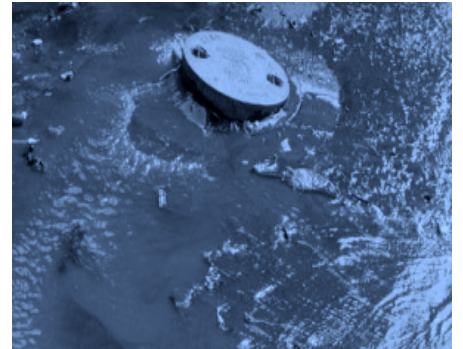


A Political Economy Study of the WASH Sector in Bangladesh



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Submitted by



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A Political Economy Study of the WASH Sector in Bangladesh

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List of Acronyms

ADB	Asian Development Bank
ADP	Annual Development Programme
ARWSP	Accelerated Rural Water Supply Program
BRRI	Bangladesh River Research Institute
BWDB	Bangladesh Water Development Board
CEIGS	Center for Environmental and Geographic Information Services
CLTS	Community Led Total Sanitation
CRSP	Central Rural Sanitation Program
CSO	Central Statistics Office
DANIDA	Danish International Development Agency
DFID	Department for International Development
DILG	Department of the Interior and Local Government
DoC	Drivers of Change
DPHE	Department of Public Health Engineering
DSK	Dushtha Shasthya Kendra
DWASA	Dhaka Water Supply and Sewerage Authorities
ECOSAN	Ecological sanitation
EDPs	External Development Partners
ERG	Economic Research Group
ESHWSUSF	Sanitation, Hygiene and Water Supply in Urban Slums and Fringes
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GED	General Economics Division
GTZ	German Technical Cooperation Agency
HDRC	Human Development Research Centre
ICDDR	International Centre for Diarrhoeal Disease Research, Bangladesh
INGO	International Non-governmental Organization
ISP	Intensive Sanitation Project
IAPMO	International Association of Plumbing and Mechanical Officials
IFPRI	International Food Policy Research Institute
IWM	Institute of Water Modeling
JICA	Japan International Cooperation Agency
JMP	Joint Monitoring Programme
JnNURM	Jawaharlal Nehru National Urban Mission
JRC	Joint River Commission
KAPs	Knowledge, Aptitude and Practices Survey
LGD	Local Government Division
LGED	Local Government Engineering Department
MDG	Millennium Development Goals
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act

MICS	Multiple Indicator Cluster Surveys
NBA	Nirmal Bharat Abhiyan
NGO	Non-governmental Organization
NGP	Nirmal Gram Puraskar
NHPS	National Hygiene Promotion Strategy
NSDP	National Slum Development Program
NUSP	National Urban Sanitation Policy
NWRC	National Water Resources Council
OECD-DAC	Development Co-operation Directorate
OPM	Online Project Management
PE	Political Economy
PEA	Political Economy Analysis
PRSP	Poverty Reduction Strategy Papers
RAY	Rajib Awas Yojana
RGNDWM	Rajiv Gandhi National Drinking Water Mission
SBA	Swachh Bharat Abhiyan
SDG	Sustainable Development Goals
SIDA	Swedish International Development Cooperation
SNV	SNV Netherlands Development Organisation
TSC	Total Sanitation Campaign
UIDSSMT	Urban Infrastructure Development Scheme for Small & Medium Towns
ULBs	Urban Local Bodies
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
VAMBAY	Valmiki Ambedkar Awas Yojana
VIP	Ventilated improved pit latrine
WARPO	Water Resources Planning Organization
WASA	Water Supply & Sewerage Authority
WASH	Water Supply, Sanitation and Hygiene
WATSAN	Water and Sanitation Rehabilitation Program
WB	World Bank
WHO	World Health Organization

A Political Economy Study of the WASH Sector in Bangladesh¹

Section 1

Unbundling Political Economy in the context of Development Sector

The term ‘political economy’ has been used to mean different things by different people. At times, it is used to imply a knowledge discipline (subject), while many other exercises define it as an analytical approach². There are multiple variants within the former and there are more than one analytical approach considered political economic.³ Amidst those various strands and their collective dynamics, ‘political economy’ has acquired a new meaning and importance during last decade or two, sponsored by the community of lending and aid agencies⁴. This section reviews selected parts of the burgeoning literature with a view to contextualize the focus of the ERG study and the approach it adopts. Two key questions are at the center of the review, (i) what does political economy deal with? (ii) what are the various approaches in political economic analysis⁵? The concluding segment outlines the approach the ERG study will take.

1.1 The subject called political economy

The first one to use the term ‘political economy’ in the post-renaissance western world⁶, is said to have been Antoine de Montchretien in his *Treatise on Political Economy (Trait de l'economie politique)*, published in Rouen, France, 1615. An extension of the subject discipline ‘politics’ to ‘economics’ owe much to a group of French exponents of natural right, who popularized the term while distinguishing their ‘economics of a system’ from the earlier tradition of confining to politics (and political philosophy). Since Adam Smith, the term has come into general use as expressive of, to paraphrase Henry George⁷, a branch of knowledge that addresses the nature of wealth, and the laws of its production and distribution. “The word political has a meaning which relates it to civil government, to the exercise of human sovereignty by enactment or administration, without reference to those invariable sequences which we call natural laws.” In contrast, “the laws with which political economy primarily deals are not human enactments or municipal laws, but natural laws” (George 1935 edition)⁸. When the discourse transcended from the realm of ‘social contracts’ to the mundane world of economy and its management, political

¹ The title was initially phrased as ‘The Political Economy of WASH in Bangladesh’.

² There is possibly a close correspondence between subject and method in many instances. However, there may be generic methods that apply to many fields (subjects).

³ The Political Economy of Policy Reforms, a WB report in 2008, may be cited: “The term political economy is subject to multiple understandings. Its origin can be found in the work of Adam Smith’s *Wealth of Nations*, of David Ricardo and Karl Marx. In this body of work, the term referred to the conditions of production organization in nation-states or what today is understood as ‘economics’. Today, the term is defined as analysis that studies the linkages between politics and economics, drawing on theories of economics, law as well as political and social sciences.”

⁴ Often these agencies are grouped into ‘donors’, even though usage of such term is increasingly under scrutiny.

⁵ Reference is to the general usage of the term, and not to any specific tool called PEA, that consultants may offer.

⁶ Kautily’s *Arthashastra* is believed to be one of the oldest treatise on political economy, not adequately acknowledged in the west dominated knowledge domain.

⁷ See Chapter IX, in George (1935). Also available in, <http://schalkenbach.org/library/henry-george/science-of-political-economy/spe109.html>.

⁸ The ‘politics’ coined in the more recent, alleged fourth generation discourse on political economy is not synonymous with the term ‘political’ coined by the 17th century European social scientists.

economy began to be defined as “the study of the social relations, particularly the power relations, that mutually constitute the production, distribution, and consumption of resources.” (p. 2, Mosco 2015)

The Marxian dichotomy between superstructure and economic base appears implicit in the above definition, and the resurgence of political economy among ‘radical’ economists (e.g., in Cambridge school during the 1950s), as well as in hardcore neoclassical economics with more extensive induction of contract literature since the 1970s and early 1980s, generally align with the above definition. A far more general and ambitious definition provided in Mosco (2015) states that “political economy is *the study of control and survival in social life*.” According to Mosco, “Control refers specifically to the internal organization of individual and group members, while survival takes up the means by which they produce what is needed to reproduce themselves. Control processes are broadly political in that they involve the social organization of relationships within a community. Survival processes are fundamentally economic because they concern the production of what a society needs to reproduce itself.” (p. 3, Mosco 2015)

While both definitions mesh economics and politics, the second definition (in Mosco 2015) is akin to the exercises that political scientists are comfortable with, and attempts to mesh economics within the established theories in political science and other fields of social science.⁹ A reviewer of Vincent Mosco’s book agreed that the ‘theoretical concepts are fascinating’ for those learning about the structure of mass communications (a subject), and its effects on politics and the economy.” However, she/he felt that “the field of political economy (and not just as applied to communications) is meant to lead to real world activism and results, which can develop from an understanding of base theories”, which, she/he alleged, “is mostly missing from this book”.

There are two issues, implicit in the above exchange, which are relevant for our purpose. First, a field of inquiry, a subject or a sector, such as, communication, is independently identified, and a political economy study of it looks into the sector’s effects on politics and the economy. One may like to reverse the causality of interest and focus on effects of politics and the economy on the outcomes in a specific sector, such as, WASH.¹⁰ The second is more pertinent for subsequent ownership of political economy discourse by lending/aid agencies, that required distinguishing ‘real world activism’ from obtuse theorizing in the name of explaining phenomena. Exercises in political economy however demands prior positioning of oneself in the multi-dimensional social, cultural, political and economic milieu. In other words, locating oneself in the ideological space, associated with a normative judgment is a pre-requisite for action-driven PE exercises. The recent thrust of PE exercises in program designs tied to loans and aids to developing countries by

⁹ Keith Timmy covers international relations as well as its mother discipline political science, and suggests “that political economy is the relationship between economics and politics in nation states or across different nation states”. (source: Keith Timimi, Political economy Theory, web, 2010). See also the second part in footnote 2, with quote from a World Bank report.

¹⁰ A later section discusses how far WASH has evolved or not evolved as a sector. Following Serrat (2011), one may add, “political economy analysis investigates the interaction of political and economic processes” in that sector. One may also see the OECD-DAC definition: Political economy analysis is concerned with the interaction of political and economic processes in a society: the distribution of power and wealth between different groups and individuals, and the processes that create, sustain and transform these relationships over time.

major bilateral and multilateral agencies may be viewed as one offshoot of the action-driven exercise, further elaborated below¹¹.

A brief digression into the evolution of the ‘donor-driven’ PEA is worth mentioning. What was once perceived as a technocratic intervention to bring development in ‘sovereign’ states through ‘aid’, was increasingly recognized as ‘political’, more so since the days of PRSP and MDGs.¹² Such recognition within the community of ‘donors’ did not refer to the more radical trend in the literature which considered ‘aid’ as an instrument at the disposal of ‘donors’ to influence politics in aid-recipient countries. Nor did it address the ‘political economy’ of the evolving international aid infrastructure that some consider important for maintaining economic growth and social progress with no major catastrophe or crisis associated with business cycles. Instead, the concerns were more along the line of enhancing aid effectiveness¹³. Dfid’s early work on Drivers of Change (DoC) expressed such standpoints quite explicitly as may be noted in the following,

“They (PRSP and MDGs) aim to increase country ownership and leadership of strategies for poverty reduction; in essence, advocating a transfer of power from donor countries to recipient countries and from the elite to the poor, in country. These changes are far from technocratic – if donors are serious about working to support poverty reduction, they must increase their understanding of the political contexts of the countries within which they are active and the impact of their actions.”¹⁴

The aforementioned document refers to the need for understanding the reasons for the lack of political will to implement donor-designed projects. It is also premised upon a belief that the donors know what is best for the recipient country, and that the recipient society in terms of interlinked individuals, institutions and structure, hinders effective implementation of the design. Thus, there is an urge to understand the hurdles, find appropriate entry points and additional intervention strategy for initiating changes, and incorporate those in the program design.¹⁵ Warrener (2004) asserts that “the agenda it addresses is much broader than an attempt to simply find a list of potential partners”.¹⁶ The earlier analysis got further enriched taking at least two routes – one emphasizes the *political elements of politics* (power, interests, agency, ideas, etc.)¹⁷, and the other that further fine tunes the *economics of politics*.

¹¹ OPM (2012) noted that “PEA has emerged as a donor instrument”.

¹² Warrener (2004) amply captures the evolution of the ‘aid focus’ from policy during the 1980’s to institutions during late 1980s to early 1990s, and on politics from late 1990s to 2004, and claims the last period to be associated with political analysis (e.g., DoC).

¹³ International aid effectiveness began to take shape in the late 1990s; picked up steam in 2002 at the International Conference on Financing for Development in Monterrey (Mexico), got a boost at the aid harmonization meeting in Rome (2003), and the Paris Declaration on Aid Effectiveness came in 2005. Source: website of CSO Partnership for Development Effectiveness.

¹⁴ p. iii, Warrener (2004). One may also cite similar, less known, initiatives from SIDA, the World Bank and others.

¹⁵ Use of foreign aid as a political instrument is long recognized (Harvard 1965), and for one school of political theorists, politics and foreign policy are essentially identical (McWilliams 2015).

¹⁶ Yet the Bangladesh example, provided in Warrener (2004), identifies nine potential drivers of change: “the media, NGOs, community organisations, business associations, independent research and advocacy centres, professional associations, donors, reform minded public servants and the Bangladeshi diaspora”.

¹⁷ See, Adam *et al* (2009), Serrat (2011) and Hudson and Leftwich (2014).

In summary, PE as a subject deals with issues that apply to aggregates beyond individuals (production, distribution, etc.), and it deals with interlinked issues that are commonly perceived to lie in such different spaces as economy, politics, society, culture, etc. It is clearly not an intersection of economics and politics, nor can one confine the subject to effects of politics on economy, or, effects of politics and economy on a particular sector. At the cost of rigor, a safe position is to consider PE to cover a wider canvass with politics, economy and beyond with a purpose. Two purposes were identified, explain an (observed) event or phenomenon, and identify suitable actions to realize a preset objective. The two are not mutually exclusive, rather, these are likely to be sequentially undertaken, and both being subjects of political economy. The issues will hopefully get further clarity once the method is discussed, since the latter cannot be distinguished from the purpose for which an exercise is undertaken.

1.2 Political economy as a method

The earlier discussion had one important implication for methods -- that PE method ought to be defined over a wider set of variables. The variables are associated with different knowledge disciplines, as are defined in our current thinking. What analytical framework one should use to raise questions (hypotheses), what information to collect, how those information may be collected and processed, and how those processed information are to be used to either explain a phenomenon or to identify a set of actions, fall under the single head of 'methods'. The segmented treatment of PE methods in the literature make it all the more difficult to summarize and bring out substantive lessons for defining the scope of the study on WASH in Bangladesh. This subsection attempts to unbundle some of the difficulties, while the last part of Section 2 outlines the approach the ERG study on ERG will follow. Since commonality in the canvass covering politics, economy and society is presumed, the discussion below goes by the purpose-based approach.

1.2.1 Method for purpose-specific PE: emerging trends within the development intelligentsia

Within a period of last 10 years, numerous articles and pamphlets have been drafted on the PE approach, largely propagated by the lending/aid agencies. There are consultancy works of prescriptive nature, and the consultation process to arrive at a recommendation is passed on as a PE exercise¹⁸. Then there are the economists, who focus on the way incentives shape behavior and actions. And, there are the political scientists who emphasize on political aspects of politics - power, interests, agency, ideas, the subtleties of building and sustaining coalitions, and the role of contingency. Hudock (2011), for example, notes that "efforts to develop solution-focused political economy approaches ... lead to more realistic project designs. In addition, working with multiple stakeholders around common development challenges often yields a quality of analysis and a commitment to solving problems that render the process as valuable as the product." While the euphemism in a consultant's ability to contribute to development process is implicit in such statements, it is important to recognize the importance of 'process', first, as a method, second, as an input to a quality project design, and finally, as an important investment that goes to shape the final output of the project.

