Ti code: 'Participation:power_economic_status'. Frequency: 109. Top 3rd code.

⁹ Atlas Ti code: 'Participation:exclusion_general'. Frequency: 89. Top 5th code.

2001; Sultana, 2009), while masking power dynamics and inequality (Kothari, 2001; Mosse, 2001, Bandiaky, 2008).

Quotas and tokenism: Exclusion of women and landless

Coastal water infrastructure projects in the coastal zone of Bangladesh have aimed at flood control and at supporting the most visible productive uses of water, e.g.; irrigation for paddy cultivation and water supply for shrimp farming. This latter focus has often ignored other uses of water, where women use a variety of water sources, such as ponds, wells, rivers, canals for productive (kitchen garden, livestock) and domestic purposes. WMOs are solely in charge of the productive uses of water and rarely consider other water uses that are particularly important for women: drinking water, bathing, sanitation, livestock and homestead garden irrigation (Crow and Sultana, 2002; Faisal and Kabir, 2005; MoWR and EKN 2008; Clement, 2012). For example, Crow and Sultana (2002) in their case study of coastal Bangladesh found that the neglect of the multiple uses of water in polder management can adversely affect women – shrimp farming affects them through loss of ponds and salinisation of water. For women, this has increased time to fetch water and find suitable places for bathing, poorer nutrition due to decreased vegetable cultivation and increased reliance on the cash economy for food items such as rice and fish. The expanding use of groundwater for irrigation has caused many hand pumps used for drinking and domestic water to run dry, worsening women's tasks to fetch safe water especially in arsenic-contaminated areas (ibid). A major rationale for women's participation in WMOs is therefore that it can improve the integration of their needs within water management and therefore improve their livelihoods (Clement, 2012).

Equity is a key aim of CBNRM as communities are perceived as able to manage resources for the common interest. In order to ensure 'women's participation', the guidelines (GPWM) stipulate that one-third of the executive committee members must be women. However, household surveys in the study sites reveal that 80% of executive committee members are male and less than 20% are women. Previous project evaluations have argued that women WMO representatives are often token members with no real power in WMO decision-making processes (ADB, 2003; MoP, 2005). During the data collection for the qualitative survey, it was difficult to locate women WMO members for KIIs in the majority of sites. FGDs in these communities revealed that though women are formally included in the WMOs, they are not notified of, or involved in, water management meetings. This appears to be connected to an inherent bias against women's involvement in water management expressed both explicitly, "women should not be involved in this work [water management]",¹⁰ and implicitly through the formation of WMOs consisting of only male elites who used their spouses to complement the quota requirement of the project.

A majority of women respondents emphasised the importance of drinking water and water for food, yet would still state that formal water management and WMOs belonged to the male domain. "No, I am not involved in any water management organisation. I am a woman, why will I be involved there?"¹¹

The above findings of women being marginalised in the participation process are corroborated with other studies on gender and CBNRM (Cornwall and Gaventas, 2001; Agarwal, 2001; Sultana 2009). Agarwal (2001) argues that participatory institutions can exclude people through 'participatory exclusions' that can individually or interactively constrain a woman's participation in natural resources management. She identifies these exclusionary mechanisms as rules of entry (e.g. only one member for each household in WMOs), social norms of women's behaviour and actions (meetings held in public spaces deemed inappropriate for women), social perceptions of women's abilities (unknowledgeable,

¹⁰ KII, Shrimp farmer, Tildanga Union, P31, 12 March 2012.

¹¹ KII, Woman household head, Kaliganj Union, P3, 16 February 2012.

'illiterate'), all of which are exclusions expressed by our respondents. Similarly, in her case study on community-based forest management in Nepal, Agarwal found that women's participation was often characterised by tokenism, where women were nominal members often not made aware of meetings, and when they did attend they would rarely speak up and if they did speak, their opinions carried little weight. Frequently, male executive committee members choose women members in their absence and without consulting them (Agarwal, 2001).

Some exceptions were found in IPSWAM's polders 30 and 22, where gender awareness training of both male and female WMO members was perceived to have increased the confidence in women engaging as active executive committee members in the WMOs (BARD, 2009; EKN and BWDB, 2011). This was further facilitated by long-term empowerment activities taking place during the 1980s Delta Development project implemented by the social mobilisation NGO *Nijera Kori*.¹² The women executive committee members in both these polders were vocal and proactive in the WMO and its water management decisions. Nevertheless, in both cases these women were married. In Polder 22 respondents stated that "women without husbands have nothing, no food, no clothes",¹³ indicating that the gendered issue in water management is further divided along socio-economic lines. Women-headed households revealed a sense of exclusion from most institutions due to their marital status as divorcees or widows. In addition, women who are landless, poor and/or of religious minorities often lack the social standing to participate in decision-making processes. When asked why they were not members of a WMO frequent replies were: "[w]e are women, poor and Hindu, why would they listen to us? Nobody hears us, nobody cares about us (...). We only go to meetings to provide our signature".¹⁴

Furthermore, adding women to a project does not necessarily address power issues between men and women, and does not capture that many poor and marginalised men are excluded (Agarwal, 2001). The guidelines (GPWM) recognise the particular vulnerability of those without landholding by requiring at least one landless representative in the WMO executive committees. This recognition is important because, though they do not own the land on which they work, they are also local stakeholders who are affected in various ways by issues of water management. For example, it may inhibit their right to fish for themselves in public canals or reduce or increase their chance of employment depending on whether aquaculture or agriculture is pursued.¹⁵ However, a majority of the WMOs lacked landless representatives in both the general and executive committees and when landless members have been found in these committees, they have always been male, thus ignoring the particular social exclusion of women of the poorest class.

As Agarwal (2001) points out, by having quotas for women, the differences between women in a locality may become obscured, and institutionalise exclusions and privilege where rich or elite women hold the nominal memberships. A key weakness of the CBNRM's focus on 'community' is that it ignores the various levels of conflict of interest among rural populations, by viewing the WMO as capable of representing the interests of a homogenous 'community'. The mechanism of quotas as they have been implemented thus far generally fails to empower these target groups in the decision-making processes of WMOs.

¹² KIIs, Former BWDB consultants to the Delta Development Project, Dhaka, February 2012.

¹³ FGD, WMO executive committee in Dumuria Union, P22, 8 December 2011.

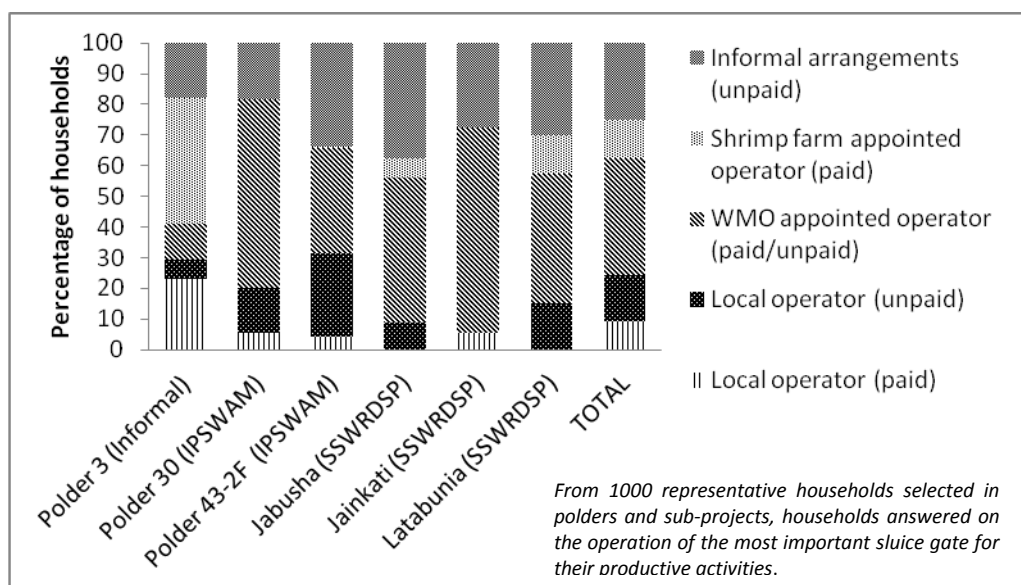
¹⁴ FGDs, Women day labourers' earthwork groups (LCS) in P3 and P31, also the most conflicted aquaculture areas.

