WATER SUPPLY TO THE URBAN POOR:
GOVERNANCE APPROACHES AND CHALLENGES
OF SITUATED INFORMALITIES

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A thesis submitted to the Western Sydney University in fulfilment of
the requirement for the degree of Doctor of Philosophy in the School
of Social Sciences and Psychology

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DEDICATION

I dedicate this thesis to all of the people in the world who are suffering from water scarcity and poverty.
ACKNOWLEDGEMENTS

First of all, I want to thank Western Sydney University for its financial support for this research and my living expenses in Australia. It has really been a great experience to live and study here in a fantastic academic environment. I extend my deepest thanks to my supervisors, Dr. Awais Piracha and Dr. Michael Darcy, for their patience, kindness, encouragement and intellectual guidance in various ways. I also gratefully appreciate the input of the participants of the HDR Forum Meeting and the members of the HDR/Urban Research Program Reading Group for their professional criticism and insightful suggestions to strengthen my research arguments. A special thank you must also go to Professor Rafiqul Alam Rumi and Professor Abu Hanif Shaikh for their invaluable suggestions and encouragement from Bangladesh.

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Finally, I wish to thank my wife, Jasmin Sultana, and two daughters, Rifaq Tamanna and Ramisha Tamanna Richi, who have been my lifeline of support in achieving success. Their persistent and untiring company and invaluable emotional support have made this thesis a reality. Words are not enough to explain their contributions, but I know they understand.
STATEMENT OF AUTHENTICATION

The work presented in this thesis is, to the best of my knowledge and belief, original except as acknowledged in the text. I hereby declare that I have not submitted this material, either in full or in part, for a degree at this or any other institution.

Md Masud Parves Rana
Western Sydney University
2016
# TABLE OF CONTENTS

TABLE OF CONTENTS ........................................................................................................ i  
LIST OF TABLES .............................................................................................................. v  
LIST OF FIGURES ............................................................................................................. vi  
ABSTRACT ....................................................................................................................... vii  
LIST OF ACRONYMS AND ABBREVIATIONS ............................................................... ix

## CHAPTER ONE: INTRODUCTION: WATER, INFORMALITY AND GOVERNANCE

1.1 Poverty, slums and water supply in Dhaka, Bangladesh ........................................ 1  
1.2 An exploration into participatory governance ...................................................... 6  
1.3 Research objectives and questions .................................................................. 12  
1.4 Karail slum in Dhaka ....................................................................................... 13  
1.5 Overview of chapters ...................................................................................... 17  

## CHAPTER TWO: LITERATURE REVIEW AND THE RESEARCH FRAMEWORK

2.1 Introduction ........................................................................................................ 20  
2.2 The urban governance perspective ................................................................ 20  
  2.2.1 Defining governance .................................................................................. 21  
  2.2.2 Focus of the urban governance perspective ............................................. 23  
  2.2.3 Major issues of urban governance ........................................................... 25  
  2.2.4 Challenges of urban governance .............................................................. 31  
  2.2.5 Proposed solutions: good governance and decentralization ................... 39  
2.3 Urban informality perspective .......................................................................... 42  
  2.3.1 Defining urban informality ..................................................................... 43  
  2.3.2 Focus and issues in the urban informality perspectives .......................... 46  
2.4 Urban water governance and situated informality: an analytical framework . 56  
  2.4.1 Locational specificities .......................................................................... 57  
  2.4.2 Informal social network .......................................................................... 58  
  2.4.3 Informal economic engagement ............................................................... 59  
  2.4.4 Political contact ....................................................................................... 60  
2.5 Conclusions ....................................................................................................... 63  

## CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction ......................................................................................................... 64  
3.2 Research design and methods ........................................................................... 64  
  3.2.1 Sources of data ........................................................................................ 67
3.2.2 Participatory observation ................................................................. 68
3.2.3 Questionnaire survey ................................................................. 71
3.2.4 Interviews ................................................................................. 74
3.2.5 Focus group discussions ............................................................ 77
3.3 Fieldwork context and positionality .................................................. 79
3.3.1 Conducting fieldwork in Dhaka, Bangladesh ............................... 81
3.3.2 Conducting fieldwork in a slum of Dhaka ................................. 83
3.4 Data analysis ................................................................................ 85
3.5 Research ethics ............................................................................ 87
3.6 Conclusions ................................................................................ 88