¹⁸ Quite often, reference is to 'political economy analysis' (PEA), which includes 'tools', 'methods' and 'analysis'. See Hudson and Leftwich (2014).

Hudson and Leftwich (2014) view the multiplicity as a evolving process, and describes three broad phases before proposing a fourth one. The first is referred to as the ‘governance’ studies of the 1990s. The second generation of work is generally referred to as ‘political economy analysis’, which, according to Hudson and Leftwich, “highlighted the historical legacies, structural conditions, broad power relationships, stakeholder analysis of ‘agents’ and institutional arrangements that frame the politics of development”. According to them, the third generation applied the concepts of economics and economic analysis to the field of politics, highlighting interests, incentives and institutions, with little or no attention to power. The second and third generations provided the basic analytical structure in terms of the interactions between structure, institutions and individual agents or stakeholders, and DFID’s DoC is one of the early articulations of the approach.

Box 1: Selected Quotes on PEA and methods

DFID 2009:

“PEA is about realism and political feasibility and is meant to be a distinctively practical exercise.”

“The bottom line is that PEA is *meant* to help donors get a handle on which types of interventions are more and less likely to be successful. It should not just provide a background to, or overview of, the political context, but operationally relevant conclusions identifying more and less successful courses of action and an assessment of political feasibility.”

OPM 2012:

PEA has “three core elements - historical and political context analysis, institutional analysis, and stakeholder analysis”. “PEA can apply a range of tools depending on the issue being analyzed.”

WB’s problem driven governance and PEA: Identify the problem of analysis, map the governance and institutional arrangements, and identify the key stakeholders and their interests.

Hudson and Leftwich (2014): Five types of ‘Structure’ are considered: geographic, economic, political, social and ideological. Under each structure, three themes are considered, ‘Form’, ‘Institution’ and ‘Power’.

Rocha Menocal (2011) on PE approach for policy analysis: Focus on agenda setting, policy formulation and implementation. Under each, address structural, institutional and stakeholder-level variables.

1.2.2 Political Economy as a tool for explanation

The branch of Smithian political economy that is now known as economics had largely been monopolized by those taking the marginal principle and its mathematical version based on continuous functions (that relate variables) as the principal means of abstraction and exposition of reality. The latter analysis had increasingly tended to consider individuals as the basic unit whose attributes were aggregated to arrive at outcomes beyond individuals - markets, community and even behavior of nation states. Moreover, confining the marginal concept within the utility-based analytical framework made it less palatable for wider appreciation. No wonder that the term ‘political economy’ initially got associated with the ‘deviants’, one major trend of which was the Marxian political economy. Over the years, any attempt to explain events or

phenomenon linking economy with non-economic spheres was perceived ‘political economy’. Inherent in both, as well as in the later day neoclassical (version of) political economy, is a concept of equilibrium. That is, equilibrium analysis is at the heart of formal attempts to explain phenomenon and rationality is implicit in the Hegelian dictum that says, ‘all that is real (exists) is rational’. Thus, economists of all schools define models¹⁹ with agents differentiated by their objectives with the intent to generate an equilibrium outcome that is close enough to the ‘stylized fact’. Within such analytical structures, political economy surfaces in one of the two forms, (i) expanded model with variables that span over political and social spaces, and (ii) agent-level variables may be vertically linked with institutional and structural variables. Within such frameworks, one is able to identify factors that are important determinants and provide the first set of tips for project formulation. But the formulation suggested has already been under the critical scanner of Hudson and Leftwich (2014) because of its indifference to ‘power’ and ‘politics’.

1.2.3 Purpose-driven PEA by a strategic player

Strategic means ‘carefully designed or planned to serve a particular purpose or advantage’. In a non-cooperative game, a strategic player will have a strategy that will optimize her/his payoff corresponding to a combination of strategies of other players. To be strategic and be able to dominate the outcome of a game, one requires adequate information on other players — their actions in normal circumstances as well as in response to the action of the prime actor. An extreme example is the textbook case of a monopolist keen on extracting all consumer surplus, and therefore, willing to invest on gathering full information on all consumers. There is a similarity between the latter setting and the desire of ‘donors’ to get the maximum value for money. Thus, all possible factors, which are likely to influence the return to the money to-be-spent, need to be looked into. A priori, a unique structure of query is unlikely to apply for all possible problem settings.

There are few additional issues that are worth noting. First, it may be misleading to assume that the actors representing the ‘donors’²⁰ are exogenous to the interactions that generate final outcomes. Most PE and PEA exercises, reviewed by the researchers, were found to have made such a presumption. There is however no good reason to think that individuals in those positions are immune from material or immaterial incentives. The actions of ‘donors’ may be considered endogenous for a second reason. In a game setting with strategic actors, an action of donors expressed through a program design will influence the various segments of the recipient society and they are likely to respond strategically, which should ideally be accounted for in the initial design to enhance effectiveness of a program. Thus, a purpose-driven PEA, meant to be used as donors’ instrument, cannot remain confined to looking into either influences of politics on economy or of economic changes on politics, and keeping a blind eye on how engagement from donors may influence those very relations. Finally, the debate over primacy of politics over economy or the vice versa seems misplaced²¹. Such primacies are time and space dependent and

¹⁹ An analytical model does not have to be quantitative. It may as well be an algorithm that is internally consistent.

²⁰ Bureaucracy in the lending/aid agencies, consultants hired to undertake pre-project diagnostics and design programs.

²¹ One may interpret such extreme positioning as a reflection of competition among consultants with different resource endowments.

are unlikely to be permanent. Thus, a PEA ought to be sufficiently open to such switches in relative importance of politics and economy, and also to location of power (in the economy or in politics) and the pathways along which influences get transmitted to the rest of the society.

1.3 Introduction to the ERG Study

The current study will adopt an approach that emphasizes on ‘economic methods’²², to be applied on a wider canvass that encompasses factors (variables) beyond the usual set of analytical categories used in modern economic analyses. Thus, “multi-disciplinary” approach, at the analytical level, will be sought by addressing the ‘political economy’ variables (economic, political, social & cultural) that shape and constrain pursuits by individuals and collectives competing for resources arising from the same pool. Effectively, for each narrowly defined WASH good/service, all stakeholders will be identified and objectives guiding their actions will be probed, with a view to explain the prevailing state.

In order to address issues and questions raised from the aforementioned analytical framework, required information will be collected and/or compiled, which calls for a second type of method. The latter will include, among other things, desk (literature) review; interviews of key informants and agents; Focused Group Discussion/Consultation meetings with selected groups of stakeholders; and compilation and processing of secondary data. One important set of secondary data to work on will be allocations for WASH in national budgets and their utilizations. FGD and consultation meetings will serve two purposes: perceived priorities and causal factors will be captured; and several FGDs will focus on households and on communities. In addition, there will be in-depth interviews of individuals (key informants) from government, external development partners, INGO/NGOs, and the research community.

The third type of method is involved in processing of information, where major lacuna exists – especially, in attempts to triangulate information from diverse sources. Efforts will however be made to explain reality by reducing inconsistencies (if any) of the “stories” emerging from conflicting interest groups. The set of alternative opportunities for change will be identified and the criteria of choice for recommendations will be include, where applicable, the implications for sustained access of the poor to WASH. The probing into the supply chain as well as on possible forward linkages (in consumption) will be pursued as an iterative process carried out in conjunction with conceptualization within the proposed PE framework.

Two central research questions will be addressed in the proposed exercise - (i) what are the factors (economic, political and cultural/social) that explain the current (equilibrium) state of WASH in Bangladesh?, and (ii) what are the ‘effective’ ways (or, entry points) to change that

²² Three basic principles are outlined in Zohir (2014), (i) a basic analytical category called ‘agent’ representing such entities as a social class, households, individuals, communities, governments, or political parties, distinguished by the objectives they pursue, (ii) agents are ‘rational’ only to the extent that their actions are guided by the pursuit of (optimizing) some transformed value of their objectives under a set of constraints, and (iii) exchanges between agents under various power relations are sustainable only if all parties ‘gain’ from such exchanges.

state, that is, to move from the current state of equilibrium to a desired state of equilibrium? The term ‘state’ refers to the ‘subject’ element in the usage of the term ‘political economy’; whose canvass is defined over currently conceived multi-disciplinary subjects. The latter is perceived by some as interactions between economics and politics, with an added element of culture. The subject of query can be differently phrased — as a study of how a society allocates its resources to produce goods and services, how the resource-output mapping is determined, and how the output gets distributed (across communities and households).²³

The scope of PE also embraces the traditional economic concept of complementarity between factors at horizontal level (both across activities and within a single activity) as well as at vertical/sequential level, where macro parameters constrain options available at the micro level (an example is that of water availability constraining quality of drinking water). In both such cases, both negative and positive externalities are important considerations to be addressed.

Finally, the scope within the spheres of activities constituting the domain of WASH needs to be identified. While WASH generally includes activities to address one or more of the following major issues²⁴: ensure safe water for drinking as well as for other uses (water); good practices with regards to defecation and body washes (sanitation); and the hygiene around water & sanitation and related to menstruation.

1.3.1 Outline of the ERG submission

There are two parts, the first one address aggregate issues and the second part deals with three case studies. Each of the case studies is presented in separate reports, and those include, fecal sludge management in fringes of Dhaka city, FSM in a small town (Sakhipur) and groundwater dependent water supply system (Khulna). This report (Part A) has four major sections, a critical review of the literature on political economy has been presented, the second reviews concepts and definitions to arrive at the scope of WASH, third section maps activities across different organizations, and the last section discusses resource allocations to WASH-related subsectors.

²³ With WASH having individual-specific outcomes, the study initially intended to address two additional issues - (i) households where consumption mostly takes place and where intra-household allocations are determined; and (ii) factors that influence the transformation of consumption to WASH outcomes. However, the choice of case studies did not permit such micro-level probing.

²⁴ The first item surfaces in the guise of ‘safe drinking water’, while the second often is couched in terms of presence and access to appropriate toilet facilities.

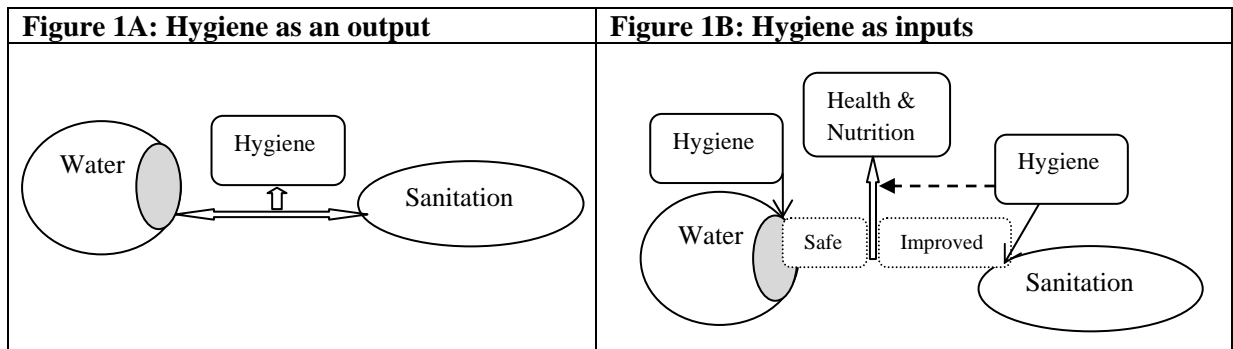
Section 2
Reconstructing WASH Canvass: historical overview

WASH is an acronym standing for water, sanitation and hygiene. It generally refers to a group of interrelated activities in these three areas, which are deemed to have implications for public health, and are of particular interest to development practitioners and sponsors of development programs. The first sub-section briefly highlights few issues on concepts, primarily to draw attention to the difficulties in institutional ownership of the WASH agenda. Historical evolution of the concept and the definitions and scopes of WASH are presented in subsection 2.2.

2.1 Locating WASH at a concept level

The literature search did not lead to any unique abstract definition of WASH, though development organizations list a number of activities linked with purposes to illustrate the scope of their WASH programs. An obvious question arises, is WASH a sum of its components, a union set? Or, is it an intersection of three different sectors? Or, is there something more to it?

No one disputes that WASH is an aggregate term which tries to combine apparently three distinct activity spaces, water, sanitation and hygiene. The linkages between the three may not be uniquely defined, nor is any one mix of relations expected to remain stable. Historically, water, considered a resource, had been (and continue to be) under a separate line ministry in many countries. However, the latter has been dealing with macro-level water sector management, and there are several other agencies responsible for ensuring water supply for various other uses²⁵. Concerns with sanitation surfaced with increased population and with urbanization that saw increasing population density in clusters of human habitats. The colonial administration (in India) had the Department of Public Health to attend to (prevent) epidemics; and sanitation, having the central focus on efforts to distance contaminants of human excreta from all oral intakes by humans. While many post-colonial nation states were still at a nascent stage, it was the UNICEF and USAID who were the prime movers in the fields of sanitation. Till recent past, hygiene had been in the exclusive domain of health, and was considered ‘an output’ whose quality depends on increased use of safe water and sanitation coverage²⁶. In such formulations, water and sanitation may be considered two complementary inputs, both required for ensuring hygiene (Figure 1A).



²⁵ Irrigation for agriculture, management of river water, supply of water to urban population are

²⁶ References are to “safe water” and “improved sanitation”, whose definitions will be discussed later.

There is a second perspective (Figure 1B) that considers certain elements of hygiene to be independent of either water or sanitation. The latter two are more physical and UNICEF-advocated behavioral change (UNICEF 2006) refers to that component of hygiene, which improve the health & nutritional outcomes from same doses of water and sanitation. This aligns well with WHO's perspective that "access to safe drinking-water, sanitation, and hygiene (WASH) services has an important positive impact on nutrition" and health outcomes. However, the latter illustrates the second role of hygiene -- without proper hygienic practices the goal of access to safe drinking water and access to improved sanitation is not possible. One may stretch the logic further and argue that various interlinked elements in the three spheres (water, sanitation and hygiene) complement each other to produce quality nutrition and health outcomes. Some such linkages may be direct, while others are indirectly linked, often in long-drawn loops. Thus, one cannot define WASH as mere intersection of the three spheres, nor as the 'union set'. Rather, WASH transcends the three terms, and is simultaneously a part of public health development, human rights, and environmental sustainability²⁷.

There is a third version that focuses on **secure sanitation**²⁸, a desired output to be realized by ensuring the followings in three (in hygiene, sanitation and water):

1. Improved hygiene behaviour (especially washing hands with soap after using the toilet and before preparing food and eating);
2. Excreta management (especially ensuring that flies cannot transmit pathogens from faeces, that faeces do not contaminate water supplies and that faeces are not left exposed to allow skin contact), and
3. Water supply not only the quality of the water (particularly the absence of pathogens), but also the quantity available (for personal hygiene, washing) and the convenience and reliability of the supply.

Finally, a noticeable trend towards a fourth version is surfacing that appears to define the scope of the term WASH, and further jeopardizes all attempts to concretize the scope of WASH. It is noted in another ERG working paper that both UNICEF and USAID worked in alliance to protect public health since the 1950s. This unity in purpose may be losing ground, making way for diffusion of the idea called WASH. While UNICEF (UNICEF 2006) advocates for promoting behavioral change, and supports enabling policy and institutional environment, USAID adds managing water for agriculture to improve food security under WASH and appears to downplay the hygiene part (InterAction, 2014, Aid Works). Similar move towards food security issues and from projects to sustainable programs may also be observed among some of the German development agencies²⁹.