¹⁵ FGDs with day labourers' earthwork groups (LCS) and KIIs with landless respondents in P3, P31, Bagachra-Badurgacha and Latabunia.

Rural inequalities and conflict: Operation for competing water uses

The inability of implementing agencies and of the GPWM to address social inequalities and competing interests is further revealed by the conflicts between different water users in the operation of sluice gates that regulate the water entering the polders and the usage of canals that distribute the water inside the polders. With the creation of polders in the 1960s, BWDB employed government-funded gatemen to operate the gates according to set protocols and through local requests. Since 1999, local communities have to fund and operate sluice gates themselves. The study found that sluice gate committees were created regardless of the presence of a WMO, where local operators would be paid through rice or fishing rights in the canal. This was the case even where LGED’s WMOs still continued to formally exist ten years after they had first been created. Figure 4 below illustrates the various ways in which operators for different gates may be appointed in the different polders.

Figure 4. Distribution of different modes of operation of sluice gates across six case study polders.



Source: G3 quantitative survey (IWMI, 2013).

For all SSWRDSP sub-projects, the WMO is responsible for a limited number of gates in a small area (less than 1000 ha). Figure 4 establishes that only a minority of the gates is operated through the WMOs, with a considerable number of informal arrangements. Through our qualitative study, we found that even in an area as small as Jainkathi, the WMO can only control one of the two gates due to a land dispute. In Latabunia, shrimp farmers have created private gates and pipes that they regulate unilaterally, rendering the WMO powerless. In Jabusha, factions in the WMO have led to leasing and blockage of the canals used for aquaculture, which disrupts irrigation through the main canal. Through FGDs and KIIs, a clear picture emerges of a leasing system dominated by influential elites who control canals according to their own interests. Due to their autocratic use of canals and their domination over operation of sluice gates, existence of a gate committee becomes redundant. Instead, the canals are drying up and thus losing their capacity to retain water needed for agriculture throughout the coastal zone.¹⁶ For regular farmers, the slow annihilation of the canals is detrimental as their main source of

¹⁶ FGDs and KIIs from BWDB polders P31, P3, P30, 24G and P43-2F and LGED sub-projects Bagachra-Badurgacha, Jabusha, Patuakhali, Jainkathi, February to September 2012.

irrigation is removed. As such, 'canal grabbing' impedes effective, equitable, and sustainable water management.

Some canals are possessed by powerful peoples through corruption. They use these canals as they wish. We cannot excavate, repair canals, or maintain water drainage. These privately possessed canals cannot retain water. So there is no way for us to cultivate our crops.¹⁷

The informal pipes, gates and incisions to the embankment by aquaculture interests increase the risk of flooding during disasters and reduce agricultural yields by increasing the salinity level of the land. A group of day labourers in Bagachra voiced their feeling of exclusion from any real 'participation'.

If they would listen to our voice, they could stop aquaculture and stop drawing in saltwater. All of the influential people are practising aquaculture using saltwater. Actually, they get much benefit from this, but we are not getting anything. We are going from poor to poorer.¹⁸

The problems outlined above are arguably related to the depoliticised view of water management in the CBNRM inspired GPWM. Our respondents did not equate participation with a water management organisation. Instead, the qualitative findings suggest that the WMO is an external idea that prompts polder populations to create committees as a condition to receive project funding. Without a working mechanism to ensure that power differences and the needs of marginalised stakeholders are taken into account, CBNRM cannot be truly considered participatory and equitable, rather the use of 'community' in the Bangladeshi context is based on a flawed assumption of shared common interests.

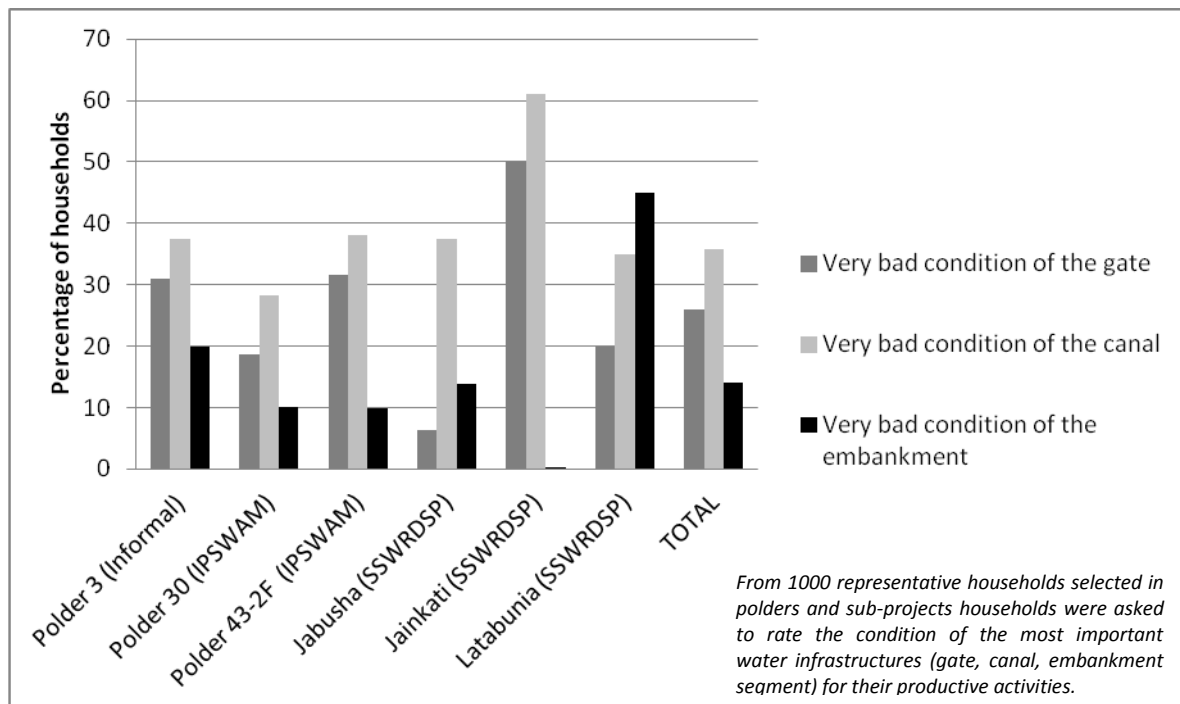
Lack of sustainability: The panacea of financial cost-sharing