CHAPTER FOUR: ACCESS TO WATER: PREFERENCES AND DIFFERENCES
4.1 Introduction ................................................................................ 89
4.2 Demographic characteristics ......................................................... 89
  4.2.1 Age, gender and marital status ......................................................... 89
  4.2.2 Educational qualifications ................................................................. 90
  4.2.3 Household size and family type ........................................................ 90
  4.2.4 Migration and duration of residence ................................................ 91
4.3 Economic engagement of the respondents ........................................ 93
  4.3.1 Occupational patterns ................................................................. 93
  4.3.2 Income and savings ................................................................. 93
  4.3.3 Job locations and durations ............................................................... 94
4.4 Social engagement of the respondents ............................................ 96
  4.4.1 Participation in community activities and movement .................. 96
  4.4.2 Social co-operation and solidarity ................................................ 96
  4.4.3 Social trust ............................................................................. 97
4.5 Political engagement of the respondents .......................................... 98
  4.5.1 Involvement in party-politics ......................................................... 98
  4.5.2 Involvement with non-governmental organizations (NGOs) .......... 98
  4.5.3 Participation and control over decision-making processes .......... 99
  4.5.4 Importance of community and political leaders ...................... 99
4.6 Access to water in Karail ............................................................... 100
  4.6.1 Sources of water ................................................................. 100
  4.6.2 Monthly average water uses and prices ........................................ 101
4.7 Associations between water preferences and demographic characteristics, economic and sociopolitical engagements .................................................. 103
  4.7.1 Sources of water and demographic characteristics .................. 103
  4.7.2 Sources of water and economic engagement ......................... 105
7.2.1 Creating a participatory space: the role of the DWASA ......................... 171
7.2.2 Creating a participatory space: the role of the DCC .............................. 172
7.3 Participatory water governance: forms of challenges ............................... 175
   7.3.1 Government-centered challenges ...................................................... 175
      7.3.1.1 Dependence on the external expertise and government-at-a-distance
              power relation ....................................................................................... 175
      7.3.1.2 Multiple agencies in providing same services ............................... 180
   7.3.2 Government-induced challenges ....................................................... 181
      7.3.2.1 Absence of local government (DCC) in the partnership program .... 181
      7.3.2.2 Irregular local government elections ............................................ 182
      7.3.2.3 Incompetent leadership at the local government level .................. 184
      7.3.2.4 Politicization of the local government ........................................... 190
7.5 Conclusions ............................................................................................. 192
CHAPTER EIGHT: DISCUSSIONS AND CONCLUSIONS ................................ 193
8.1 Introduction .............................................................................................. 193
8.2 Supplying water to the urban poor: informality and challenges of participatory
    governance .................................................................................................... 193
8.3 Theoretical contributions ......................................................................... 197
8.4 Policy implications .................................................................................... 207
8.5 Direction for future research ..................................................................... 210
8.6 Final comments ....................................................................................... 212
REFERENCES ............................................................................................... 213
APPENDIX 1 ................................................................................................. 244
APPENDIX 2 ................................................................................................. 253
APPENDIX 3 ................................................................................................. 255