²⁷ See UN Resolution 64/292, UN General Assembly explicitly recognized, in 2010, water and sanitation as human rights and acknowledged that clean drinking water and sanitation are essential to the realization of all human rights. MDG 7 explicitly accounts for environmental sustainability. UNICEF (2008) stated, "safe water and sanitation facilities lead to healthier families and communities, but when people are also motivated to practice good hygiene – especially hand-washing with soap – health benefits are significantly increased".

²⁸ "This shit drama – are there ways out?", report on the 19th AGUASAN Workshop, Gersau, Switzerland, June 23 to 27, 2003.

²⁹ See, Ellert *et al* in <http://www.spherehandbook.org/en/introduction-2/>.

Chronology of WASH-related activities in Bangladesh is summarized in Table 1. The Indian experience is also presented for the purpose of comparison. It appears that the international campaigns, such as those by UNICEF, had commonly influenced the national level dynamics in both countries. However, institutional changes to implement those in India were within the government sector, while INGOs and local NGOs had greater roles in Bangladesh. Total sanitation was adopted in both the countries around the same time. However, there were several other areas where the pathways differed significantly. These are, (i) Bangladesh had a larger focus on policy guidelines since the mid-1990s, while local governance structure and their responsibilities with regards to WASH-related activities received greater attention, (ii) Terms such as *Swachh* and *Nirmal* (Clean and Clear/Pure) were at the center of movements/programmes that encompassed safe water, sanitation and hygiene in India, while the discourse in Bangladesh was more influenced by the global partners (as outlined earlier), and (iii) WASH-related programmes in India were often inter-linked with non-WASH activities, such as, employment generation, which was rarely the case in Bangladesh.

Box 2: Unanticipated changes in the global agenda

WHO and UNICEF supported a global stakeholder meeting which resulted in a list of targets and indicators proposed for post-2015 SDGs in the areas of drinking-water, sanitation and hygiene (WASH). The WHO/UNICEF JMP facilitated the technical consultations, and the process established four working groups (Water, Sanitation, Hygiene, and Equity and Non-Discrimination). Their combined output with recommendations for SDG articulated four key goals to be achieved by 2030. These are,

(i) to eliminate open defecation; (ii) to achieve universal access to basic drinking water, sanitation and hygiene for households, schools and health facilities; (iii) to halve the proportion of the population without access at home to safely managed drinking water and sanitation services; and (iv) to progressively eliminate inequalities in Access.

At the indicator level, the proposal had explicit articulation of the concern with hygiene. Thus, “Percentage of children under 5 whose stools are hygienically disposed of” was included under the first theme. In addition, the three following indicators were included under the third theme: (a) Percentage of households at a handwashing facility commonly by family members, (b) Percentage of households with soap and water at a handwashing facility in or near sanitation facilities, (c) Percentage of households with soap with soap and water, and (d) water at a handwashing facility in or near the food preparation area.

The SDG Goal 6 (“Ensure availability and sustainable management of water and sanitation for all”) goes beyond the limited concerns expressed in MDGs. Goals 6.1 and 6.2 capture some of the old concerns in general terms and there is mention of ‘participation of local communities’ in 6.b. However, the proposed concerns with hygiene failed to make major inroads; and thus, WASH is less likely to be institutionalized in this round of global development. In contrast, goals 6.3 to 6.6 take us beyond, and raise issues on water quality and contamination from industrial wastes and untreated wastes, realizing increased water use efficiency, integrated water resource management, trans-boundary cooperation, restoring water-related ecosystems, etc.

2.2 Definitions: how and why those matter³⁰

2.2.1 Definition of Sanitation

Sanitary has a general meaning that refers to quality of surroundings within which human live - and sanitation refers to equipment and systems that keep the surrounding clean and healthy (Oxford, 2001). The latter is picked by one UN agency, the Department of Economic and Social Affairs: “sanitation literally means measures for improving and protecting health and well being of the people”. With increased engagement of development practitioners beyond government’s obligations to maintain general quality of human habitats, definitions of sanitation started to vary and increasingly specific to tasks involved in delivering sanitary services. For example, sanitation is defined as: “conditions relating to public health, especially the provision of clean drinking water and adequate sewerage disposal”; as “the process of keeping places free from dirt, infection, disease, etc., by removing waste, trash and garbage, by cleaning streets, etc.” (Merriam-Webster); or, as WHO would claim, “sanitation generally refers to the provision of facilities and services for the safe disposal of human urine and faeces, ... The word ‘sanitation’ also refers to the maintenance of hygienic conditions, through services such as garbage collection and wastewater disposal”.

Current usage of the term ‘sanitation’ in capturing the “principles and practices relating to the collection, removal and disposal of human excreta, refuse, storm water and waste water as they impact upon users, operators and the environment”, is reflected in the scope outlined earlier. The choice of a segment within the canvass of activities is often reflected in the definition an organization promotes, resulting in wide variations across organizations. Moreover, what is sanitary and what is not sanitary is often distinguished on the basis of an *ad hoc* mix of science and culture (that shapes taste and global views). Reviewing the literature, it appears that sanitation is defined on the basis of one of the following three items: point of defecation, focusing on disposal and upholding a systemic approach. The details are outlined below.

Ahmed (2001) argued that, “The efforts towards provisioning of safe water during the 1980’s were extended to address sanitation during the 1990’s”. The focus during the latter decade was on motivating people to install latrines by providing subsidy; and successes were measured in terms of the number of latrines installed. Even when the Community Led Total Sanitation (CLTS) approach was adopted, the focus on constructing latrines of improved varieties continued, though ‘empowering rural communities’ was included as an essential element of the approach.³¹

It is therefore quite natural that sanitation practices conceived during last two or more decades, as well as targets set and achievement indicators measured, were based on types of latrines constructed at points of defecation. At an operational level, “Improved Sanitation” and “Unimproved Sanitation” had to be distinguished and each had to be associated with a group of

³⁰ Various definitions proposed and used by different organizations are compiled in annex to this section.

³¹ Kar and Pasteur, 2005 is quoted in WaterAid (September 2010) report on CLTS for people in vulnerable situations, as follows: “CLTS involves facilitating a process to inspire and empower rural communities to stop open defecation and to build and use latrines”. Drastic decline in open field defecation (1% in 2015) is attributed to CLTS.

latrines (JMP, 2011). Generally speaking, an "improved" sanitation facility is one that hygienically separates human excreta from human contact. "Improved" sanitation includes, Flush toilet, Piped sewer system, Septic tank, Flush/pour flush to pit latrine, Ventilated improved pit latrine (VIP), Pit latrine with slab, and Composting toilet. "Unimproved" sanitation includes, Flush/pour flush to elsewhere, Pit latrine without slab, Bucket, Hanging toilet or hanging latrine, and open fields/bush. One may note that such categorization for sanitation fails to account for transport, treatment and disposal of human excreta. A piped sewer system and septic tank may not necessarily ensure safe disposal, nor may any of these latrines be situated at safe distance from water sources.³² Most multilateral agencies, such as, UNICEF, WHO, the World Bank, and ADB appear to emphasize on 'sanitation at points of defecation'. Several other agencies following the same principle include, Dutch Government, Brac, Muslim Aid, Care, Proshika and Dhaka Ahsania Mission.

Agencies within the government, such as DPHE, LGD and LGED, are favorably disposed to a definition of sanitation that emphasize on disposal of human excreta and sludge, drainage and on solid waste management. Several past project initiatives of the WB and the ADB are indicative of their support to the latter definition, and Oxfam was found to be the only INGO in the camp. Generally, such (sanitation) works do not involve households, and are projects on infrastructure. More importantly, the proponents often bypass issues on treatment; and appear to be oblivious to where the human excreta are finally disposed and what the implications are for environmental hygiene. It's worth mentioning that resource allocation is found to be biased towards such partial initiatives with (often) high negative externality.

The third group takes a systemic approach, and defines sanitation as follows: "Sanitation refers to the safe management of human excreta from the point of defecation to its disposal, treatment or re-use. In the urban environment especially, sanitation also includes the management of solid waste, grey water and surface drainage. In the wider context, sanitation includes not only physical systems, but also the policies, legal and management frameworks and investments necessary to achieve sanitation for all" (WaterAid, 2011). There is however no clear guideline on the type of latrine at the point of defecation and on the desired type of treatment prior to disposal. Proponents of a system based approach include, the WaterAid, SNV, Rupanator, DSK, Nabolok, NGO Forum, Practical Action and Uttaran. Given the amorphous nature of the work involved, the traditional big players in project financing are yet to come forward with full endorsement to this third view.

2.2.2 Definition of types of water, access to water and safe drinking water

Development organizations divide "water" into two broad types based on the purpose for which water is used. One is "Safe drinking Water" or "drinking water" and the other is "safe water for other uses". While safety can only be defined in terms of the content of the water, in practice, water source is frequently used as the proxy for water safety. Accordingly, there are different agencies and institutions adapting different definitions, ensuring close matching between the programme they implement and the sources whose water they consider safe. Interestingly, however, the government agencies prefer to remain vague and widely accommodative! For

³² A study by WHO suggests that latrines should be 30 meters away from water sources and pit latrine should be 2 meters above water table.

example, LGD (1998) and LGD (2011) mention that “Safe water supply means withdrawal or abstraction of either ground or surface water as well as harvesting of rain-water; its subsequent treatment, storage, transmission and distribution for domestic use.” The same is mentioned by DPHE, LGRD, LGD, GED and WASA. One may note that no clear association with water source is made, nor does it differentiate across various domestic uses of water.

On the other hand WHO, UNICEF, and JMP broadly define water as drinking water and identify the improved water sources and access to drinking water. There are subtle differences in definitions across organization (see annex to Section 2).

According to WHO (undated) “Access to drinking water means that the source is less than 1 kilometer away from its place of use and that it is possible to reliably obtain at least 20 liters per member of a household per day”. JMP (1996) defined reasonable access to drinking water “In urban areas a distance of not more than 200 meters from a home to a public standpost”. In rural areas, reasonable access is meant to imply that “a person does not have to spend a disproportionate part of the day fetching water for the family needs and adequate amount of Water is 20 liters of safe water per person per day.”

While both WHO and JMP have content based definition of safe water³³, operational convenience restricts these organizations, as well as the UNICEF, to fall back on source-based typology. WHO (undated) and UNICEF (undated) define drinking water “as water for ingestion, basic personal and domestic hygiene and cooking. It excludes water for clothes washing, an activity “that frequently happens at the water source, water point, in rivers or streams.” Moreover JMP (undated) and UNICEF (undated) identify sources of improved drinking water source as those which, “by the nature of its construction and when properly used, adequately protects the source from outside contamination, particularly faecal matter.” Within the latter perspective, “improved” sources of drinking-water include; Piped water into dwelling, Piped water to yard/plot, Public tap or standpipe, Tube well or borehole , Protected dug well, Protected spring, and Rainwater. In contrast, “unimproved” sources of drinking-water include; unprotected spring, unprotected dug well, cart with small tank/drum, Tanker-truck, surface water.

The above mentioned definition and categorization of JMP and UNICEF is followed by most of the implementing agencies, i.e., BRAC, Muslim Aid, Practical Action, Dhaka Ahsania Mission, Proshika, Care and others. WaterAid also followed JMP definition, but there are minor deviations in identifying improved and unimproved water sources. WaterAid’s definition is followed by the WaterAid partner NGOs, DSK, Rupanatar, Nobolok and others. Such operational definitions however fail to account for the (chemical) content of water and these contents are important determinant factor of water quality.

³³ WHO, “Safe drinking water is water with microbial, chemical and physical characteristics that meet WHO guidelines or national standards on drinking water quality, and this safe drinking water sources are household connection; public standpipe; borehole; protected dug well; protected spring; rainwater.” JMP (1996) Safe Water is the water that does not contain biological or chemical agents directly detrimental to health. It includes treated surface water and untreated but uncontaminated water from protected springs, bore hole, sanitary walls, etc. See, http://www.who.int/water_sanitation_health/mdg1/en/

2.2.3 Hygiene Definition

According to the Webster dictionary, hygiene refers to a science of the establishment and maintenance of health or conditions or practices (as of cleanliness) conducive to health. The range of hygiene behaviors and social norms that may affect disease transmission broadly classified in LGD (2012) into five clusters, called 'behavioral domains'.³⁴ These are,

- Disposal of human feces i.e. sanitation hygiene
- Selection, use and protection of safe water sources i.e. water hygiene
- Personal (including menstrual) hygiene
- Food preparation and handling i.e. food hygiene
- Domestic and environmental hygiene (e.g. small drainage and household waste management) i.e. environmental hygiene.

However, development organizations are mainly focused on water hygiene, sanitation hygiene and personal hygiene, and these three types of hygiene can be broadly defined as health hygiene. Similar perspective is upheld by other important players on the subject. WaterAid (2012) defines hygiene as “Personal and household practices that serve to prevent infection and keep people and environments clean. Examples of hygiene practices include hand washing, bathing and management of stored water in the home, all of which aim to preserve cleanliness and health.” where WHO International (undated) refers “Hygiene as a conditions and practices that help to maintain health and prevent the spread of diseases. Medical hygiene therefore includes a specific set of practices associated with this preservation of health, for example environmental cleaning, sterilization of equipment, hand hygiene, water and sanitation and safe disposal of medical waste.” We may therefore conclude that definition of hygiene mainly narrows down to health hygiene because of organizations activity space.

2.3 Summary

Table 1 summarizes the canvass of WASH, arrived at after several consultations. Given the Bangladesh’s context where institutional structure is not always commensurate with the various activities, and where EDP-guided and NGO-led initiatives are significantly present, the compilation reflects the current practices.

³⁴ According to LGD (2011), “Hygiene means keeping oneself and one’s surrounding clean to prevent illness or the spread of diseases.” Oxfam (undated), an implementing agency, defines hygiene in same manner, “hygiene is; health issues related with cleanness.”

Table 1: Canvas of WASH

1. Water	
1.1	Safe Drinking Water
1.1.1	Safety associated with water source
1.1.1.1	ground water normally considered safe
1.1.1.1.1	tube well (HTW, DTW,STW)
1.1.1.1.2	Water abstracted by motor (DHTW)
1.1.1.1.3	Protected dug well with cover or bore hole
1.1.1.2	treated surface water
1.1.1.3	untreated surface water considering safe
1.1.1.4	rain water
1.1.1.5	Piped water (treated surface &/ or ground water)
1.1.1.5.1	Public tap or sand pipe
1.1.1.5.2	Household pipe connection
1.1.1.6	other water sources
1.1.1.6.1	mobile vendor
1.1.1.6.2	bottled water
1.1.2	safety associated with content
1.1.2.1	chemical content
1.1.2.1.1	arsenic
1.1.2.1.2	salinity
1.1.2.1.3	other content
1.2	safe water for other use*
2. Sanitation	
2.1	management of human excreta
2.1.1	at the point of defecation
2.1.1.1	Zero or low probability of human contact within the habitat (Improved sanitation facilities)
2.1.1.2	High probability of human contact within the habitat (non-improved sanitation facilities)
2.1.2	Disposal, reuse or treatment of human excreta
2.1.2.1	Natural disposal affecting others
2.1.2.2	Return to nature after treatment
2.1.2.3	Recycling with gradual return to nature
2.2	Management of solid waste
2.3	Management of gray and wastewater (black water)
2.4	Management of surface drainage (include management/drainage of storm-water)

Note: * Used for washing/ cleaning vegetables, fruits, kitchen utensils, crockery & for hand wash.