As already mentioned, within a few decades after the construction of polders, it became evident that they led to several problems. The polders prevented silt from the rivers depositing on the flood plains. Instead, the sediment deposited on the river beds and raised water levels in the rivers to a higher level than the land within the polders, leading to drainage congestion and in some instances permanent inundation (FAO, 1985; Custer, 1993). Over time, siltation in the canal systems disrupted fisheries, while the intensive use of water for irrigation caused natural water bodies to dry up (Sultana and Thompson, 1997; Fariba, 2010; Rasul and Chowdhury, 2010). These problems required maintenance of the coastal water infrastructure such as rebuilding the embankments, excavating silted canals and ensuring the smooth functioning of sluice regulators for the drainage and inflow of water. Such maintenance responsibility first fell to the state through the BWDB. However, with the debate on 'participation' in the 1990s, there was an increasing focus on 'participation' as a means of local stakeholders financially contributing to O&M. With the GPWM, communities were now encouraged to contribute financially; fully for minor maintenance costs and partially for periodic maintenance defined as canal excavation and embankment repair, while being active in the regular upkeep and maintenance of infrastructure. In addition to transferring the full responsibility of operation of the gates from a state-employed gatekeeper to 'communities', the National Water Policy of 1999, also stipulates that WMOs takes full responsibility for 'minor', or day-to-day, maintenance. Therefore, given the new discourse on participation, its outcomes have to be measured not only in terms of empowerment of communities or their voices in decision-making, but in terms of state of maintenance of infrastructure. Below, we assess to what extent this decentralisation to communities has supported maintenance of the coastal water infrastructure.

¹⁷ FGD General, Khona village, Pankhali Union, P31, 10 March 2012.

¹⁸ FGD, Male earthwork group, East Bagachra, Shobhona Union, Bagachra-Badurgcha sub-project, 24 March 2012.

Figure 5. Households’ perception of the quality of water infrastructures across six study polders.



Source: G3 quantitative survey (Buisson et al., 2013).

Figure 5 highlights a poor state of maintenance. Arguably, WMOs have not only performed sub-optimally in terms of processes of community mobilisation through elite capture and marginalisation of the voices of the poor and the women, but also in their results and outcomes (O&M).

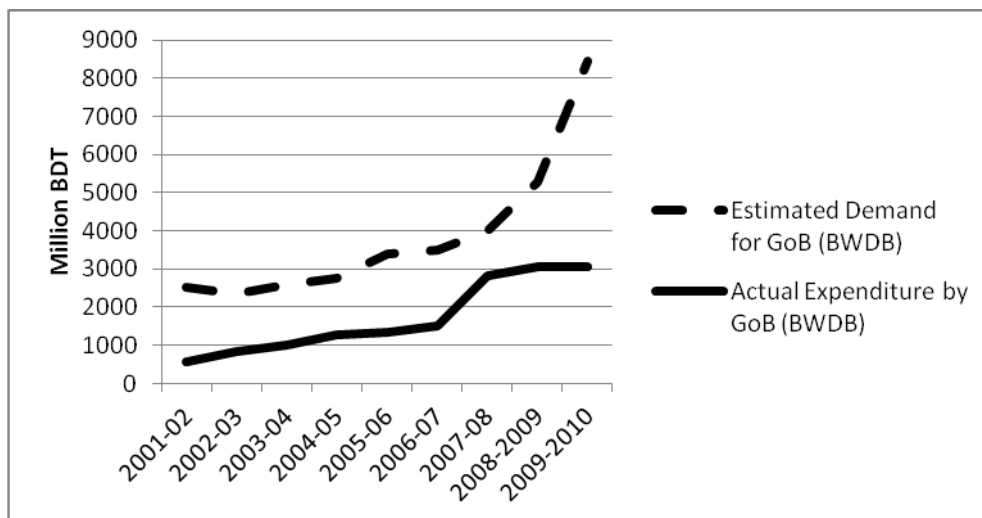
The problems of maintenance are also seen in the LGED’s flagship participatory water management projects, the SSWRDSP. LGED’s division of labour between units is well defined since major donors have promoted standardisation through long and comprehensive technical assistance. A permanent unit has been created within LGED to promote coordination of water management cooperative associations from various phases (there are currently four successive SSWRDSP projects running), while institutionalising cooperation with several different agencies (BWDB, departments of cooperatives, agricultural extension, and fisheries) (Fujita, 2011). According to our key informants, LGED’s success is often attributed to its 'water-plus' approach that combines water management with micro-credit and income-sharing activities, a financial incentive perceived to facilitate the longevity and continuity of their WMOs. In LGED’s WMOs, local stakeholders contribute a monthly fee to be a member of the WMO, seen as a means to increase their sense of ownership over the water infrastructure, while providing funds for local micro-credit. The accrued interest will then be used for WMO savings and maintenance funds (LGED, 2012). The 'water-plus' approach proved popular among other donors and was at the time of fieldwork being incorporated into the planning of BWDB’s Dutch-funded Blue Gold project.¹⁹ WMOs created by all LGED sub-projects that we studied were still active in one form or another even up to ten years after their creation, while a majority of those created by BWDB in Polders 31 (Fourth Fisheries Project, World Bank) and Polder 24G (Khulna-Jessore Drainage Rehabilitation Project, Asian Development Bank) are conspicuous by their absence.

¹⁹ KII, Embassy of the Kingdom of Netherlands to Bangladesh. Dhaka, 28 February 2012.

However, even though LGED-created WMOs are still active, this does not necessarily mean that they have carried out their mandated tasks of O&M. In fact, the amount spent by WMOs on maintenance is less than micro-credit amounts disbursed (LGED, 2009). Rather, respondents across the study sites reported high levels of default of micro-loans. Despite having active WMO cooperatives, the state of the embankment, canals, and gates tended to be poor in the four LGED sub-projects reviewed. When the WMO-financial incentive leads to higher default than repayment without contributing to effective water management, it is unlikely that micro-finance in itself is key to a sustainable WMO and warrants caution for promoting micro-finance as a sustainable practice for CBNRM.

It is equally doubtful that current cost-sharing arrangements are realistic given maintenance demands in the coastal zone. The two most frequently mentioned issues from the qualitative survey was that increased excavation of canals is necessary²⁰ and that the canals are heavily silted in a way that disrupts their function to retain and distribute water:²¹ "The Bhadra River is now the Mora (dead) Bhadra".²² The high frequencies of both responses were prevalent throughout the study sites and were followed by problems relating to damaged embankments and inactive sluice regulators. In Bagachra-Badurgacha, despite funds from leasing out canals, the WMO funding was insufficient and required additional amounts from LGED that, in turn, found itself requesting funds from the current donor. This is an example of how WMO funding from membership collection was insufficient to pay for half of the periodic maintenance costs. Moreover, GoB itself lacks the funding required for maintenance, as illustrated by Figure 6.

Figure 6. Funding gap in maintenance.



Source: Adapted from BWDB data²³.

LGED suffers from a similar problem, but on a much lower scale, and often fails to finance its part of the cost-sharing arrangements (LGED 2009). This funding gap in maintenance has therefore led to an oversubscription to LGED’s Emergency Fund and BWDB’s Non-Revenue Development Budget as a

²⁰ Atlas Ti code: 'SUG:maintenance_re-excavation of canal'. Frequency: 218.

²¹ Atlas Ti code: 'Khal_condition:silted'. Frequency: 163.