APPENDIX 4 ................................................................................................. 257
APPENDIX 5 ................................................................................................. 258
APPENDIX 6 ................................................................................................. 259
APPENDIX 7 ................................................................................................. 261
## LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Growth of slums in Dhaka</td>
<td>3</td>
</tr>
<tr>
<td>1.2 Water sources for the urban poor in Dhaka</td>
<td>5</td>
</tr>
<tr>
<td>2.1 The urban governance and informality perspectives</td>
<td>55</td>
</tr>
<tr>
<td>2.2 Operational definitions of variables and indicators of situated informality</td>
<td>58</td>
</tr>
<tr>
<td>2.3 Major indicators of water supply provisions</td>
<td>62</td>
</tr>
<tr>
<td>3.1 Research objectives and methods</td>
<td>66</td>
</tr>
<tr>
<td>3.2 Major themes of questionnaire survey</td>
<td>72</td>
</tr>
<tr>
<td>3.3 Participants in interviews</td>
<td>75</td>
</tr>
<tr>
<td>3.4 Participants in Focus Group Discussions</td>
<td>78</td>
</tr>
<tr>
<td>4.1 Age structure of the respondents</td>
<td>90</td>
</tr>
<tr>
<td>4.2 Educational qualifications of the respondents</td>
<td>90</td>
</tr>
<tr>
<td>4.3 Family types of the respondents</td>
<td>91</td>
</tr>
<tr>
<td>4.4 Descriptive statistics of demographic variables</td>
<td>91</td>
</tr>
<tr>
<td>4.5 Descriptive statistics of economic conditions</td>
<td>94</td>
</tr>
<tr>
<td>4.6 Relations between location of residences and economic engagement</td>
<td>95</td>
</tr>
<tr>
<td>4.7 Relations between location of residences and social engagement of the respondents</td>
<td>97</td>
</tr>
<tr>
<td>4.8 Relations between location of residences and political engagement</td>
<td>100</td>
</tr>
<tr>
<td>4.9 Sources of water for daily use</td>
<td>101</td>
</tr>
<tr>
<td>4.10 Unit-wise water uses and prices</td>
<td>102</td>
</tr>
<tr>
<td>4.11 Mode-wise water uses and prices</td>
<td>102</td>
</tr>
<tr>
<td>4.12 Relations between sources of water and demographic variables</td>
<td>104</td>
</tr>
<tr>
<td>4.13 Relations between sources of water and economic engagement</td>
<td>106</td>
</tr>
<tr>
<td>4.14 Relations between sources of water and social engagement</td>
<td>107</td>
</tr>
<tr>
<td>4.15 Relations between sources of water and political engagement</td>
<td>108</td>
</tr>
<tr>
<td>6.1 Descriptive statistics of formal water supply in Karail</td>
<td>146</td>
</tr>
<tr>
<td>Figure</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>1.1</td>
<td>Location of Karail slum in Dhaka</td>
</tr>
<tr>
<td>1.2</td>
<td>Karail Slum</td>
</tr>
<tr>
<td>1.3</td>
<td>Organization of the thesis</td>
</tr>
<tr>
<td>2.1</td>
<td>Situated informality and water governance: a conceptual framework</td>
</tr>
<tr>
<td>3.1</td>
<td>Location of Karail slum in Dhaka</td>
</tr>
<tr>
<td>3.2</td>
<td>Location of two units of Karail</td>
</tr>
<tr>
<td>4.1</td>
<td>Duration of residence of the respondents</td>
</tr>
<tr>
<td>5.1</td>
<td>A borehole (kua) in Karail</td>
</tr>
<tr>
<td>5.2</td>
<td>People in queue for water collection in Dhaka</td>
</tr>
<tr>
<td>5.3</td>
<td>A note of demonstration for water</td>
</tr>
<tr>
<td>5.4</td>
<td>Informal water sources in Karail</td>
</tr>
<tr>
<td>5.5</td>
<td>Uses of water on-spot in a vending station</td>
</tr>
<tr>
<td>5.6</td>
<td>A girl vending operator managing water queue</td>
</tr>
<tr>
<td>5.7</td>
<td>A junction of pipelines beside a passageway</td>
</tr>
<tr>
<td>5.8</td>
<td>Pipelines are kept open on the passageway</td>
</tr>
<tr>
<td>5.9</td>
<td>Pipeline connections over the rooftop</td>
</tr>
<tr>
<td>5.10</td>
<td>Pipeline connections through gutter beside a passageway</td>
</tr>
<tr>
<td>5.11</td>
<td>A junction of pipelines on gutter beside a passageway</td>
</tr>
<tr>
<td>5.12</td>
<td>Informal water supply system in Karail</td>
</tr>
<tr>
<td>5.13</td>
<td>A vending operator managing payment from consumers</td>
</tr>
<tr>
<td>5.14</td>
<td>Children are paying for drinking water in a vendor</td>
</tr>
<tr>
<td>5.15</td>
<td>An operator connecting line to a household</td>
</tr>
<tr>
<td>5.16</td>
<td>DWASA officials cut off illegal water supply lines in Karail</td>
</tr>
<tr>
<td>5.17</td>
<td>Relationship among stakeholders</td>
</tr>
<tr>
<td>6.1</td>
<td>DSK Model—actors and mechanisms</td>
</tr>
<tr>
<td>6.2</td>
<td>The steps and activities in DSK Model</td>
</tr>
<tr>
<td>6.3</td>
<td>Location of DWASA water pump in Karail</td>
</tr>
<tr>
<td>6.4</td>
<td>DWASA water pump in Karail</td>
</tr>
<tr>
<td>6.5</td>
<td>A diagram of pipeline connections from water pump to individual households</td>
</tr>
<tr>
<td>6.6</td>
<td>Water bill collection system</td>
</tr>
<tr>
<td>6.7</td>
<td>Negotiations as a part of CBO activities</td>
</tr>
<tr>
<td>7.1</td>
<td>Relationships between government, experts and water consumers</td>
</tr>
</tbody>
</table>
ABSTRACT