Table 1 (continued)

3. Hygiene	
3.1	Personal (including menstrual) hygiene
3.2	Hygiene at habitat levels
3.2.1	Domestic hygiene - where persons live
3.2.2	Hygiene at work and public places, where persons come in contacts
3.2.3	Environmental hygiene (mostly focuses on the infrastructure)
3.3	Hygiene associated with carriers between persons, homesteads and larger habitats
3.3.1	Sanitation hygiene - e.g., disposal of human feces
3.3.2	Water hygiene - selection, use and protection of safe water sources and carriers
3.3.3	Food hygiene - handling of edible ones, and preparation and handling of cooked food

Source: Own compilation.

Section 3

Mapping of WASH Activities in Bangladesh

3.1 Introduction: dimensions of mapping

This section presents the WASH related undertakings by various development organizations in Bangladesh. Within a market-oriented perspective, one would like to look into both supply and demand side agents. We refrain from addressing the demand side and focus on four types of organizations, External Development Partners (EDPs), Government Organizations (GOs), Non-Government Organization (NGOs), and self-governing organizations (not addressed here). Drawing upon detail review of reporting on WASH-related activities by external development partners (EDPs)/multilateral funding agencies, various government agencies and national and international non-government development agencies, Table 2 summarizes the broad categories to be used in this section.

Table 2: Types of Organizations and Activities

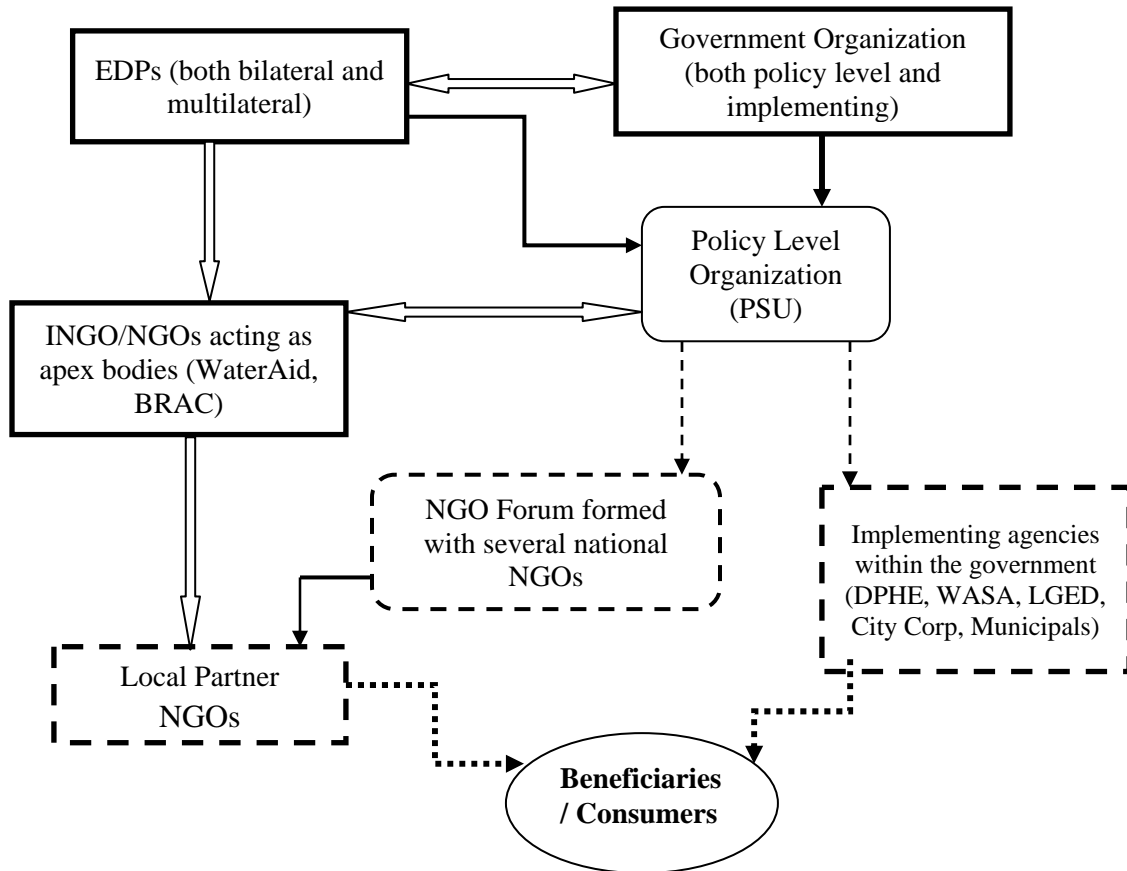
Organizations		List of subsidiary Activities under WASH Items
EDP/Funding Agency		Water point technology
Multilateral	UNICEF, WHO, World Bank, ADB	establishment of infrastructure
Bilateral	DANIDA, DFID, JICA, USAID, Dutch Government	quality monitoring of drinking water or water point functionality
Government Organization		sanitation marketing
Policy	LGD, GED	training, awareness and promotion
Implementation	WASA, LGED, DPHE	water policy
NGOs		institutional building or partnership
International	Oxfam, Dutch WASH Alliance, WaterAid, BRAC, Muslim Aid, Care, Waste Concern	water supply that include various activities
National	DSK, Proshika, Dhaka Ahsania Mission, Uttaran and NGO Forum	loan facility with technical assistance or advisory services
		Output monitoring
		Budget allocation

Note: In order to save space, list of activities is included in the last column, with no correspondence to organizations along rows. WASH items are in Table 2.1

3.2 Organizational space

Within the community of development practitioners, WASH is a concept that defines programme or a set of programmes financially supported by global funding agencies and national governments, and implemented by agencies within the government as well as by NGOs. Figure 2 captures the essence of unidirectional flow of the services embodied in WASH. It is only at the margin, involving the lowest tier, where attempts are often made to price the services. While, at times, counter-part funding is made mandatory at other tiers, those are inadequate to counter the rent-sharing practices attached to unidirectional resource flows.

Figure 2: Relations in the Organizational Space



3.3 Trend in Organization activity

The WASH canvas outlined in Table 1 was followed to locate various organizations. In addition, a generic set of engagement types were listed to map organizations in an additional activity space. Since the compilation is in an excel file and are too wide to capture in the report, the summaries are presented below.

Most of the EDPs allocate their resource in all three areas of WASH: Water, Sanitation and Hygiene. Most of the International NGOs follow the EDPs and engage in all three areas of WASH. During the early years of NGO activities in Bangladesh (1970s and 1980s), several local NGOs engaged actively in installing hand tubewells and sanitary latrines. Over the years, their involvement with “hardware” decreased and most of them now work in “software” segment of the delivery. The main focus is on training, awareness and promotion as well as institutional building, and within the WASH space, much of their work is now concentrated in hygiene promotion.

Within the government, LGD is responsible for formulation of water, sanitation, hygiene sector policy and strategy and monitor quality, coverage and output for whole WASH sector, while GED (in coordination with the Ministry of Finance) is responsible for budgetary and resource allocation of WASH sector.³⁵ Of the implementing agencies, most report of working in water and sanitation sub-sectors. For example, WASA and LGED build infrastructure and install technology for water and sewerage system and maintain these infrastructures. DPHE had been one agency covering all three activity areas under WASH. It established infrastructure and new technology, and undertook projects on institutional capacity building, training, awareness and promotional activities, and had also been involved in monitoring of quality, output and coverage for water and sanitation sector. DPHE is also involved in awareness-raising for hygiene promotion. An earlier ERG study however noted that government agencies had often responded to fund availability by widening the scope of their (project) activities.³⁶

Information on organizational involvement in the various segments and sub-segments within the WASH (as depicted in Table 2.1) is presented in the Annex, Table 3,1 lists few generic activities that cut across those segments.

UNICEF: Water: water point technology, water quality monitoring, water policy, institution and capacity building, output monitoring, coverage monitoring and establishment of infrastructure for water sector. Sanitation: sanitation marketing, quality, coverage and output monitoring and organizes training, promotion and awareness activity. Hygiene: organizes different training, promotion awareness activity for hygiene promotion, such as, WASH in school, WASH in Urban areas. UNICEF also funds WASH projects of other national and international organizations.

WHO monitors quality, coverage, and output for water and sanitation sector, organize training, promotion or awareness activity for water, sanitation and hygiene sector, and institutional or capacity building in water and hygiene sector. WHO also works to formulate water policy for both country and institutional level and funds activities of other organizations in WASH sector.

World Bank and ADB: loan facility with technical assistance, advisory services, organize different training, promotion and awareness activity, institution and capacity building for both water and sanitation sector. They also support initiatives to formulate water policy, and monitor quality and coverage for both water and sanitation sector and engage in sanitation marketing.

Dutch Government: establish infrastructure, facilitate loan, works on institutional and capacity building, support to formulate policy, as well as several types of water supply and sanitation projects with loan facility with technical assistance, advisory services. In addition, the Dutch Government also works for water point technology.

³⁵ Ministry of Water Resources is a major recipient of government budget. Activities undertaken by the Ministry shape the macro environment that, along with awareness, defines the feasible choices for WASH. However, the Ministry allocates very negligible amount of its budget directly to WASH. One may note that the Ministry has the following organizations/departments under it, BWDB, River Research Institute (BIRRI), Joint River Commission (JRC), Directorate of Haor and Wetland Development, Water Resources Planning Organization (WARPO), IWM, and CEIGS.

³⁶ The dynamics of organizational health, a subject demanding separate inquiry, often led to weakening of organizations which spread out thinly. DPHE appears to be one such agency within the government.

Oxfam and Dutch WASH alliance: establish infrastructure, organize training, promotion and awareness activity and supports to national NGOs for water, sanitation, hygiene sector.

BRAC and WaterAid: In the *water sector*, operate water point technology, facilitate loan and fund, establish infrastructure, and organize training, awareness and promotion activity. In addition, WaterAid supports formulation of policy and monitoring quality while BRAC monitors quality and coverage for water sector. Both the organizations facilitate loan and fund, organize training, engage in awareness and promotion activity, establish infrastructure and technology, and engage in sanitation marketing. In the *sanitation sector*, WaterAid also operates quality monitoring and provide supports to formulate policy and strategy. In hygiene sector, both BRAC and WaterAid organize training, awareness and promotion activity, engage in institution and capacity building, and provide supports to other national NGOs.

Care and Muslim Aid: establish infrastructure, organize institution and capacity building, and training, promotion and awareness activity for water and sanitation sector. In addition, they also organize training, awareness and promotion activity and allocated fund to other national NGOs. Muslim Aid operates quality monitoring for water and sanitation sector.

DSK and NGO Forum operate water point technology, facilitate loan, establish infrastructure, and organize training, awareness and promotion activity for water sector. In addition, they monitor quality for water sector. Furthermore, DSK and NGO Forum facilitate loan, organize training, awareness and promotion activity, establish infrastructure and technology, operates sanitation marketing. In hygiene sector, DSK and NGO Forum both organize training, awareness and promotion activity, institution and capacity building, and allocate fund to other national NGOs.

Proshika, Dhaka Ahsania Mission and Rupantor establish infrastructure in water and sanitation sector and organize training promotion and awareness activity in water, sanitation sector and hygiene sector. In addition Dhaka Ahsania Mission operates sanitation marketing and facilitate fund to other partner NGOs.

Finally Nabolok establish infrastructure for water and sanitation sector, organize institutional capacity building, and training, awareness and promotion activity for water, sanitation and hygiene sector. In addition Nabolok also operates sanitation marketing.

In summary, the mapping exercise reveals the following patterns:

1. There is a functional division of responsibilities and interests across vertical lines. Thus, lending organizations are more into policy, large-scale infrastructures, and extending credit and technical supports downward to NGOs and departments/directorates within the government. At the bottom most tier in that vertical line are the local NGOs who implement designs developed elsewhere.
2. There is a division along the horizontal lines as well. The lending agencies (WB and ADB) are more involved in large scale infrastructure projects and in providing technical assistance. Agencies within the UN, meant to provide specialized services (such as, UNICEF and WHO) have wider and extended interests to work in various spheres of

WASH-related activities, though WHO's involvement appears narrow because of the scientific rigor in the work. As one moves down the links, awareness building occupies a larger space.

3. There appears to be a lack of specialization across agencies, though segmentation across policymaking (or, policy-shaping), design and implementation of mega infrastructures, and running awareness-raising programs is quite visible.

Upon consulting with various stakeholders and reviewing the changes in institutional responsibilities with the transition from MDG to SDG era, two reasons could be identified. First, the funding sources are beyond those visible in the development sector, and each of the visible players tends to diversify their portfolios of activities in order to maximize fund receipts. Second, given the importance of synergies across segments within WASH, organizations may not find it worth specializing. In reality, however, organizations have not emerged with exclusive focus on WASH, and past legacies have dictated the coordination across agencies within the government as well as in the NGO sector. There is clearly a need to revisit the organizational philosophy and find ways to reduce the cost arising out of a dilemma – to avail the guise of multi-agency coordination to realize WASH outcomes while retaining control of the historically bestowed individual domain (say, water, FSM, health, etc.), or, to create new ownership in the name of WASH whose expertise and executive power are able to change the ways individual agencies operate.³⁷

³⁷ Recent formulation of 'Institutional and Regulatory Framework for Fecal Sludge Management (FSM)' is a case in hand. Since a copy of the relevant paper reached the researchers at the end of report-writing, its review is not addressed in this report.

Table 3: Involvements of Organizations in selected generic activities across WASH

Activity	Organizations reporting engagement in specific activities
Water point technology	UNICEF, WHO, WB, ADB, Dutch Government, BRAC, Water-Aid, WASA, LGED
Quality monitoring for drinking water or water point functionality	UNICEF, WHO, WB, BRAC, Muslim Aid, WaterAid, LGD, DPHE
Water policy	UNICEF WHO, World Bank, ADB, LGD, DPHE
Institution building/partnership	UNICEF, WHO, WB,ADB, Dutch Government, WaterAid, DPHE, Muslim Aid, Dhaka Ahsania Mission, NGO Forum, Nabolok
Training, awareness and promotion	UNICEF, WHO, WB, Oxfam, Dutch WASH Alliance, BRAC, Muslim Aid, Care, WaterAid, DPHE, DSK, Proshika, Rupantor, Dhaka Ahsania Mission, NGO Forum, Nabolok
Outcome monitoring	UNICEF WHO, WB, DPHE
Sanitation marketing	UNICEF, WB, BRAC, DSK, Dhaka Ahsania Mission, WaterAid, NGO Forum, Nabolok
Establishment of infrastructure	UNICEF,BRAC, LGED,DPHE, WASA, Dhaka Ahsania Mission, NGO Forum, DSK, Rupantor, Proshika, Nabolok
Water supply that include such activities as fund for technical assistance or advisory services	WB, ADB, Dutch Government
Loan facility	WB, ADB, BRAC, DSK, WaterAid, NGO Forum
Coverage monitoring	UNICEF,WHO, WB, DPHE
Financial Allocation	GED

Source: Compiled from numerous reports of individual organizations and various internet sources.