²² FGD, Male earthwork group, Shobhona Union, Bagachra-Badurgacha sub-project, 24 March 2012.

²³ Email correspondence. Planning Wing, Bangladesh Water Development Board. Dhaka, 13 April 2012.

financial source for additional maintenance costs. The reality of financial decentralisation is that the concept has remained alien to local stakeholders, who state that it is unrealistic for them to contribute half of the required maintenance costs given the problems of continuous and extensive siltation that congests both rivers and canals, while river erosion and cyclones regularly damage and weaken embankments. This regular need for major repairs is costly, time-consuming and beyond the capacity of WMOs and local communities.

A significant weakness of the GPWM is therefore that it does not take into account the considerable hydrological challenges in the coastal zone, the consequent funding deficiency or the means by which WMOs can generate such large funds. Instead, donors tend to attribute blame for deferred maintenance to communities, who they argue are unwilling to contribute financially (ADB, 2007a). In contrast, others have argued that donors are to blame, as they prefer 'visible projects' (Araral, 2005). Instead of providing continuous maintenance support, donors have let maintenance lapse after the project intervention is concluded, effectively resetting the entire rehabilitation process.²⁴ Arguably, the cost-sharing approach has not been able to ensure the sustainability of community-based water management organisations or their contribution to water management.

In addition, the 'flagship' examples of successful participatory water management projects only take place in a limited number of polders in the coastal zone. These projects also require substantial funding for mobilising and sustaining WMOs. LGED's SSWRDSP project has seen consistent funding from 1994 to 2017; arguably, the LGED project has never really ended. This makes it difficult to compare it with BWDB polders where project funding has terminated. Most BWDB WMOs tend to collapse within two years of the end of a project intervention. In the case of IPSWAM, WMOs have been in limbo since 2011, awaiting additional project funding. Furthermore, though IPSWAM is deemed a 'successful' participatory project, most of its polders reviewed are less than 7,000 ha. With difference in size comes difference in size of communities and number of villages that must be mobilised. Many LGED projects span just one village, making community mobilisation relatively easier than in most BWDB polders that are above 5000 ha spread across ten or more villages. Furthermore, since the late 1990s BWDB has undergone institutional reforms that have significantly reduced its manpower, community participation expertise and local field presence. To both create sustainable WMOs in a true participatory process and to be able to respond to the various requests and needs of these communities with over 1.21 million ha of land, BWDB requires a large number of multidisciplinary manpower, which they cannot hire without substantial and long-term external funding. To quote an ex-BWDB official: "[w]e are engineers. We cannot promote community ownership. We cannot manage these things, nor can we hire the people that can. They [donors] just forced community participation on us".

Lack of sustainability is a key reason to question the validity of the current model of WMOs, where examples of successful participatory water management projects are represented by costly processes that are difficult to replicate, a finding which matches those of a global review of participatory water projects (Mukherji et al., 2009). The use of WMOs is particularly unsustainable given their record of being unable to address the acute maintenance challenges facing the coastal zone, making local communities increasingly vulnerable to cyclones and rising sea levels. The CBNRM model in Bangladesh's coastal water management is unsustainable for two key reasons. One is that this form of decentralisation does not equip WMOs financially or structurally to deal with an ongoing and accelerating water management crisis. Second, it is a costly and time-consuming process to create and sustain these WMOs, resources that could have been allocated to state and local government institutions to better equip them with the acute issues of periodic maintenance.

²⁴ KIIs with project consultants for BWDB's IPSWAM and LGED's SSWRDSP, Dhaka, February 2012 as well as LGED, 2010.

FILLING THE GAP: THE ROLE OF LOCAL GOVERNMENT

Local government institutions (LGIs) are not formally acknowledged in the GPWM, but play an important role in water management. For example, the Union Parishad (UP) arranges for evacuation when alerted to cyclones, while it also organises immediate repair in the face of embankments breaking during disasters. Similarly, when the WMO system fails to address acute maintenance needs, the UP responds to the requests of its constituents by using rural employment schemes such as KABHIKA (Food for Work), KABITA (Cash for Work) and 40-day Work Order allocated from the UP to maintain roads, embankments, and canals. It does so through either sub-contracting NGOs or LGED, or by directly forming Labour Contracting Societies consisting of the rural and disadvantaged poor. Such rural employment schemes are popular and a majority of respondents suggested that permanent funding should be made available to these schemes to address siltation and river erosion.

In BWDB polders where the WMOs have become inactive after the project has ended, such as in P24G in Jessore, P31 in Dacope and P30 in Khulna, and in areas without formal participatory projects, e.g. in P3 Satkhira, the local governments in the form of UPs are active members of gate committees. They are often the first point of contact for water management issues, "If we face any problem, we inform the Union Parishad",²⁵ and are part of the decision-making process relating to gate operations and coordination of different requests. Since the UP representatives are democratically and locally elected, this arrangement is seen as generally favourable in managing disputes of operation, though incidences of elite capture have also been mentioned.²⁶

In P24 and P31, if pipe problems occur, canal excavation is impeded or other illicit activities take place, the UP is often the first point of contact for mediation. In P24, the UP played a strong role in freeing canals from misappropriation in order to re-excavate canals. In the north of P31, it led the public opposition against shrimp farming after cyclone Aila hit in 2009, when coastal communities suffered from weakened embankments caused by illegal pipes and cuts made by shrimp farmers. In contrast to the lack of confidence in externally initiated WMOs, respondents from various categories voiced that they perceived the UP as locally accessible, accountable and working for the local community. The second most frequently mentioned suggestion in the qualitative survey, after canal excavation, was that the role of UP in water management should increase.²⁷ The FGDs and KIIs generally depict the UPs as having a unique position as grassroots representatives situated within the local government system. This allows them to further coordinate between various sectors, from drinking water to agriculture, fisheries, infrastructure and health, and thus help avoid the replication and duplication that otherwise tend to occur in a 'project' approach. This is in stark contrast to the isolated task of the WMO. Figure 7 below illustrates the gap between participation as seen by the GPWM versus participation as seen by the local Bangladeshi people themselves. In total, more than 70% believed that the Government (BWDB, UP, LGED) should be responsible for water management, with a majority favouring the UP.

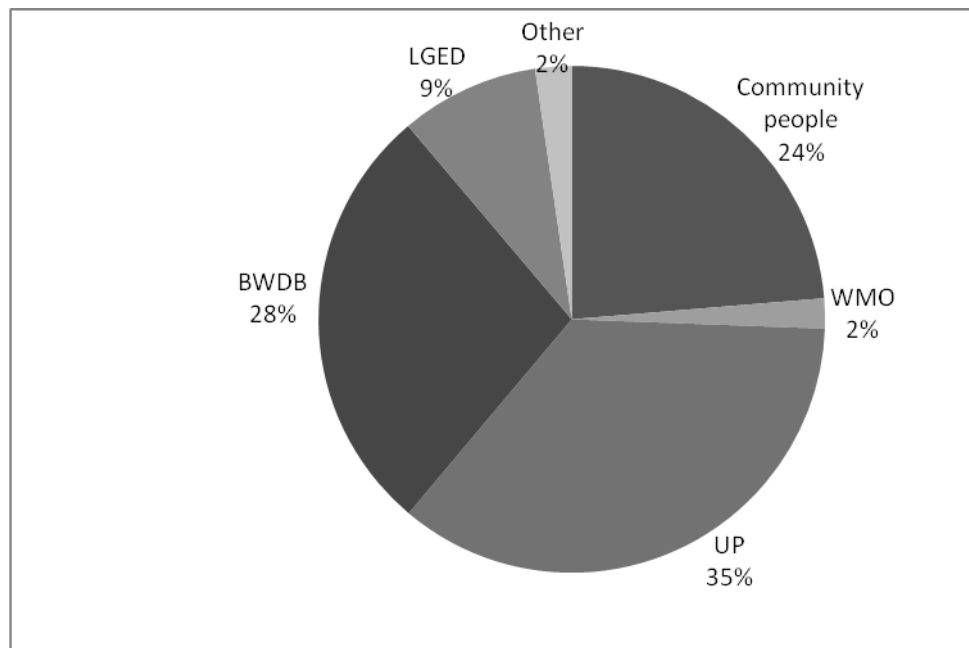
Figure 7 illustrates that respondents preferred the UP to act in water management questions (35%) over temporary project entities such as WMOs (2%).