Water supply to the urban poor is one of the biggest challenges of urban governance in developing countries. With the unpredictable and uncontrollable process of the urbanization of poverty, the situation of water scarcity has also been rapidly deteriorating. There is evidence of initiatives for water supply to the urban poor, but they are temporary and insufficient to meet their actual needs. Drawing on this problem, this research aims to contribute to a better understanding of water supply systems in the slum of Dhaka city. First, it explores the types of water provisions available for the urban poor. Second, it investigates the actors, processes and challenges of informal and formal water supply provisions in the slum. In particular, it aims to examine the relationship between water provisions and local situated informalities in which the poor are embedded. It argues that despite the mission of participatory governance in development, which has experienced success in different cities and countries, there are still many old and new developmental challenges to overcome. Therefore, this research intends to examine the socio-spatial embeddedness of the poor as they attempt to access water services, and seeks to sketch the local informal constraints constituting the problems of water governance for the urban poor in Dhaka.

This research employs a mixed methods approach for data collection and analysis. Data has been collected from both the secondary and primary sources. Secondary sources include libraries, official records of government and non-government organizations and the internet. The primary data was collected through participatory observation, interviews, focus group discussions and questionnaire surveys.

Based on a case study of Karail slum in Dhaka, the research finds that only a small portion (18%) of the urban poor has access to a formal water supply. A majority of them still depend on the informal/illegal water supply provision. The analysis of informal water supply shows that the informal water service in Karail was a revolutionary idea of the poor. The case study finds that there are several factors that help this informality to be sustained. The first factor is the location of Karail in Dhaka, and the availability of transport and communication facilities that protect Karail from eviction threats. ‘Vote banks’ of Karail were found to be an important factor that entangles the residents with local veteran political leaders. In addition, the consumer-provider relationship is exceptional, and transcends beyond the merely commercial
relations among them. The finding also includes some challenges of informal water provision such as the temporariness of the water supply, competition among the providers, continuous threats of inspection and financial problems.

The research also examines the processes and challenges of formal water supply in Karail. Particularly, community participation in water supply for the urban poor was investigated. The findings suggest that there are several limitations that challenge the success of participatory water governance as provided by community-based organization. The challenges or difficulties of running a community organization include (i) group politics, (ii) convincing water consumers, (iii) illegal water connections, (iv) pressure from the informal water providers and (v) intervention of local party-politics. In addition, the research finds that dependence on external experts and donations, and multiple agencies for similar service distribution are two major government-centred challenges. Indeed, there are some problems created by the government itself, including the absence of proper decentralization processes, the incompetence of leadership and the politicization of local government.

The research finds that understanding situated informalities of the urban informal settlements is imperative for successful implementation of participatory urban governance. It further suggests recognizing the heterogeneity of the informal communities, as well as the dynamics and everyday tactics employed by the urban poor in pursuing their livelihood which are locally situated, rather than externally imposed, and created not only by the lack of formal structural processes, but also through a self-sustained survival mechanism in which the urban poor are embedded. While there are informal and illegal opportunities of services in Karail, the process of a formal community-based governance of only a single utility service (like water) might be contested by locally situated socioeconomic, political and spatial factors. In addition, the formal-informal dichotomy might be a false division while the formal water system still accepts many informal practices, and this dualistic thinking only serves to benefit the already powerful actors in the informal community. Therefore, this research argues that a better understanding of the situated informalities of an urban slum community in the process of making ‘sustainable urban development’ and an ‘inclusive city’, is inevitable for the successful implementation of participatory governance approaches.
<table>
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<tr>
<th>ADB</th>
<th>Asian Development Bank</th>
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<tr>
<td>BBS</td>
<td>Bangladesh Bureau of Statistics</td>
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<tr>
<td>CBO</td>
<td>Community-based Organization</td>
</tr>
<tr>
<td>CSO</td>
<td>Civil Society Organization</td>
</tr>
<tr>
<td>CUS</td>
<td>Centre for Urban Studies</td>
</tr>
<tr>
<td>DESA</td>
<td>Dhaka Electricity Supply Authority</td>
</tr>
<tr>
<td>DNCC</td>
<td>Dhaka North City Corporation</td>
</tr>
<tr>
<td>DSCC</td>
<td>Dhaka South City Corporation</td>
</tr>
<tr>
<td>DSK</td>
<td><em>Dushtya Shasthyo Kendra</em></td>
</tr>
<tr>
<td>DWASA</td>
<td>Dhaka Water Supply and Sewerage Authority</td>
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<tr>
<td>DWSSDP</td>
<td>Dhaka Water Supply Sector Development Program</td>
</tr>
<tr>
<td>FGD</td>
<td>Focus Group Discussion</td>
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<tr>
<td>GIS</td>
<td>Geographical Information System</td>
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<tr>
<td>GOB</td>
<td>Government of Bangladesh</td>
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<tr>
<td>HH</td>
<td>Household</td>
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<tr>
<td>ICMA</td>
<td>International City/County Management Association</td>
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<td>LIC</td>
<td>Low Income Community</td>
</tr>
<tr>
<td>NDBUS</td>
<td><em>Nagar Daridra Basteebashir Unnayan Sangstha</em> (Development Association of Urban Slum Dwellers)</td>
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<tr>
<td>NGO</td>
<td>Non-government Organization</td>
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<tr>
<td>SDP-WSSB</td>
<td>Sector Development Program-Water and Sanitation Sector in Bangladesh</td>
</tr>
<tr>
<td>SIDA</td>
<td>Swedish International Development Cooperation Agency</td>
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<tr>
<td>TGTDCN</td>
<td>Titas Gas Transmission &amp; Distribution Company Limited</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Program</td>
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<tr>
<td>UN-WWAP</td>
<td>United Nations - World Water Assessment Program</td>
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CHAPTER ONE