Section 4

Resource Allocation for WASH Activities in Bangladesh

In a world of limited resources, each agenda needs to compete with many others to ensure its share in the total pie. The task is more difficult for agendas that are newly defined and is yet to find a place in the budget heads. It is therefore quite expected that the so called political economy analysis has often ventured into (budgetary) resource allocation with the intention of identifying obstacles to raising the share in national resource allocation to relevant sectors. The WASH agenda is not an exception, and subsection 4.1 summarizes others' compilations and adds few more to convey the status of WASH in financial supports from the supply side. The second subsection (4.2) presents additional data to assess household expenditure on WASH items, and to argue that household decisions may largely be influenced by what is made available at the community or 'macro' level.³⁸

4.1 Macro Level WASH Budget: A critical Review of Existing Literature

HDRC (2014) is an important source of compilation on budget allocations and development expenditure on WASH-related activities (sub-sectors). Its findings are limited by the method it was compelled to choose in the absence of unique correspondence between WASH (an evolving idea) and accounting heads in a national budget that overlap partially or wholly with those ideas. HDRC considered all LGD Projects in a (financial) year, identified the projects which included WASH components and calculated the amount allocated or spent.

Box 3: Findings of HDRC study

In both national and district level budgets, WASH is always an ignored part.

WASH Budget of 2014-15 (in 2014 constant price) is only 0.3% of GDP, which increased marginally from 0.26% of GDP in year 2007-2008 (Table 3.1).

Allocations to WASH had been 39% and 54% respectively of allocations to education and health in 2007-08. The relative standing of WASH improved, to 44% of allocation to education and 95% of allocation to health in 2014-15.

Water sub sector dominates the WASH Budget, and the bias increased significantly between 2007-08 and 2014-15. In 2014-15, two third of WASH budget was allocated for water sub sector (Table 3.2).

WASH Budget is biased towards urban areas, with 70% earmarked for Dhaka, Khulna and Rajshahi WASAs and Dhaka WASA. The latter alone received 38%. In contrast, *Char* and coastal areas received 1.6% and 1% respectively, while *haor* and hill areas are said to have received (practically) no allocation in the WASH budget.

³⁸ The ERG report on FSM in the fringes of Dhaka City (Working Paper # 2) makes a similar argument in case of household choices on on-site sludge retention and disposal.

Table 4: Budgetary allocations and percentage of allocation spent under WASH

FY	Percentages of gross domestic product (GDP)				WASH expenditure as % of allocation
	National Budget	National Development Budget	Budget for LGD	WASH	
2007-08	16.43	5.08	1.08	0.26	48.07
2008-09	16.30	4.47	0.85	0.21	95.38
2009-10	16.57	4.61	0.98	0.33	86.96
2010-11	16.94	5.09	1.05	0.41	79.22
2011-12	18.18	5.25	1.05	0.41	60.19
2012-13	18.41	5.42	1.04	0.26	99.97
2013-14	20.16	6.10	1.01	0.24	99.29
2014-15	18.54	6.06	1.00	0.30	

Source: Estimates based on findings presented in HDRC Study (2014).

Table 5: Percentage Share in WASH Budget, FY 2007/08-FY2014/15

FY	WASH (million taka)	Water	Sanitation					Hygiene	Others*
			Solid waste	Sewerage	Drainage	Latrine	Total		
2007-08	24,130	34.91	2.48	1.26	10.49	1.14	15.37	6.64	43.07
2008-09	20,350	32.96	2.71	0.86	10.45	3.04	17.05	6.93	43.06
2009-10	33,580	38.49	2.77	0.85	21.66	3.29	28.57	3.99	28.95
2010-11	43,610	49.74	1.74	0.63	24.73	3.31	30.42	1.81	18.03
2011-12	46,700	58.99	1.88	1.68	22.92	3.82	30.31	2.13	8.57
2012-13	30,700	70.58	0.67	2.41	1.61	5.07	9.76	2.22	17.43
2013-14	28,240	71.96	0.75	1.47	6.60	8.12	16.94	0.30	10.79
2014-15*	41,130	76.21	0.12	0.49	4.60	7.21	12.41	0.12	11.26

Note: * Figures are tentative since the exercise on 2014-15 was on-going.

Source: Calculated from figures provided in HDRC (2014).

While utilization of budget allocation under WASH has improved in the recent past (2012-14), the quality is not assured. It is also important to note that relative emphasis on the ‘macro environment’ for sanitation (such as, solid waste, sewerage and drainage) has declined substantially. Allocation to micro interventions in the form of latrines had increased, but is unlikely to be sustained in future.³⁹ Figures reproduced in Table 5 also reveal of gradual shift away from awareness and other programmes for hygiene. These inferences however need to be

³⁹ In a pre-budget (2015-16) session on WASH organized at *Dainik Kaler Kontho*, the Minister for Water Resources categorically expressed dissatisfaction with a policy of subsidized distribution of tubewells and latrines through DPHE.

qualified, HDRC report compiled only the LGD budget, excluding WASH budget of such agencies as WASAs, City Corporation and Municipality.

Allocations revealed in national budgets partly reflect the sector-specific assistance (aid) extended by EDPs, often under the guise of budgetary supports. Table 6 puts together the relevant information obtained from the net. Over the five years period covered, share of ODA in water resources declined, though contribution to ‘health, nutrition, population and family welfare’ increased.⁴⁰

Table 6: AID Allocation by Sector

(Values are in million US dollar, and percentages contributed by ODA)

Sector	2008-09		2009-10		2010-11		2011-12		2012-13	
	Value	%	Value	%	Value	%	Value	%	Value	%
Agriculture	1.56	4.26	2.83	2.76	10.61	7.63	19.05	8.33	17.25	2.74
Education & Religious affairs	5.9	16.11	10.68	10.39	15.41	11.08	48.39	21.14	192.7	30.61
Health, Nutrition, Popul and Family Welfare	0.52	1.42	0.79	0.77	4.3	3.09	15.82	6.91	48.61	7.72
Labour	6.09	16.65	23.95	23.29	16.93	12.17	9.04	3.95	45	7.15
Rural development	7.64	20.89	7.68	7.47	10.34	7.43	24.84	10.85	82.93	13.17
Social welfare	0.26	0.71	0.34	0.33	1.29	1.47	2	0.88	39.49	6.27
Water resources	1.84	5.2	4.8	4.67	6.94	4.99	14.61	6.38	17.52	2.78

Source: Bangladesh Aid Information and Management System

4.2 Household expenses on WASH

Provisioning of water and sanitation was once considered the responsibility of the employer of labor, and subsequently of the government when colonial and nation states emerged. Hygiene, as an input was mostly in the domain of private individuals, thus, quite often considered to be culturally rooted. Over last several decades, resource scarcity has been felt in both water and sanitation, and with increased manifestation of demand, markets of both have expanded. Even at the lower end of the market, free installation of tubewells or latrines, using NGO services, made ways for subsidized distribution, and eventually private business defining the markets. The journey may not have been fully completed in Bangladesh, yet, a long distance has been travelled. Thus, resource allocation to WASH discussed in the preceding subsection captures only a part of the total resources the society allocates to WASH. This subsection discusses some aspects of that left out portion, though no estimate at national level was feasible due to limited availability of requisite data.

Robust estimates on household expenses on WASH-related items are difficult to obtain because of the detailed nature of expenditure surveys, which often fail to accommodate the relevant items

⁴⁰ One also finds the share in social welfare to have increased in 2012-13 due to alleged diversion of funds from prior allocation to infrastructure.

in a questionnaire. HIES 2010 (for urban and rural) and IFPRI 2012 (for rural) are two datasets of recent vintage that are considered nationally representative, and unit level data were available. The unit level data from IFPRI 2012 was analyzed and the estimates on shares of expenditure on WASH-related non-food groups are presented in Table 7. While share of non-food items in total expenditure increases with increase in income, expenditure on personal care and on items for cleaning in rural Bangladesh is found to remain stable at a low level, around 2 to 3% of total household expenditure. Some of the other findings from the IFPRI dataset are discussed below to highlight the dependence of household responses on macro environment within which the households operate.

Table 7: Shares in total expenditure

Income quintile	Personal (cream /shaving, etc)	cleaning (bath, laundry soap)	Non-food expenditure
1 (lowest)	1.59	1.53	33.79
2	1.56	1.43	35.24
3	1.48	1.41	36.74
4	1.30	1.31	37.16
5	0.99	1.13	44.59
All	1.30	1.31	38.89

Note: based on sum of expenses for all households in a quintile group.

Source: Own estimate using IFPRI's unit level data.

Tables 8 and 9 show percentages of households by the type of sources of drinking water they avail. Income quintiles represent income ladder and (administrative) Divisions act as proxies for macro environment. Tables 10 and 11 provide similar findings on toilet use. In both instances, differences across divisions are significantly different.

Table 8: Sources of Drinking Water (% of households), by income quintile groups

	1 (lowest)	2	3	4	5	All
Supply water (piped), inside house	0.7	1.2	0.8	1	1.9	1.1
Supply water (piped), outside house	0	0.1	0.3	0.7	1.1	0.4
Own tubewell	39.8	43.6	48.7	58.4	66.9	51.1
Community tubewell	44.8	39.5	36	28.7	20.6	34.2
Rain water	0.1	0.2	0.3	0.1	0.1	0.2
Ring well/indara	0.1	0	0.1	0.3	0.1	0.1
Pond/river/ canal	2.9	2.9	3.0	1.9	2.4	2.6
Other	11.6	12.3	10.7	8.9	7.1	10.2
Total	100	100	100	100	100	100

Source: IFPRI (2013).

Table 9: Sources of Drinking Water (% of households), by Divisions

Source of drinking water	Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Rangpur	Sylhet	All
Supply water (piped), inside house	1.0	1.9	0.8	1.1	1.7	0.6	0.8	1.1
Supply water (piped), outside house	0	0.5	0.2	0.9	1.0	0	0.4	0.4
Own tubewell	11.7	44.7	53.1	46.9	62.6	72.0	34.6	51.1
Community tubewell	69.3	41.4	23.9	39.1	33.5	25.6	38.8	34.2
Rain water	0.2	0.1	0.2	0.4	0	0.2	0	0.2
Ring well/indara	0	0.3	0.1	0	0	0	0.6	0.1
Pond/river/canal	4.5	3.5	0.6	7.2	1.2	1.1	5.1	2.6
Other	13.3	7.6	21.2	4.4	0	0.6	19.7	10.2

Source: IFPRI (2013).

Table 10: Type of Latrine used (% of survey households), by income quintile groups

	1 (lowest)	2	3	4	5	All
None (open field)	7.1	4.5	3.3	2.1	1.1	3.7
Kutchra (fixed place)	27.4	22.1	20.6	16.3	8.8	19.3
Pucca (unsealed)	49.0	53.4	51.4	47.3	42.1	48.7
Sanitary without flush	13.2	17	21.9	31.9	45.3	25.5
Sanitary with flush	0.1	0.1	0.1	0.2	1.6	0.4
Community latrine	3.3	2.6	2.6	2.2	1	2.3
Other	0	0.3	0.1	0	0.1	0.1

Source: Table 3.26, IFPRI (2013).

Table 11: Type of Latrine used (% of survey households), by Divisions

	Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Rangpur	Sylhet	All
None (open field)	1.4	1.2	3.1	0.6	7.4	8.8	2.2	3.7
Kutchra (fixed place)	17.4	10.2	24.9	8.9	27.8	19.3	19.4	19.3
Pucca (unsealed)	60.5	47	47.9	66.3	38.3	44.2	45.6	48.7
Sanitary without flush	20	37	20.7	23.5	24.8	24.7	29	25.5
Sanitary with flush	0.7	0.3	0.3	0.6	0.2	0.2	1.7	0.4
Community latrine	0	4.1	3.1	0.2	1.6	2.8	1.8	2.3
Other	0	0.3	0.1	0	0	0	0.3	0.1

Source: Table 3.26, IFPRI (2013).

The IFPRI questionnaire on hygiene had one question on hand-washing, “when do you wash your hand?”, with provision for three responses. It is found that practices of hand-washing

‘before eating’ dominates, followed by ‘after using toilet’, with the reported practice of hand-washing ‘before feeding the child’ coming in third position.

4.3 Political Economy analysis – are there drivers of change?

The question posed in the title has been an issue of contention, and this was evident in the review of PE (section 1). Several case studies presented in other ERG reports (under the WASH study) search for identifying social, economic or political groups having an interest in either changing the *status quo* (associated with WASH) or retaining it.⁴¹ Those studies however look at specific issues, such as, FSM in the fringes of Dhaka city and ground water extraction in Khulna city, and interests are defined in terms of those issues. The present report had dealt with aggregate resource allocation to WASH and had attempted to assess interests of different groups of actors as revealed in their definition of WASH agenda and their positioning in activity space. This concluding subsection tries to put some of the thoughts together to address the question, with additional information drawn from the campaign materials of the Mayor elections in Dhaka and Chittagong concluded in April 2015 (see Annex for details).

Over the recent past, particularly since 2009, budgetary resource allocations had initial biases in favor of power & electricity, and increasingly towards transport and related infrastructure (see Tables A4.1 and A4.2 in the Annex). An obvious casualty is perceived to have been provisioning and maintenance of utilities under the local governance. Resources allocated through ADP may have both internal (revenue generation) and external (loan and aid) origin. Trends in the share of ODA contribution to sector level expenses suggest that EDPs may have been a more active promoter of WASH than the national government. Two plausible reasons are discussed below.

Other than hygiene, WASH largely involves management of resources, land, water bodies and other sources of water (groundwater and rainwater). It also needs to be recognized that human habitats generate wastes which have strong externalities with those natural resources. Failure in the management of both is believed to have led to a poor status for WASH in Bangladesh. Some of the case studies will reveal that population increases, unregulated urbanization and unregulated urban housing market have worsened the natural environment. More importantly, vocal segments of the society -- be they civil or not -- put a greater weight on acquiring urban land than the cost such acquisition may incur at the society and personal levels. Thus, the voice for change is at most sporadic and segmented with in-fights for claiming a pie in the limited resource pool.

⁴¹ The latter may be interpreted in terms of a set of actions that cause a given WASH status are driven by strong interests of one or a group of actors who are unwilling to change their actions.

Second is rooted in globalization that has seen gradual separation of the ruling class (people in the government as well as in the management of major businesses) from the very land they rule. In case of Bangladesh, families of many members of the ruling class rarely reside in the country. Yet, WASH is a service space that matters mostly those who are regular residents of the country. Thus, the stakes are possible not significant for those in power.

In connection with the above propositions, it may be worth looking into the campaign agenda of the aspirant Mayors in Dhaka and Chittagong cities compiled in the last annex. Many mention of their intent to bring about changes in water and sanitation status in their electorates. However, two distinct features in their formulations appear to be relevant for the discourse. First, no one commits on quality and safety of drinking water in concrete term. Second, a more important one, many of the campaign agendas and their formulations suggest that the candidates had prior information on 'projects in pipelines' and the probability of fulfilling the commitments would be high.⁴² Examples include, campaign commitments on public toilet, water treatment and closed waste removal system.