²⁵ Atlas Ti code: 'Union Parishad:perception_First point of contact', Frequency: 82. Top 9th code.

²⁶ A key exception to this was found in P3, where the UP officials tend to be part of the system of influential elites/shrimp farmers. This is discussed in-depth by De Silva (2012). Similar criticisms and allegations of corruption and collusion were voiced in Polder 31's Tildanga Union, Latabunia and Jabusha, where financial interests from the aquaculture industry are meshed with local politics.

²⁷ Atlas Ti code: 'SUG: increase_role_water_management_UnionParishad'. Frequency: 91. Top 2nd code.

Figure 7. Perception of the responsibility for water management.



Source: G3 quantitative data (IWMI, 2013). From 1000 representative households selected in polders and sub-projects, households were asked who should act to solve the water-management problems.

Any institution situated in a context of deep inequalities and social strife is prone to elite capture (Bardhan, 2000). Local government institutions such as the UP in Bangladesh and Gram Panchayat in India are just as prone to elite capture as WMOs and are as likely to be corrupt and exclude the voices of the poor and the marginalised (Bardhan, 2000; Khan, 2004; Lewis and Hossain, 2008). Increasing the role of local government institutions in water management is not a panacea. They have their own share of problems ranging from several factors that impede their responsiveness and accountability to the people (As-Saber and Rabbi, 2009). This encompasses role confusion and a lack of authority and accountability between local politicians (the UP) and local bureaucrats (at Upazilla/district level) (Toufique and Turton, 2002) to being weak and constrained by the central government through regulations and inadequate local resources (Toufique and Turton, 2002; As-Saber and Rabbi, 2009).

However, Lewis and Hossain (2008) in a detailed ethnographic case study in three villages in rural Bangladesh, suggest that traditional notions of elite capture and rural power structure are becoming less rigid. They argue that this happens through any of three broader institutional factors – increased level of political participation in local government institutions, empowerment activities of NGOs and attempted reform in local dispute-resolution mechanisms often by including members of the elected local governments in the process. Our study supports this to the extent that UPs are broadly playing stronger roles as chairs of formal and unofficial committees and bodies like those of WMOs (Toufique and Turton, 2002). Furthermore, in polders where NGOs engage in social activities to empower and mobilise citizens, this has led to a movement to hold their democratically elected representatives accountable and responsive to their needs. For example, *Nijera Kori* and Bangladesh Environmental Lawyers Association provided support to landless groups and an anti-salinity movement in order to regain land from aquaculture through the help of their local government officials. This illustrates Larson's argument that poor and excluded people "need organisations and collective action, allies, interlocutors and sympathetic, or at least open-minded, government officials" if they are to be heard (Larson, 2008: 46).

Despite the mentioned shortcomings of local government institutions, there are several points that favour inclusion of UPs in water management. First, chairmen and members of UPs are already involved in water management as we noted above. They are involved because, as elected representative of the people, the local residents demand these services from them and given the nature of electoral politics, UP members feel obliged to meet these demands. Thus, the polls might exert a positive pressure on the UP members in favour of their electorate's needs and in favour of accountability. The deficient electoral process of the WMOs and the lack of long-term vision prevent this pressure to work in the case of the community organisations. Second, unlike WMOs, whose funding is restricted through specific donor projects, UPs can access wider arrays of developmental funds from the Upazilla level that they can deploy more effectively for water-management-related work. Finally, while there is considerable change required to strengthen LGIs to become more accountable and effective (As-Saber and Rabbi, 2009), each successful local election means that local governments, their power and authority are validated by the electorate. Strengthening of grassroots democracy through regular elections and inherent competition for votes in a multi-party democracy is likely to lessen chances of elite capture and exclusion (Lewis and Hossain, 2008). Moving beyond the CBNRM model could involve more focus on democratic decentralisation through local governments, where they are empowered financially and in terms of authority to work for sustainable, equitable and efficient natural resources management. In the case of Bangladesh, a formal recognition of the UPs' role in water management has great potential to allow them to act as the democratic link between communities and implementing government agencies, though it must be noted that this is not a 'silver bullet'. It could, however, contribute towards a democratic decentralisation of water management that is (a) *more efficient* as they can coordinate between various departments at the local level while using existing channels for maintenance; (b) *more equitable* as they face re-election and are therefore held accountable to their voters to a greater extent than the WMO executive committees where elections are exclusive to those with economic or social power; (c) *more sustainable* as it would strengthen existing government channels and make them more responsive and accountable to their citizens rather than having to rely on temporary projects. This requires formal funding and recognition of initiatives furthering transparency and accountability to citizens in the local government system.

Yet, despite their merits and performance in water management, local governments are neglected in favour of WMOs. The argument for a more central role for local governments in water management is not new. In the early 1990s Wester and Bron (n.d.) proposed a multi-tier water management system, in which at system level (that is covering the whole polder or sub-project), there will be a water management system committee composed of those chairmen of UPs within the boundary of that polder. This was suggested in a document meant to inform the formulation of National Water Policy and GPWM. However, while holding consultation meetings in 1997 to generate consensus around this proposal, the authors met with considerable resistance from donors. Though this resistance was phrased through perceptions of LGIs as weak and corrupt, there also appears to be a lack of political will by the central government to empower local governments (Hossain, 2004; Fox and Menon, 2008; As-Saber and Rabbi, 2009), a sentiment also voiced by several key informants. This phenomenon is not limited to Bangladesh. Several global case studies have found that the desired institutional arrangements for effective decentralisation are rarely observed (Devas and Grant, 2003; Ribot et al., 2006; Larson and Ribot, 2007; Clement, 2010). This is in line with Poteete and Ribot's argument that "decentralisation rarely generates democratisation because powerful actors use repertoires of domination effectively to circumvent or neutralise formal policy change" (Poteete and Ribot, 2011: 440). In addition, other studies have found that most programmes for decentralised natural resources management have had little effect on local power (Hulme and Murphree, 2001; Larson and Ribot, 2007; Wittayapak and Vandergeest, 2009; Poteete and Ribot, 2011). Arguably, one key weakness with the CBNRM model is that it acts as an alternative decentralisation working in parallel with existing local government institutions, while simultaneously enabling capture of resources.

CONCLUSION

Donors have promoted CBNRM since the 1980s as a means to improve the management of natural resources. Yet, several case studies in Africa, Latin America, and Asia have pointed to weaknesses and limitations of the CBNRM approach, which has provided an avenue for donors to transfer power to non-state actors as part of a neo-liberal decentralisation agenda. This case study from Bangladesh contributes to the current literature by adding examples of the failed attempts of CBNRM to reach the stated aims of efficient, equitable and sustainable water management. It also calls attention to the ways in which decentralisation through community-based organisations may undermine democratic decentralisation.

In Bangladesh, the CBNRM concept was applied to water, a culturally common natural resource key to coastal livelihoods. It is subjected to competing uses, while its management and maintenance help to protect against flooding and disasters. The GPWM were established to ensure that local people from all segments of society could influence water decisions that affected them, with a particular emphasis on the control of gates and canals. At the same time, it departed from previous discourses of people's participation by focusing on decentralising responsibility to local stakeholders, rather than mobilising their degree of decision-making on development outcomes. Furthermore, it imposed participation and CBNRM on the main implementing state agency, the BWDB, while having removed its Land and Water User Directorate and reduced staff who had the expertise to engage and consult with local communities. It was also apolitical in its nature by limiting representation of local stakeholders to externally created community-based water management organisations, thus obfuscating deep inequalities embedded in society. The GPWM model of quotas has resulted in high degrees of tokenism among women and landless representatives, two groups that are rarely involved in decision-making processes. As externally initiated committees, these WMOs tend to lack both transparency and accountability through their artificial elections, and instead become resources for elites. This model is unable to address underlying conflicts tied to socio-economic inequalities, evidenced by the prevalence of illegal salinity intrusion and the misappropriation of public canals. It has therefore proven unsuccessful in ensuring equitable water management.

In addition, the model has proved ineffective as engineering design remains top-down. Participation is limited to consultation while decision-making power remains in the hands of the implementing agency. The WMO model is also unsustainable, as its unrealistic cost-sharing requirements do not take into account the periodic maintenance challenges posed by siltation, river erosion, canal grabbing and illegal cuts/pipes in the embankment further contributing to deferred maintenance. Rather, millions of dollars are spent on each individual donor-funded project in order to create and sustain WMOs, yet these often collapse within two years, a finding corroborated by Mukherji et al. (2009) in their global review of participatory irrigation management. In addition, WMOs are disassociated from the local government structure and established channels for maintenance, and instead rely heavily on project funding and project staff to help sustain them. In contrast, the UP is perceived as embedded in the local government institutional structure, with access to rural employment schemes from the Upazila office. If donors and the government of Bangladesh were to establish a permanent maintenance fund and allocate it through existing local government channels, this would arguably be a more sustainable system to address the acute maintenance needs in the coastal zone.

For participatory water management to be sustainable, effective, and equitable, water policy must recognise the politicised nature of water management and the limitations of CBNRM to reach its aims. Until the 1990s, there were alternative approaches to participation, illustrated by the bottom-up grassroots movements from NGOs such as *Nijera Kori* and BELA. Policy ought to support such movements and, subsequently, the pro-active role the UP can take in the resolution of water management conflicts. With the momentum for change in Bangladesh in 2013 arising out of the Shahbagh movement and the Rana Plaza building fire, the Government of Bangladesh, the Ministry of

Water Resources, and donors have ample opportunity to strengthen local governments and move away from a project mentality. For Bangladesh's coastal water management, that would include formalising the role of local governments in local water management and ensuring their access to the permanent maintenance funds, required to address the severe hydrological and socio-economic challenges facing the coastal zone of Bangladesh. This, in turn, would lead to support for real and democratic decentralisation, rather than for the limited effectiveness of CBNRM in the water sector.

ACKNOWLEDGEMENTS

This article is based on data collected from the project G3: Water Governance and Community-based Management in Coastal Bangladesh – a part of the Ganges Basin Development Challenge, funded by the CGIAR Challenge Program on Water and Food. The authors wish to thank colleagues from the International Water Management Institute, in particular Mark Giordano, Sanjiv De Silva, Floriane Clement, and Ravinder Malik for their feedback and support, as well as to the three anonymous reviewers for their useful suggestions. They also wish to thank the G3 partner NGO Shushilan for their data collection throughout the southwest coastal zone of Bangladesh. Last, a special thanks to the government officials, donors, and project staff who gave access to valuable information on water management in Bangladesh.

REFERENCES

- ADB (Asian Development Bank). 2003. External evaluation. Small-scale water resources development sector project. Final Report. Dhaka, Bangladesh: ADB.
- ADB. 2007a. Project performance evaluation report. Small scale water resources development sector project (Loan 1381-BAN). Dhaka, Bangladesh: ADB (Operations and Evaluation Department).
- ADB. 2007b. Project performance evaluation report, Bangladesh: Khulna Jessore Drainage Rehabilitation Project. Dhaka, Bangladesh: ADB (Operations and Evaluation Department).
- ADB. 2008. Operation and maintenance study: Final report. Incremental support to TA-7041-BAN: Participatory small-scale water resources project. Dhaka, Bangladesh: ADB.
- Agarwal, B. 2001. Participatory exclusions, community forestry, and gender: An analysis for South Asia and a conceptual framework. *World Development* 29(10): 1623-1648.
- Agrawal, A. and Gibson, C.C. 1999. Enchantment and disenchantment: The role of community in natural resource conservation. *World Development* 27(4): 629-649.
- Araral, E. 2005. Bureaucratic incentives, path dependence, and foreign aid: An empirical institutional analysis of irrigation in the Philippines. *Policy Sciences* 38(2-3): 131-57.
- Arnstein, S.R. 1969. A ladder of citizen participation. *Journal of the American Institute of Planners* 35(4): 216-24.
- Arntzen, J.W.; Molokomme, D.L.; Terry, E.M.; Moleele, N.; Tshosa, O. and Mazambani, D. 2003. *Main findings of the review of CBNRM in Botswana*. Occasional Paper No. 14. Gaborone: IUCN/Netherlands Development Organisation (SNV) CBNRM Support Programme.
- As-Saber, S. and Rabbi, M. 2009. Democratisation of the Upazila Parishad and its impact on responsiveness and accountability: Myths versus realities. *Journal of Administration and Governance* 4(2): 53-71.
- Bandiaky, S. 2008. Gender inequality in Malidino biodiversity community-based reserve, Senegal: Political parties and the village approach. *Conservation & Society* 6(1): 62-73.
- BRAC (Bangladesh Rural Advancement Committee). 1983. *The net: Power structure in ten villages*. Dhaka: BRAC.
- BARD (Bangladesh Academy of Rural Development). 2009. *Review of the socioeconomic impact assessment report on IPSWAM project in Southern and South-western zones of Bangladesh*. Comilla, Bangladesh: BARD.
- Bardhan, P. 2000. Irrigation and cooperation: An empirical analysis of 48 irrigation communities in South India. *Economic Development and Cultural Change* 48(4): 847-866.