Internally, there are two groups with potential interests to change the WASH status in the country. First, are the government agencies such as LGD and the enlightened executives in those agencies who have the knowledge to be inspired and project-specific interests in introducing new initiatives. The second group includes the NGOs who may see their expertise gainfully employed in such projects. It is conjectured that the very two segments may have narrow interests that hinder the adoption of designs which will involve people who are at the center of WASH services.

⁴² While no one will blame them of plagiarisms, it is evident that the ideas did not originate from local constituency, but from project ideas conceived elsewhere.

Annex to Section 1

Table 1.1:

	Geographic	Economic	Political	Social	Ideological
Forms	Land, soils, environment, climate, location, urbanisation, vulnerability to infectious diseases	Sectoral composition, systems of production and exchange, division of labour	Distribution, concentration of decision-making, regime type, sovereignty	Class, caste, ethnicity, nationality, gender, age, (dis)ability	Systems of belief, assumptions, norms, worldviews: racist, religious, capitalist or socialist, patriarchal
Institutions	Land ownership, official status of areas (forestry, SEZs, heritage, farming)	Property rights, contract law, labour laws, tax system	State executive, legislature, electoral system, judiciary, bureaucracy, patronage, chieftainship	Laws and rules on rights, negative and positive discrimination, caste councils, family, education system, citizenship	Religion, sumptuary law, education system, media, the state
Power	Concentration of activity in core (away from periphery), border creation and policing	Capital (wealth), labour (organisation, solidarity)	De jure and de facto, authority, legitimacy, 'barrel of a gun'	Identity and roles, status and hierarchy, hierarchies	Knowledge, values, beliefs

Source: Hudson and Leftwich (2014).

Table 1.2: SDG for water and sanitation in brief

Goal 6: Ensure availability and sustainable management of water and sanitation for all.
6.1 by 2030, achieve universal and equitable access to safe and affordable drinking water for all
6.2 by 2030, achieve access to adequate and equitable sanitation and hygiene for all, and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
6.3 by 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater, and increasing recycling and safe reuse by x% globally
6.4 by 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity, and substantially reduce the number of people suffering from water scarcity
6.5 by 2030 implement integrated water resources management at all levels, including through trans-boundary cooperation as appropriate
6.6 by 2020 protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
6.a by 2030, expand international cooperation and capacity-building support to developing countries in water and sanitation related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
6.b support and strengthen the participation of local communities for improving water and sanitation management

Annex to Section 2

Table 2.1: Chronology of WASH Event in Bangladesh and India.

Year	Bangladesh	Year	India
1950-1970	UNICEF started different programmes that cover the provision of latrines, improvements to water supply	1954	First Five Year Plan of the Government of India, Included the National Water Supply and Sanitation Program, introduced in the health sector by the Government of India
1959	East Pakistan Water and Power Development Agency was established		
1959-61	USAID supports leading to extensive tubewell installation under DPHE and with participation from local government		
1963	East Pakistan Dhaka and Chittagong Water supply and Sewerage Project funded by World Bank.		
1963	Water Supply and Sewerage Authority (DWASA) was established in Dhaka.		
1970	UNICEF initiated its safe water supply program in Bangladesh.	1970	UNICEF started world's largest rural water supply program in India.
1973	Revised Dhaka and Chittagong Water supply and Sewerage Project for Bangladesh with World Bank support.	1972	An Accelerated Rural Water Supply Program (ARWSP), designed to provide funds for "problem villages" (tribal people, <i>Harijans</i> , backward classes)
1976	Deep Tube well Irrigation and Credit Program started by Care Bangladesh.	1975	The 20-Point Minimum Needs Program replaced ARWSP Program, and further attention was given to "problem villages"
1978	Bangladesh achieves one hand-pump per 250 inhabitants.	1977	ARWSP reintroduced with funds from the Minimum Needs Program
1983	Water Supply and Sewerage Authority (WASA) established in Chittagong city.	1981	Beginning of the International Drinking Water and Sanitation Decade -- creation of the International Drinking Water Supply & Sanitation Program Specified individuals to have 40 liters of safe drinking water/capita/day; targets were set to have at least one hand pump/spot source for every 250 persons; and for all dry latrines to be converted into low cost sanitary latrines.
1983	National Water Resources Council (NWRC) established		
1985	Tubewell assets to landless, started by Care Bangladesh.	1985	Management of rural and urban water supply and sanitation transferred from the Central Public Health and Environmental Engineering Organization to (1) The Ministry of Drinking Water and Sanitation for rural water supply and sanitation; and (2) The Ministry of Urban Development for urban water supply and sanitation.

Table 2.1: Chronology of WASH Event in Bangladesh and India (continued)

Year	Bangladesh	Year	India
1986	WaterAid started their work in Bangladesh.	1986	Central Rural Sanitation Program (CRSP) launched. The focus of the CRSP was on supply (providing toilets) and subsidy-driven. Received funds from the Minimum Needs Program; designed to increase sanitation coverage to all rural areas; established the National Technology Mission to provide states with technical and scientific guidance.
1989	Drainage system of Dhaka city is handed over to Dhaka WASA.	1990	Intensive Sanitation Project (ISP) launched in Medinipur. ISP called for the elimination of subsidies and a focus on education.
1991	Water, Sanitation and Hygiene project of Care Bangladesh provided Deep/Shallow Tube wells, Ring well and Sanitary Latrine in the coastal areas.	1991	National Technology Mission renamed the Rajiv Gandhi National Drinking Water Mission (RGNDWM)
1993	JICA establish Water Supply and Sanitation project in Rajshahi Town	1992	National conference on rural sanitation organized by the Government of India
1993	Arsenic Contamination of groundwater above standard level was discovered	1993	CRSP restructured using insights from the 1992 National conference Unit cost of latrine was increased to Rs 2,500, and beneficiary contribution for latrine price was increased
1993	Muslim Aid started their work in WASH sector Bangladesh.	1994	73rd and 74th constitutional amendments created a three-tier elected local self-government system (<i>Panchayati Raj</i> Institutions) as well as recognized powers and functions of Urban Local Bodies (ULBs)
1996	Small Scale water resource Development project of ADB.	1996	National Slum Development Program (NSDP) aimed at upgrading urban slums by providing physical and social amenities, community infrastructure, and shelter.
1998	National Policy for safe water and sanitation was introduced	1996-1997	Findings from Knowledge, Aptitude and Practices Survey (KAPs), administered by the RGNDWM, highlighted the convenience and privacy as main motivational factors for toilet construction, rather than subsidies
1998	Water and Sanitation Partnership project by Care Bangladesh changes hygiene behavior and mitigates arsenic.		
1999	National Water Policy was passed.	1999	CRSP restructured, and TSC launched

Table 2.1: Chronology of WASH Event in Bangladesh and India (continued)

Year	Bangladesh	Year	India
2000	MDG goals set.		
2000	Initiation of Community-Led Total Sanitation (CLTS) in a small village in the Rajshahi District.	2001	Replacement of NSDP by Valmiki Ambedkar Awas Yojana (VAMBAY) Construction and upgrading of urban slums, particularly through community toilets; the central government provided a subsidy of 50% for construction, with remaining 50% supplied by the state government; the program more recently works to create community toilets under the Nirmal Bharat Abhiyan (NBA) scheme
2002	Sanitation, Hygiene and Water Supply in Urban Slums and Fringes (ESHWSUSF) Project introduced by Care Bangladesh	2002	Total Sanitation Campaign (TSC) is the primary national sanitation program of the Government of India 10th Five Year Plan acknowledged the importance of urban water supply and sanitation
2003	The first South Asian Conference on Sanitation (SACOSAN-I) was held in Dhaka		
2003	A national sanitation programme has been launched and a Country Strategy Paper for Community Led Total Sanitation has been developed.	2003	<i>Nirmal Gram Puraskar</i> (NGP) launched Incentive scheme to encourage <i>Panchayati Raj</i> Institutions (PRIs) to become open defecation free
2004	National Water Management Plan was published		
2004	Sector development framework was established		
2005	National Sanitation Strategy was published	2005	Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) had provision for at least 100 days of guaranteed wage employment per year in rural areas to each adult household member that volunteered for unskilled manual work. In 2012, the MGNREGA was merged with the NBA. However, in 2014, the MGNREGA was removed from the new sanitation campaign (SBA).

Table 2.1: Chronology of WASH Event in Bangladesh and India (continued)

Year	Bangladesh	Year	India
2005	Pro-Poor strategy for water and sanitation sector was published		
2005	Water and Sanitation rehabilitation Program (WATSAN) was initiated.		
2006	Brac started their WASH program.		
2005, 2009-2011	The 2005 National Strategy for Accelerated Poverty Reduction, popularly known as Poverty Reduction Strategy Paper (PRSP), and the revised PRSP-II for 2009-2011 underscore the special needs for the water supply and sanitation sector.	2007	Jawaharlal Nehru National Urban Mission (JnNURM) launched. Provision to develop basic services for the urban poor. Urban Infrastructure Development Scheme for Small & Medium Towns (UIDSSMT) launched.
2011	Sector Development Plan (FY 2011-25) for Water Supply and Sanitation Sector in Bangladesh	2008	National Urban Sanitation Policy (NUSP) is launched Designed to “ensure and sustain good public health and environmental outcomes for all citizens with special focus on hygiene and affordable sanitation facilities for urban poor and women” (Dasra, 2012)
2012	National Hygiene Promotion Strategy for Water Supply and Sanitation Sector in Bangladesh 2012	2012	TSC is renamed Nirmal Bharat Abhiyan (NBA). Target set for 100% coverage of sanitation in rural areas by 2020 Rajib Awas Yojana (RAY) initiated. Create a slum-free India during the Twelfth Plan Period (2013-2017). Government of India also launched the National Sanitation and Hygiene Advocacy and Communication Strategy developed with UNICEF’s support.
2013	Draft National Water Act		
2014	National Hygiene Baseline survey	2014	Swachh Bharat Abhiyan (SBA) replaced NBA. New target to make India 100% ‘clean’ by 2019.
2014	Draft final National Strategy for Water Supply and Sanitation		

Annex to Section 2 (continued)

Definitions and Scopes of WASH by Different Organizations

GoB National Policy for Safe WatSan 1998⁴³

Safe water supply means withdrawal or abstraction of either ground or surface water as well as harvesting of rain-water; its subsequent treatment, storage, transmission and distribution for domestic use.

Sanitation means human excreta and sludge disposal, drainage and solid waste management. [In later documents, inclusion of hygiene under sanitation is claimed.]

(Water and Sanitation) Sector means the safe water supply and sanitation sector.

GoB National Sanitation Strategy 2005⁴⁴ considers *100% sanitation* to imply achieving all of the followings:

- No open defecation
- Hygienic Latrine is available to all
- Use of hygienic latrines by all
- Proper maintenance of latrine for continual use and
- Improved Hygienic Practice

Since health impacts of sanitation are the primary reason for sanitation improvement programs, *total sanitation* for healthy living is also meant to include:

- Hygienic latrine facilities away from environment.
- Proper management solid waste
- Proper disposal of household waste water and storm water.

A *Hygienic Latrine⁴⁵* is defined as a sanitation facility the use of which effectively breaks the cycle of disease transmission. Improved hygiene practice is to be emphasized and proper use of hygienic latrine ensured because both play the vital role in breaking the cycle of disease transmission. A wide range of sanitary or hygienic latrine technology is available to suit different conditions, all of which are expected to fulfill the following requirements:

- Confinement of faces away from the environment.
- Sealing of the passage between squat hole and the pit to effectively block the pathway for flies and other insect vectors thereby breaking the cycle of disease transmission and
- Venting out of fuel gases generated in the pit through a properly poisoned vent pipe to keep the latrine odor free and encourage continual use hygienic latrine.

⁴³ National Policy for Safe Water Supply & Sanitation 1998, Local Government Division, Ministry of Local Government, Rural Development and Cooperatives, Government of the People's Republic of Bangladesh.

⁴⁴ National Sanitation Strategy, 2005 by Local Government Division, Government of People's Republic of Bangladesh.

⁴⁵ National Sanitation Strategy, 2005 by Local Government Division, Government of People's Republic of Bangladesh.

GoB Sector Development Plan 2011-2025⁴⁶

Safe water supply means withdrawal or abstraction of either ground or surface water as well as harvesting of rainwater, its subsequent treatment, storage, transmission and distribution for domestic use.

Sanitation: Disposal of human excreta, drainage and solidwaste management together constitute Environmental Sanitation. [Although not explicitly mentioned in the NPSWSS 1998, hygiene promotion is said to have been included under the head of sanitation].

Hygiene means keeping oneself and one's surrounding clean to prevent illness or the spread of diseases.

Hygiene promotion means the process to positively change or develop the behavior related to hygiene practices. (not defined in NPSWSS 1998, but applied in the SDP).

(*Water & Sanitation*) Sector means the drinking water supply and sanitation sector

LGD (2012): Hygiene⁴⁷

The report classifies the range of hygiene behaviors and social norms that may affect disease transmission into five clusters called 'behavioral domains'. These are:

- Disposal of human feces i.e. sanitation hygiene
- Selection, use and protection of safe water sources i.e. water hygiene
- Personal (including menstrual) hygiene
- Food preparation and handling i.e. food hygiene
- Domestic and environmental hygiene (e.g. small drainage and household waste management) i.e. environmental hygiene.

WHO⁴⁸

WHO and UNICEF provide the UN system's monitoring of progress on MDG target 10. Under the JMP, WHO website defines safe drinking water and basic sanitation as follows:

Water

Drinking water is water used for domestic purposes, drinking, cooking and personal hygiene;

Access to drinking water means that the source is less than 1 kilometer away from its place of use and that it is possible to reliably obtain at least 20 litres per member of a household per day;

Safe drinking water is water with microbial, chemical and physical characteristics that meet WHO guidelines or national standards on drinking water quality;

⁴⁶ Sector Development Plan of WASH in Bangladesh 2011-2025 by Local Government Division, Ministry of Local Government, Rural Development and Cooperatives, Government of the People's Republic of Bangladesh.

⁴⁷ It is recognized that no single programme can effectively cover all practices in all domains, and hence there is a need to prioritize which practices are likely to be most effective in preventing in diseases transmission. Generally, scopes are limited to improve hygiene practices relevant to water supply and sanitation, considered to be the priority area for prevention of diseases from fecal oral transmission.

⁴⁸ Unless alternative reference is cited, the following is retrieved from the WHO website :
http://www.who.int/water_sanitation_health/mdg1/en/

Access to safe drinking water is the proportion of people using improved drinking water sources: household connection; public standpipe; borehole; protected dug well; protected spring; rainwater.

There is an additional dimension along which water is grouped in one of the WHO papers⁴⁹. The broad types are as follows:

Grey water: Water from a potable source (any domestic wastewater) that has already been used for bathing, cleaning/washing (laundry or washing dishes) and cooking. It does not include wastewater from kitchen sinks or dishwashers (IAPMO 2000).