- BIDS (Bangladesh Institute of Development Studies). 2008. *Impact evaluation study: Report of selected 10 sub-projects, SSWRDSP-I, Benefits monitoring and evaluation (BME) study, GoB, LGED, IWRM*. Dhaka, Bangladesh: Local Government Engineering Development, Government of Bangladesh.
- Blaikie, P. 2006. Is small really beautiful? Community-based natural resource management in Malawi and Botswana. *World Development* 34(11): 1942-57.
- Boyce, J. 1987. *Agrarian impasse in Bengal: Institutional constraints to technological change*. Oxford: Oxford University Press.
- Buisson, M.-C.; Mitra, A. and Kenia, N. 2013. Report from Households and Water Management Organizations Quantitative Surveys. Dhaka, Bangladesh: Challenge Program on Water and Food
- Chambers, R. 1983. *Rural development: Putting the last first*. London: Longman.
- Chambers, R. 1997. *Whose reality counts? Putting the first last*. London: Intermediate Technology Publications.
- Clement, F. 2010. Analysing decentralised natural resource governance: Proposition for a 'politicised' institutional analysis and development framework. *Policy Sciences* 43(2): 129-56.
- Clement, F. 2012. *Literature review: Gender and water management organisations in Bangladesh*. Dhaka, Bangladesh: Challenge Program on Water and Food.
- Cooke, B. and Kothari, U. 2001. *Participation: The new tyranny?* London and New York: Zed Books.
- Cornwall, A. and Gaventa, J. 2001. Bridging the gap: Citizenship, participation and accountability. *PLA Notes* 40(??): 32-5.
- Crook, R.C. and Manor, J. 1998. *Democracy and decentralization in South Asia and West Africa: Participation, accountability and performance*. New York, US: Cambridge University Press.
- Crow, B. and Sultana, F. 2002. Gender, class and access to water: Three cases in a poor and crowded delta. *Society and Natural Resources* 15(8): 709-724.
- Custer, P. 1993. Bangladesh's flood action plan: A critique. *Economic and Political Weekly* July (17-24): 1501-03.
- De Silva, S. 2012. *G3 situation analysis report: Polder 3, Satkhira, Bangladesh*. Colombo, Sri Lanka: International Water Management Institute. Mimeo.
- Devas, N. and Grant, U. 2003. Local government decision-making citizen participation and local accountability: Some evidence from Kenya and Uganda. *Public Administration and Development* 23(4): 307-16.
- Dewan, C. 2009. Piper calls the tune query: A case study of power-dynamics between Northern donors and Southern recipients in Bangladesh. MA dissertation, University of Edinburgh, Edinburgh, UK.
- Dutta, A. 1997. *Planning and management of water resources – Lessons from two decades of early implementation projects, Bangladesh*. Dhaka, Bangladesh: University Press Limited.
- Duyne, J. 1997. Local initiatives and national projects in Bangladesh. In Dutta, A.K. (Ed), *Planning and management of water resources – Lessons from two decades of early implementation projects, Bangladesh*, pp. 25-88. Dhaka, Bangladesh: University Press Limited.
- Edwards, M. and Hulme, D. 1997. *Beyond the magic bullet: NGO performance and accountability in the post-cold war world*. West Hartford, Connecticut, US: Kumarian Press.
- EKN (Embassy of the Kingdom of Netherlands) and BWDB (Bangladesh Water Development Board). 2011. *Integrated planning for sustainable water management (IPSWAM): Evaluation report*. Dhaka, Bangladesh: EKN and Government of Bangladesh.
- Faisal, L.M. and Kabir, M.R. 2005. An analysis of gender-water nexus in rural Bangladesh. *Journal of Developing Societies* 21(2): 175-194.
- FAO (Food and Agriculture Organization of the United Nations). 1985. *Report on tidal area study.: FISHERIES RESOURCES SURVEY SYSTEM, FAO/UNDP-BGD/79/015*.
www.fao.org/docrep/field/003/AC352E/AC352E00.htm (accessed 10 January 2012)
- Fariba, A. 2010. *Contested waters, conflicting livelihoods and water regimes in Bangladesh*. Hague, The Netherlands: International Institute of Social Studies.
- Fox, W.F. and Menon, B. 2008. *Decentralization in Bangladesh: Decentralization has been elusive*. International Studies Program Working Paper Series 0829. Atlanta, Georgia, US: International Center for Public Policy, Andrew Young School of Policy Studies, Georgia State University.

- Fujita, Y. 2011. *What makes the Bangladesh Local Government Engineering Department (LGED) so effective? Complementarity between LGED capacity and donor capacity development support*. Tokyo: JICA Research Institute.
- Hanchett, S. 1997. Participation and policy development: The case of the Bangladesh Flood Action Plan. *Development Policy Review* 15(3): 277-95.
- Hardin, G. 1968. The tragedy of the commons. *Science* 162(3859): 1243-1248.
- Hashemi, S. 1996. NGO accountability in Bangladesh: Beneficiaries, donors and the state. In Hulme, D. and Edwards, M. (Eds), *Beyond the magic bullet: NGO performance and accountability in the post-cold war world*, pp. 123-31. West Hartford, Connecticut, US: Kumarian Press.
- Holloway, R. 1998. *Supporting citizens' initiatives: Bangladesh's NGOs and society*. London, UK: Intermediate Technology Publication.
- Hossain, M. A. 2004. *Administrative decentralization: A framework for discussion and its practices in Bangladesh*. Rajshahi, Bangladesh: University of Rajshahi.
- Hulme, D. and Murphree, M. 2001. *African wildlife and livelihoods: The promise and performance of community conservation*. Oxford, UK: James Currey.
- Ingham, B. and Kalam, A. 1992. Decentralization and development: Theory and evidence from Bangladesh. *Public Administration and Development* 12(4): 375-85.
- IWMI (International Water Management Institute). 2013. Results from G3 quantitative survey. Project report. Colombo: IWMI (Mimeo).
- Khan, M. M. 2004. Corruption: Concepts, comparative experiences and Bangladesh case. A paper prepared for Transparency International – Bangladesh Chapter. <http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN019105.pdf> (accessed 13 April 2014)
- Kothari, U. 2001. Power, knowledge and social control in participatory development. In Cooke, B. and Kothari, U. 2001. *Participation: The new tyranny?*, pp. 139-152. London and New York: Zed Books.
- Larson, A. 2003. Decentralisation and forest management in Latin America: Towards a working model. *Public Administration and Development* 23(3): 211-226.
- Larson, A. 2008. Indigenous peoples, representation and citizenship in Guatemalan forestry. *Conservation and Society* 6(1): 35-48.
- Larson, A.M. and Ribot, J.C. 2007. The poverty of forestry policy: Double standards on an uneven playing field. *Sustainability Science* 2(2): 189-204.
- Leach, M.; Mearns, R. and Scoones, I. 1999. Environmental entitlements: Dynamics and institutions in community-based natural resource management. *World Development* 27(2): 225-247.
- Lewis, D. and Hossain, A. 2008. A tale of three villages: Power, difference and locality in rural Bangladesh. *Journal of South Asian Development* 3(1): 33-51.
- LGED (Local Government Engineering Department). 2012. *Inception report: Support to Department of Cooperatives under participatory Small Scale Water Resources Sector Project*. Dhaka, Bangladesh: LGED (Mimeo).
- LGED (Local Government Engineering Department). 2009. *Operation and maintenance strategy development for small scale water resources sub-projects: Small scale water resources support strategy and O&M manual*. Dhaka, Bangladesh: LGED and Asian Development Bank.
- Mansuri, G. and Rao, V. 2003. *Evaluating community-based and community-driven development: A critical review of the evidence*. Development Research Group. Washington, DC: The World Bank.
- Molle, F. 2008. Nirvana concepts, narratives and policy models: Insights from the water sector. *Water Alternatives* 1(1): 131-56.
- Mollinga, P. M. 1998. Editorial introduction. In Mollinga, P.M.; Merrey, D.J.; Hvidt, M. and Radwan, L.S. 1998. *Water control in Egypt's canal irrigation: A discussion of institutional issues at different levels, international institute for land reclamation and improvement*. Wageningen, the Netherlands: Wageningen Agricultural University.

- Mollinga, P. 2008. Water, politics and development: Framing a political sociology of water resources. *Water Alternatives* 1(1): 7-23.
- MoP (Ministry of Planning). 2005. *Evaluation study on small scale water resources development sector project at Upazila and Union level 1996-2002*. Dhaka, Bangladesh: MoP, Government of Bangladesh.
- Mosse, D. 1999. Colonial and contemporary ideologies of 'community management': The case of tank irrigation development in South India. *Modern Asian Studies* 33(2): 303-38.
- Mosse, D. 2001. 'People's knowledge', participation and patronage: Operations and representations in development. In Cooke, B. and Kothari, U. (Eds), *Participation – The new tyranny?*, pp. 16-35. London: Zed Books.
- Mosse, D. 2004. Is good policy unimplementable? Reflections on the ethnography of aid policy and practice. *Development and Change* 35 (4): 639-71.
- Mosse, D. 2005. *Cultivating development: An ethnography of aid policy and practice*. Anthropology, culture and society. London, UK: Pluto Press.
- MoWR (Ministry of Water Resources). 1999. *National Water Policy*. Dhaka, Bangladesh: MoWR, Government of Bangladesh.
- MoWR. 2000. *Bangladesh Water Development Board Act 2000*. Dhaka, Bangladesh: Government of Bangladesh.
- MoWR. 2001. *Guidelines for participatory water management*. Dhaka, Bangladesh: Government of Bangladesh.
- MoWR. 2005. *Technical report no 2: Report of the institutional analysis study. Integrated Planning for Sustainable Water Management (IPSWAM)*. Dhaka, Bangladesh: Government of Bangladesh.
- MoWR and EKN (Embassy of the Kingdom of the Netherlands). 2008. *Integrated Planning for Sustainable Water Management (IPSWAM). Gender in IPSAWM*. Dhaka, Bangladesh: Government of Bangladesh.
- Mukherji, A.; Fuleki, B.; Shah, T.; Suhardiman, D.; Giordano, M. and Weligamage, P. 2009. *Irrigation reforms in Asia: A review of 108 cases of irrigation management transfer*. Colombo, Sri Lanka: International Water Management Institute.
- Nowreen, S.M.; Khan, S.A. and Huq, H. 2011. Development of an operational IWRM framework in a selected small scale water resources development sector project in Bangladesh. *South Asian Water Studies* 2(2): 6-26.
- Ostrom, E. 1990. *Governing the commons: The evolution of institutions for collective action*. New York, Cambridge University Press.
- Poteete, A. and Ribot, J. 2011. Repertoires of domination: Decentralization as process in Botswana and Senegal. *World Development* 39(3): 439-49.
- Palmer-Jones, R.; Arvidson, M and Mandal, S. 2010. *Whatever happened to the water sellers?* Draft paper presented at festschrift for Geoff Wood, University of Bath, 13-14/9/2010.
www.uea.ac.uk/~d280/other/bangladesh/water%20sellers%207%20Sept.pdf (accessed 4 May 2014)
- Rahman, A. 1981. *Rural power structure: A study of local leaders in Bangladesh*. Dhaka: Bangladesh Books International.
- Rahman, A.; Rahman, T. and Rahman, T. 2007. *The role of organizations in the growth of the rural non-farm sector in Bangladesh: The case of LGED*. University of Manchester Discussion Paper Series No. 11. Manchester, UK: Improving Institutions Pro-Poor Growth (IPPG) Programme Office, Institute for Development Policy and Management, University of Manchester.
- Rahman, S. 2006. Development, democracy and the NGO sector: Theory and evidence from Bangladesh. *Journal of Developing Societies* 22(4): 451-73.
- Rasul, G. and Chowdhury, A. 2010. Equity and social justice in water resource management in Bangladesh. *Gatekeeper Series International Institute for Environment and Development (IIED)* 146(July): 1-20.
- Ribot, J.; Agrawal, A. and Larson, A. M. 2006. Recentralizing while decentralizing: How national governments reappropriate forest resources. *World Development* 34(11): 1864-86.
- Ribot, J.; Chhatre, A. and Lankina, T. 2008. Introduction: Institutional choice and recognition in the formation and consolidation of local democracy. *Conservation and Society* 6(1): 1-11.

- Shackleton, S. and Campbell, B. 2001. Devolution in natural resources management: Institutional arrangements and shifts – A synthesis of case studies for Southern Africa. Report to USAID SADC NRM Project no. 690-0251.12. 79. Mimeo.
- Shackleton, S.; Campbell, B.; Wollenberg, E. and Edmunds, D. 2002. Devolution and community based management: Creating space for local people to participate and benefit? *Natural Resources Perspectives (ODI)* 76: 1-6.
- Sogge, D. 2002. *Give and take: What's the matter with foreign aid?* London; New York: Zed Books.
- Sultana, F. 2009. Community and participation in water resources management: Gendering and naturing development debates from Bangladesh. *Transactions of the Institute of British Geographers* 34(3): 346-63.
- Sultana, P. and Thompson, P. 1997. Effects of flood control and drainage on fisheries in Bangladesh and the design of mitigating measures. *Regulated Rivers: Research and Management* 13(1): 43-55.
- Summers, L. 2001. Speech at World Bank Country Director's Retreat – 2001, June 2001.
- Thörlind, R. 2000. *Development, decentralization and democracy: Exploring social capital and politicization in the Bengal region*. Copenhagen, Denmark: Nordic Institute of Asian Studies.
- Toufique, K.A. and Turton, C. 2002. *Hands not land: How livelihoods are changing in rural Bangladesh*. Dhaka, Bangladesh: Bangladesh Institute of Development Studies.
- Wester, P. and Bron, J. (n.d.). *Coping with water: Water management in flood control and drainage systems in Bangladesh*. <http://edepot.wur.nl/78392> (accessed 24 April, 2014)
- Williams, G. 2004. Evaluating participatory development: Tyranny, power and (re)politicisation. *Third World Quarterly* 25(3): 557-578.
- Wittayapak, C. and Vandergeest, P. 2009. *The politics of decentralization: Natural resource management in Asia*. Chiang Mai, China: Mekong Press.
- Wood, G.D. 1994. *Bangladesh: Whose ideas, whose interests?* Dhaka, Bangladesh: University Press Limited.
- World Bank. 1988. *World development report*. New York, US: Oxford University Press.

THIS ARTICLE IS DISTRIBUTED UNDER THE TERMS OF THE CREATIVE COMMONS *ATTRIBUTION-NONCOMMERCIAL-SHAREALIKE* LICENSE WHICH PERMITS ANY NON COMMERCIAL USE, DISTRIBUTION, AND REPRODUCTION IN ANY MEDIUM, PROVIDED THE ORIGINAL AUTHOR(S) AND SOURCE ARE CREDITED. SEE <HTTP://CREATIVECOMMONS.ORG/LICENSES/BY-NC-SA/3.0/LEGALCODE>