Wastewater/ Blackwater: Combined domestic effluent that contains sewage. Black water has come into contact with fecal matter. Even though grey water does not include wastewater, pathogens may still be present from different sources (e.g. babies' nappies or diapers). On the other hand grey water may contain soap particles, fat and oil from cooking, hair, and even flakes of human skin, thus, the exact contents of grey water depend heavily on the household.

Reclaimed water: Water that has been treated so that its quality is suitable for particular specified purposes, e.g. irrigation, toilet flushing, etc.

Green water: Reclaimed water that has been treated to a relatively high standard, suitable for general use as a non-potable source in parallel with the potable source. It may be identified through inclusion of a green dye and supplied through a dedicated pipe work system.

Drinking-water: Very high-quality water assured to be suitable for drinking by humans.

Sanitation

Basic sanitation is the lowest-cost technology ensuring hygienic excreta and sullage disposal and a clean and healthful living environment both at home and in the neighborhood of users.

Access to basic sanitation includes safety and privacy in the use of these services.

Sanitation Coverage is the proportion of people using improved sanitation facilities: public sewer connection; septic system connection; pour-flush latrine; simple pit latrine; ventilated improved pit latrine.

Hygiene⁵⁰

Hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases. Medical hygiene therefore includes a specific set of practices associated with this preservation of health, for example environmental cleaning, sterilization of equipment, hand hygiene, water and sanitation and safe disposal of medical waste.

WHO International⁵¹ provides additional information on types of latrines that are considered improved on sanitation ground, and the unimproved ones.

⁴⁹ Anonymous Report: Retrieved from: http://www.who.int/water_sanitation_health/hygiene/plumbing19.pdf ;

Robert Lamb, How Gray Water Reclamation Works Retrieved from how house stuff works website:

<http://science.howstuffworks.com/environmental/green-science/gray-water-reclamation1.htm>

Retrieved from Earth Technology website: <http://www.sustainable.com.au/greywater-treatment.html>

⁵⁰ WHO Hygiene definition retrieved from the WHO Website: <http://www.who.int/topics/hygiene/en/>

⁵¹ Retrieved from the WHO International website:

http://www.who.int/water_sanitation_health/monitoring/jmp04_2.pdf

Improved sanitation facilities

- Connection to a public sewer
- Connection to a septic system
- Pour-flush latrine Simple pit latrine^{52**}
- Ventilated improved pit latrine

Unimproved sanitation facilities

- Public or shared latrine
- Open pit latrine
- Bucket latrine

UNICEF⁵³

On Water

The category ‘*improved drinking water sources*’ includes sources that, by nature of their construction or through active intervention, are protected from outside contamination, particularly faecal matter. It comprises piped water on premises such as piped household water connection located inside the user’s dwelling, plot or yard. Other improved drinking water sources include public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs and rainwater collection.

Unimproved drinking water sources include unprotected dug well, unprotected spring, cart with small tank/drum, tanker truck, and surface water (river, dam, lake, pond, stream, canal, irrigation channels), bottled water.

On Sanitation

Open defecation: Defecation in fields, forests, bushes, bodies of water or other open spaces, or disposal of human faeces with solid waste.

Unimproved sanitation facilities: Facilities that do not ensure hygienic separation of human excreta from human contact. Unimproved facilities include

- pit latrines without a slab or platform,
- Hanging latrines and bucket latrines.

Shared sanitation facilities: Sanitation facilities of an otherwise acceptable type shared between two or more households. Shared facilities include public toilets.

Improved sanitation facilities: Facilities that ensure hygienic separation of human excreta from human contact. They include:

- Flush or pour-flush toilet/latrine to
- piped sewer system
- Septic tank
- pit latrine
- Ventilated improved pit (VIP) latrine

⁵² **Only a portion of poorly defined categories of latrines are included in sanitation coverage estimates.

⁵³ UNICEF definitions: Website: http://www.unicef.org/wcaro/overview_2570.html.

- Pit latrine with slab
- Composting toilet.

WHO/UNICEF Joint Monitoring Program (JMP)⁵⁴

On Water

The JMP 1996 report⁵⁵ addressed issues on access, safety and adequacy. Some of the definitions are noted below,

Access to Water: In urban areas a distance of not more than 200 meters from a home to a public standpost maybe consider reasonable access. In rural areas, reasonable access implies that a person does not have to spend a disproportionate part of the day fetching water for the family needs.

Adequate amount of Water: 20 liters of safe water per person per day.

Safe Water: Water that does not biological or chemical agents directly detrimental to health. It includes treated surface water and untreated but uncontaminated water from protected springs, bore hole, sanitary walls, etc.

Convenient Distance: In urban areas to fetch 20 liters of safe water per person per day a 200 meters would be a reasonable distance from the home.

Drinking water is defined as water for ingestion, basic personal and domestic hygiene and cooking. It excludes water for clothes washing, an activity that frequently happens at the water source, water point, in rivers or streams. An improved drinking water source is defined as a type of drinking water facility or water delivery point that by the nature of its design protects the drinking water source from external contamination, particularly of faecal origin.

"Improved" sources of drinking-water

- Piped water into dwelling
- Piped water to yard/plot
- Public tap or standpipe
- Tube well or borehole
- Protected dug well
- Protected spring
- Rainwater

"Unimproved" sources of drinking-water

- Unprotected spring
- Unprotected dug well
- Cart with small tank/drum

⁵⁴ WHO/UNICEF Joint Monitoring Program definitions see <http://www.wssinfo.org/definitions-methods/watsan-categories/>. See also,

http://webworld.unesco.org/water/wwap/wwdr/indicators/pdf/F4_Access_to_safe_drinking_water.pdf

⁵⁵ WHO/UNICEF (1996). Water Supply and Sanitation Sector Monitoring Report. Geneva.

- Tanker-truck
- Surface water
- Bottled water

On Sanitation

JMP categorizes sanitation into "improved" and "unimproved", as detailed below.

"Improved" sanitation

- Flush toilet
- Piped sewer system
- Septic tank
- Flush/pour flush to pit latrine
- Ventilated improved pit latrine (VIP)
- Pit latrine with slab
- Composting toilet
- Special case

"Unimproved" sanitation

- Flush/pour flush to elsewhere⁵⁶
- Pit latrine without slab
- Bucket
- Hanging toilet or hanging latrine
- No facilities or bush or field

Overseas Development Institute:⁵⁷

Sanitation

- Safe collection, storage, treatment and disposal/re-use/recycling of human excreta (faeces and urine)
- Management/re-use/recycling of solid waste (rubbish)
- Collection and management of industrial waste products
- Management of hazardous wastes (including hospital wastes, chemical/ radio-active and other dangerous substances)

Water management

- Drainage and disposal/re-use/recycling of household waste water (also referred to as 'grey water')
- Drainage of storm water
- Treatment and disposal/re-use/recycling of sewage effluents

Hygiene

- Safe water storage
- Safe hand-washing practices

⁵⁶ Excreta are flushed to the street, yard or plot, open sewer, a ditch, a drainage way or other location

⁵⁷ Overseas Development Institute et al, (2007) Sanitation and hygiene in developing countries: identifying and responding to barriers, A case study from Madagascar.

- Safe treatment of foodstuffs

Oxfam⁵⁸

Water: water supply for human consumption and household needs, as well as for crops and livestock needs where appropriate.

Sanitation: excreta disposal; solid waste management; drainage; vector control.

Hygiene: Health issues related with cleanness.

WaterAid⁵⁹

Sanitation refers to the safe management of human excreta from the point of defecation to its disposal, treatment or re-use. In the urban environment especially, sanitation also includes the management of solid waste, grey water and surface drainage. In the wider context, sanitation includes not only physical systems, but also the policies, legal and management frameworks and investments necessary to achieve sanitation for all.

Hygiene includes personal and household practices, such as hand-washing, bathing and management of stored water in the home, all aimed at preserving cleanliness and health⁶⁰.

Ecological sanitation⁶¹:

Ecological sanitation (ECOSAN) is an alternative approach to conventional wastewater treatment systems towards an ecological and economical sustainable wastewater management. Ecosan can be carried out by a variety of low-tech to high-tech solutions, which are based on a systematic material-flow-orientated recycling process. Urine and feces are no longer considered as waste but as valuable resources like fertilizer and soil conditioner. Ideally, ecological sanitation systems permit the complete recovery of all nutrients from feces, urine and gray water, benefiting agriculture and minimizing water pollution and health risks, as well as allowing economical use of water and its maximal reuse, particularly for the purpose of irrigation. Ecological sanitation is often referred to a so-called closed-loop approach considering nutrients. But in terms of pathogenic organisms it should be understood as an approach to actually break the pathogen loop by properly sanitizing human excreta. Rainwater harvesting, co-treatment of solid organic waste as well as energy saving and recovery by suitable treatment of liquid and solid organic wastes can also be included in a broader definition of ecosan.

⁵⁸ Oxfam Website: <http://policy-practice.oxfam.org.uk/our-work/water-health-education/wash#1ea99c2f-6bd0-43d1-9a39-ef9a139541b7>

⁵⁹ Wateraid Sanitation Framework

⁶⁰ WaterAid Urban Framework(2011) Retrieved from the WaterAid website: www.wateraid.org/~//media/Publications/urban-framework.pdf

⁶¹ Ecological Sanitation – An Introduction to the Philippines, paper prepared within the DILG-GTZ Water Program towards an Integrated Water Resources Management for the Philippines, by Claudia Früh Manila, Philippines October 2003.

Annex to Section 3

Table 3.1: Mapping of Organization onto Activity Space

Code	Multilateral				Bilateral							Dutch WASH Alliance	BRAC	Muslim Aid	CARE	Water Aid	Waste Concern
	UNI CEF	WHO	World Bank	ADB	DFID	JICA	DANI DA	Dutch Government	USAID	Oxfam							
10000	1	1	1	3	3	1	3	1	3	1	1	1	1	1	1	2	
11000	1	1	1	3	3	3	3	1	3	3	3	1	1	1	1	2	
11100	1	3	1	3	3	3	3	1	3	3	3	1	1	3	1	2	
11110	1	3	1	3	3	3	3	3	3	3	3	2	1	3	1	2	
11111	1	3	1	3	3	3	3	3	3	3	3	2	3	3	1	2	
11112	1	3	1	3	3	3	3	3	3	3	3	1	3	3	1	2	
11113	3	3	3	3	3	3	3	3	3	3	3	2	3	3	1	2	
11120	1	3	1	3	3	3	3	3	3	1	3	1	3	3	1	2	
11130	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
11140	1	1	3	3	3	3	3	3	3	3	3	2	3	3	1	2	
11150	3	3	1	3	3	3	3	1	3	2	2	1	2	2	3	2	
11151	3	3	1	3	3	3	3	2	3	2	2	1	2	2	3	2	
11152	3	2	1	3	3	3	3	3	3	2	2	1	2	2	3	2	
11160	3	2	3	3	3	3	3	2	3	3	3	2	3	3	1	2	
11161	3	2	2	3	3	3	3	2	3	3	3	2	3	3	1	2	
11162	3	2	2	3	3	3	3	2	3	3	3	2	3	3	1	2	
11200	1	1	1	3	3	1	3	1	3	3	3	1	3	3	1	2	
11210	1	1	1	3	3	1	3	1	3	3	3	1	3	3	1	2	
11211	1	1	1	3	3	1	3	1	3	3	3	1	3	3	1	2	
11220	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	2	
11230	2	3	3	3	3	3	3	3	3	3	3	3	3	3	1	2	
12000	1	1	1	1	3	1	3	3	3	3	3	1	3	3	1	1	

Note: 1=directly work in the area 2= do not work in the area, 3= no information found. For description of codes, see Table 2.1.

Annex to Section 3: Mapping of Organization onto Activity Space (continued)

Code	UNI CEF	WHO	World Bank	ADB	DFID	JICA	DANI DA	Dutch Government	USAID	Oxfam	Dutch WASH Alliance	BRAC	Muslim Aid	CARE	Water Aid	Waste Concern
20000	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21000	1	1	1	3	3	1	3	3	3	3	1	1	1	1	1	3
21100	1	1	1	3	3	1	3	3	3	3	1	1	3	3	1	2
21110	1	1	1	3	3	1	3	3	3	3	3	1	3	3	1	2
21120	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
21200	1	3	3	3	1	1	3	3	3	3	1	1	3	3	1	1
21210	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
21220	1	3	3	3	1	3	3	3	3	3	3	3	3	3	2	3
21230	1	3	3	3	1	3	3	3	3	3	3	1	3	3	2	1
22000	2	2	3	3	3	1	3	3	3	3	3	2	3	3	1	1
23000	2	2	1	3	3	3	3	1	3	3	3	2	3	3	1	1
24000	2	2	1	3	3	1	3	1	3	3	3	2	3	3	1	1
30000	1	1	2	2	1	1	1	1	3	1	1	1	1	1	1	2
31000	1	1	2	2	3	3	3	3	3	1	1	1	1	3	1	2
32000	1	1	2	2	3	3	3	3	3	1	1	1	1	3	1	2
32100	1	1	2	2	3	3	3	3	3	3	1	1	1	3	1	2
32200	1	1	2	2	3	3	3	3	3	3	1	1	3	3	1	2
32300	3	3	2	2	3	3	3	1	3	3	1	1	3	3	3	2
33000	1	1	2	2	3	1	3	3	3	3	1	1	1	3	1	2
33100	1	1	2	2	3	1	1	3	3	3	1	1	1	3	1	2
33200	1	1	2	2	3	1	3	1	3	3	1	1	1	3	1	2
33300	1	1	2	2	3	3	3	3	3	3	3	1	3	3	3	2

Note: 1=directly work in the area 2= do not work in the area, 3= no information found. For description of codes, see Table 2.1.

Annex to Section 3: Mapping of Organization onto Activity Space (continued)

Code	WASA	LGED	LGD	GED	DPHE	DSK	Proshika	Rupantor	Uttaran	Dhaka Ahsania Mission	NGO Forum
10000	1	1	1	3	1	1	1	3	1	1	1
11000	1	1	1	3	1	1	1	3	1	1	1
11100	1	1	1	3	1	1	1	3	1	1	1
11110	1	1	1	3	1	1	1	3	3	1	3
11111	1	1	1	3	1	1	1	3	3	3	3
11112	1	1	1	3	1	1	3	3	3	3	1
11113	3	3	1	3	1	1	3	3	3	3	1
11120	3	3	1	3	1	1	1	3	3	3	1
11130	3	3	2	2	2	2	2	2	2	2	2
11140	3	3	1	3	1	1	2	2	2	3	1
11150	1	1	1	3	1	1	2	2	2	2	2
11151	1	1	1	3	1	1	2	2	2	2	2
11152	1	1	1	3	1	1	2	2	2	2	2
11160	1	3	1	3	1	1	2	2	2	2	1
11161	1	3	1	3	1	1	2	2	2	3	1
11162	1	3	1	3	1	1	2	2	2	3	1
11200	1	3	1	3	1	1	1	3	3	1	1
11210	1	3	1	3	1	1	1	3	3	1	1
11211	3	3	1	3	1	1	1	3	3	1	1
11220	3	3	1	3	1	1	1	3	3	3	1
11230	3	3	1	3	1	1	3	3	3	3	1
12000	1	1	1	3	1	1	1	1	3	1	1

Note: 1=directly work in the area 2= do not work in the area, 3= no information found. For description of codes, see Table 2.1.

Annex to Section 3: Mapping of Organization onto Activity Space (continued)

Code	WASA	LGED	LGD	GED	DPHE	DSK	Proshika	Rupantor	Uttaran	Dhaka Ahsania Mission	NGO Forum
20000	1	1	1	1	1	1	1	1	1	1	1
21000	1	1	1	3	1	1	1	3	1	1	1
21100	2	3	1	3	1	1	1	3	1	1	1
21110	2	3	1	3	1	1	1	3	1	3	2
21120	2	2	2	2	2	1	1	3	3	3	2
21200	2	3	1	3	1	2	3	3	3	2	2
21210	2	2	2	3	2	2	2	2	2	2	2
21220	2	3	3	3	3	2	3	3	3	2	2
21230	2	3	3	3	3	2	3	3	2	2	2
22000	3	3	1	3	1	2	2	2	2	2	2
23000	1	3	1	3	1	2	2	2	2	2	2
24000	1	3	1	3	1	2	2	2	2	2	2
30000	2	2	3	1	1	1	1	1	1	1	1
31000	2	2	3	3	1	1	1	3	3	1	1
32000	2	2	3	3	3	1	1	3	3	1	1
32100	2	2	3	3	3	1	1	3	3	1	1
32200	2	2	3	3	3	1	1	3	3	3	1
32300	2	2	3	3	3	1	2	3	3	3	1
33000	2	2	3	3	3	1	1	3	3	1	1
33100	2	2	3	3	3	1	1	3	3	1	1
33200	2	2	3	3	3	1	1	3	3	1	1
33300	2	2	3	3	3	1	3	3	3	3	1

Note: 1=directly work in the area 2= do not work in the area, 3=no information found. For description of codes, see Table 2.1.

Annex to Section 4

Table A4.1: Distribution of Expenditure by Sector (Function) (% of GDP)

Sector	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Total programme Expenditure	11.5	11.7	11.7	12.4	12.9	12.7
Public Service	1.2	1.5	1.2	1.3	1.1	1.4
Local Government and Rural Development	1.4	1.1	1.1	1.2	1.3	1.2
Defense Service	1.3	1.2	1.1	1.2	1.4	1.3
Public Order and Safety	0.9	0.9	0.9	0.9	1	1
Education and Technology	2.1	2	2	2.3	2.4	2.1
Health	0.9	0.8	0.8	0.9	0.9	0.8
Social Security and Welfare	0.5	0.6	1.3	1	1	1
Housing	0.1	0.1	0.2	0.2	0.2	0.1
Recreation, Culture and Religious Affairs	0.1	0.1	0.2	0.1	0.2	0.2
Power and Energy	0.6	0.5	0.4	0.5	0.9	0.9
Agriculture	1	1.6	1.6	1.6	1.6	1.6
Industrial and Economic Service	0.1	0.1	0.1	0.1	0.1	0.2
Transport and Communication	1.1	1	0.7	1	0.9	1

Source: Finance Division, Ministry of Finance

Table A4.2: ADP Allocation by Major sectors (% of Total ADP)

Sector	FY09	FY10	FY11	FY12	FY13	FY14 (rev)	FY15B
Total ADP	100	100	100	100	100	100	100
Agriculture	5	6	6	6	4	4	7
Electricity	10	9	16	16	14	15	12
Energy & Mineral Res	1	4	3	2	3	4	3
Transportation	10	12	14	14	15	26	24
Education	13	15	13	10	14	15	15
Health	11	10	8	7	7	7	5
Social Welfare	1	1	3	4	5	4	5

Source: International Monitoring and Evaluation Division, Ministry of Planning, Dhaka, Bangladesh

Annex on WASH Agenda in Mayor election campaign

The Mayor election was held in three city corporations, Dhaka North City, Dhaka South City and Chittagong, in April 2015. There were 16 Mayor Candidates in Dhaka North, 20 in Dhaka South and xx in Chittagong. The current study commenced when the election campaign for the Mayor election began. The campaign pamphlets of a selected group of candidates were reviewed and the relevant segments pertaining to WASH agenda are summarized in this annex.

DHAKA CITY CORPORATION (North and South)

*Anisul Haque*⁶²:

Anisul Haque declared six broad visions in his manifesto. These six visions are, clean, green and environment friendly Dhaka, secure and healthy Dhaka, running Dhaka, humanitarian Dhaka, smart Dhaka, participation based and good governed Dhaka.

Under Clean, Green and environment friendly Dhaka vision there were 12 goals. Among these 12 goals there were six goals which fell under WASH. These 6 goals are described below:

1. Area wise **water blockage should be prevented**. To prevent this problem, according to specialists' suggestion quick measures should be taken. They will also establish drainage network.
2. To **clean drains** both workers and automated vehicles should be used. They will follow developed country's procedure to remove waste from drain. They also create awareness and local initiative to keep all the drains properly functional.
3. To setup a **modern waste management** system is their goal. To create modern waste management and make Dhaka city clean they will take advice from specialists. They will also take help from donors to achieve this goal.
4. **Recycling and hygienic waste disposal**: City Corporation will supply three colors container for collecting household waste. Citizens will dispose their organic, iron, and plastic waste in different container. Along with this measure, sufficient amount of waste container should in both side of every important street.
5. Within the city: **Awareness** program will introduce to produce low amount of waste. They will also take measures to produce electricity and **bio gas kind** of resources from waste recycling. ??
6. They will start **close waste collection** system from open waste collection system. To clean dust and waste from road they will buy vacuum truck and use those trucks.

Under secure and healthy Dhaka there were 16 goals. Among these 16 goals, 2 goals were under WASH. These two goals are:

1. **Facilitate waste disposal**: They will introduce spatial planning and management for different type of market produced waste, i.e., fish market waste.

⁶² Anisul Haque was the Awami League supported candidate who had won the election and is currently the Mayor of Dhaka City North. His election manifesto was obtained from Sujon Website. See, <https://shujanbd.files.wordpress.com/2013/04/anisul-haque.pdf>

2. They will also establish sufficient **public toilets** for all people in five zones that includes woman public toilet. Public toilet system will be re-constructed.

Under participation and good governed Dhaka vision there are 10 goals. Among this one goal is related with WASH goals.

1. Water, gas and electric supply is not all city corporation responsibility. However these are the basic services required for citizens. There are different areas in Dhaka north who are suffering from gas, electricity and water crisis. To solve these problems they will establish one stop crisis mitigation cell.

*Tabith Awal*⁶³:

Tabith declared 12 broad agendas in his manifesto. These 12 broad agendas were food, housing, health, education, traffic jam reduction and transportation facilities, city environment management and sustainable development, social development and management, entertainment and health, digital service, people's security, natural disaster prevention, and city administration.

Under food there were 5 targets and among them one target fall under WASH.

1. With mutual assistance of WASA there will be an effective management system which will ensure affordable **safe water supply**.

Under housing there were 4 targets and one target included the following: there will be a regular communication with different utility service provider to ensure **undisturbed** gas, electricity, and **water supply**.

Under city environment and sustainable management there were 6 targets and among them 4 targets fell under WASH.

1. They will take **regular drain cleaning measures** for water blockage prevention and improve sanitation facilities.
2. From 12 am to 5 pm all the **waste** from city dustbin and roads **will remove**.
3. Popular scientific method will vastly introduced for **waste management**. To ensure this there will be emphasis on source control of waste.
4. They will form a team composed by both young and experienced specialist for city development, environmental protection, **waste management** and modern technology and according to their suggestion work plan will be implemented.

Under entertainment and health there were 9 targets and one of those addressed WASH: to establish sufficient number of **modern and clean public toilets** with female toilet facilities.

⁶³ Tabith Awal was the prime BNP-supported candidate for Dhaka City North. See, Sujon website. <https://shujanbd.files.wordpress.com/2013/04/tabith-awal.pdf>

*Junaid Saki*⁶⁴: Saki declared 18 points manifesto, which included proposal/introduction, principle of management, citizen right, nature and environment, public transports, prevention of food impurity and poisoning, healthcare, education, control over other services, set minimum wage for city, special planning for slum dwellers, cultural and entertainment, volunteering, accountability and citizen supervision, citizen opinion collection and adviser body, prevent corruption and increase income of city administration, introduce city structure to enhance productivity, and work towards sustainable change.

Under citizen right there is one WASH component: establish public toilet for female citizens in every area.

There were several WASH components addressed under nature and environment, one of which detailed the water pollution arising out of industrial (tannery) wastes. Promises were made to treat water and clean Brahmaputra river. More specifically, every river polluting industry would be forced to start fully **effective water treatment plant** within one year if Saki came to power. Promises were also made to remove wastes from road before early morning, train citizens to dispose their organic, plastic and glass waste in different packets, etc.

Under control over other services they also mentioned some WASH targets. These are:

1. **reform sewerage system** of Dhaka city,
2. ensure supply of **safe piped water** at a low cost from WASA to every slum,
3. manage **safe water availability** at certain distance and in populated roads,
4. free rivers from illegal possession and make those pollution-free, and take steps to supply **treated surface water** to households and ensure sufficient water supply,
5. take initiative for **rainwater storage**.
6. ensure supply of **piped water from WASA** to places that are currently out of the net,
7. ensure that Dhaka WASA takes immediate steps to repair water pipes and regular maintenance is done,
8. take **water and gas supply** under joint management system.

Under special planning for slum dwellers, they point out that, they will ensure secure housing, **safe water supply, improve sanitation and health service**, and electric supply **for all slum dwellers**.

Syed Khokon⁶⁵: (Short version)

1. **Pollution free safe and secure water** of Buriganga River.
2. **Ensure water supply** for all.
3. **Proper waste management**.
4. Clean and pollution free city.
5. **Improve sanitation and safe water supply** for slum dwellers.

⁶⁴ Saki represented the 'Lefts'. His manifesto was obtained from Sujon website. <https://shujanbd.files.wordpress.com/2013/04/jonayed-saki.pdf>

⁶⁵ Syed Khokon was the Awami League candidate for the Mayor position in Dhaka City South. Summary manifesto. from Sujon Website. <https://shujanbd.files.wordpress.com/2013/04/sayeed-khokon.pdf>. Only summary version of this manifesto was available.

No WASH activity is clearly addressed in the short version. No clear targets are set for safe water supply, improve sanitation, safe and sustainable waste management.

Mirza Abbas⁶⁶

Mirza Abbas stated a ten-point manifesto. It included citizen services, citizen entertainment, reduction of traffic jam and improve transportation system, healthcare, education, environmental development and waste management, technological Dhaka, social service, people's security, and urban planning and administration.

Under citizen services there were 14 targets, one of which was the following WASH activity:

1. **Remove water logging, reform sanitation system, establish improved drainage system** and regular maintenance of these services with effective coordination with Dhaka WASA. Promise was also made to ensure supply of pure drinking water.

The 1st target under healthcare was to establish appropriate modern public toilet for both male and female bus passengers.

Seven out of 9 targets under environmental development and waste management related to WASH:

1. Improve all slaughter houses to **modern hygienic world class slaughter house**.
2. Set up **sanitary landfill** to establish modern waste management system
3. To achieve the objective of "Clean Dhaka", ensure **collection of all waste** during 12 am to 5 am.
4. Introduce "**door to door waste collection**" system for collection and disposal.
5. Produce composite fertilizer and electricity through **waste recycling**.
6. Start effective **management system for hospital and electronic waste**.
7. **Relocate street dustbins** to appropriate places.

Abdullah Al Kafi⁶⁷

Kafi declared 71 targets in his manifesto. His WASH related targets are mentioned below:

1. Secure housing, **safe water supply, improved sanitation and health service**, and electric supply **for all slum dwellers**.
2. **Establish sufficient, clean and safe public toilet** through corporate initiatives.
3. Take initiatives for **clean and healthy** markets, including establishing clean slaughtering houses at every market.
4. Sufficient number of **deep tube well and rain water storage tank** in low income areas.

⁶⁶ Mirza Abbas represented BNP in Dhaka City South.

⁶⁷ Kafi manifesto, from Sujon Website. See: <https://shujanbd.files.wordpress.com/2013/04/abdullah-kafi.pdf>

5. Ensure **collection of waste** before early morning and dispose these wastes to a certain place. Supply three colors containers for collecting household wastes for three different types of waste (organic, iron, and plastic wastes).
6. Produce electricity, bio gas, and fertilizer **through recycling of waste**.
7. Introduce **closed waste collection** system in place of open waste collection system, by procuring vacuum trucks.
8. Establish **waste container** at a certain distance in every places of Dhaka city, and create awareness among people to dispose waste in those containers.
9. Ensure that WASA supplies **safe drinking water**.
10. Ensure **removal of water logging, and improve sanitation**.

*Mahi B. Chowdhury*⁶⁸

Mahi Chowdhury declared three basic principles for running the city corporation in his manifesto, Secure Dhaka, Running Dhaka and Enlighten Dhaka. Under Secure Dhaka, he had 13 targets, several of which related to WASH. These targets are described below:

1. A sufficient part of development budget to be spent for **waste management**.
2. Coordinate activities of different government agencies, citizens' participation and consultation with expert groups to introduce a **modern waste management** system.
3. Establish environment friendly and smell-free Dhaka north City Corporation with **no open dustbin**.
4. Establish **waste recycling plant** as a part of waste management.
5. Hasten the process of installing **Electricity and fertilizer production from waste**.
6. Introduce modern environment friendly system to **collect waste**.
7. Create awareness for **rainwater storages**.
8. Give rebate to holding tax for residential household who have sufficient **rain water storage system**
9. Take initiative to complete all currently running government projects for **mitigating water logging and improved sanitation**.

*Bazlur Rashid Firoz*⁶⁹

He declared 14 promises in his manifesto. The WASH related promises are described below:

1. Undertake effective scheme **to alleviate water shortage and water logging**. Take initiatives to make Buriganga and other rivers and canals pollution-free and excavate the waterbodies.
2. Remove all wastes by night and modernize **waste management system**.
3. Protect water source **to improve surface water** and reduce use of ground water.

⁶⁸ M.B Chowdhury represented Bikalpa Dhara Bangladesh in Dhaka City North. See, <https://shujanbd.files.wordpress.com/2013/04/mahi-b-chowdhury.pdf>

⁶⁹ Firoz represented CPB-BSD in Dhaka City South. See <https://shujanbd.files.wordpress.com/2013/04/bazlur-rashid-firoz.pdf>

CHITTAGONG City Corporation

*AZM Nasir*⁷⁰

Nasir declared different targets in his manifesto, of which the followings were WASH related:

1. Undertake different initiatives to **alleviate water logging**.
2. Mitigate **water shortage** and prevent **water pollution**.
3. Establish **sufficient public toilets** for both male and female.

M Manjur Alam (Shot version)⁷¹

Manjur declared his 54 points manifesto. The important WASH targets are mentioned below:

1. Complete the work on removing **water logging**.
2. Establish **safe drinking water** projects for every ward.
3. Introduce use of modern technology for **collective waste management** and waste cleaning package to make the city clean.
4. Establish secondary transfer station for **waste disposal** by using ADB fund.

⁷⁰ Represented Awami League and is currently the elected Mayor of Chittagong City Corporation.

⁷¹ Represented BNP in the Mayor election in Chittagong City Corporation.

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