INTRODUCTION: WATER, INFORMALITY AND GOVERNANCE

1.1 Poverty, slums and water supply in Dhaka, Bangladesh

One of the biggest challenges of urban governance in developing countries is water supply to the urban poor (Akbar et al. 2007; Cohen 2006; Tumwine et al. 2002; McGranahan and Satterthwaite 2000; Hardoy, Mitlin and Satterthwaite 1992; Richards and Thomson 1984). Despite the fact that slum residents are one of the major contributors to the urban economy in the cities of Asia, Africa and Latin America, still millions of them have been facing severe water supply shortages, which creates health risks and often denies them income earning opportunities (Milroy et al. 2001). A report by the ICMA (2010, p. 4) notes that “recurrent family illness is one of the prime anchors that pulls poor households back into the poverty trap even after they have found places in the informal urban economy”. Yet globally, 1.1 billion people lack safe water and 2.4 billion do not have access to adequate sanitation (Beall and Fox 2009; UN-WWAP 2003). In the developing countries, as many as 600 million people cannot meet their basic needs (Osumanu 2007), and 80% of illnesses and 30% of deaths are caused due to unsafe and inadequate water (Wutich and Ragsdale 2008).

The 2006 Human Development Report, Beyond Scarcity: Power, Poverty and the Global Water Crisis, argues that the global water crisis is rooted in power, poverty and inequality, but not in physical availability (UNDP 2006). Researchers also note that the scarcity of water based on multiple realities experienced by local people, is not similar to the scarcity of water constructed at national, regional or global levels that ignores the needs and priorities of the poorest and most marginalised communities (Calow and Mason 2014; Jairath 2010). This indicates that water governance, meant to ensure equal access to all, is still a major challenge which many cities of the developing countries are failing badly.
The fact that urban poverty and slums are back on the urban planning and development agenda is most probably due to the publication of the UN-Habitat (2003) report, *The Challenge of Slums*, and Mike Davis’s (2006) book *Planet of Slums*. Many researchers, such as Gilbert and Guglar (1983), Guglar (1988), Kasarda and Crenshaw (1991), Hardoy, Mitlin and Satterthwaite (1992), Gilbert (1992), Satterthwaite (1995), Pugh (2000), McGranahan et al. 2001; Gooptu (2001), Beall and Fox (2009), Martin and Mathema (2010) and a number of articles published in the journal ‘Environment and Urbanization’, continue the discussion and debate around poverty, environment and the urban development of the Third World cities. The major issue was the rapid urbanization of poverty and the constraints on providing basic services to the urban residents (Ravallion, Shaohua and Prem 2007). In the State of the World’s Cities 2012/2013, the UN-Habitat estimated that the number of urban poor living in the slums of developing countries had already reached 863 million, in contrast to 760 million in 2000 and 650 million in 1990 (UN-Habitat, 2013). Thus, one third of the urban population (32.7%) in the developing countries is living in slums, representing 15% of the total populations. It was also projected that the size of urban slum populations would double by 2030, if there were no effective action to control it (Ballegooijen and Rocco 2013).

Likewise, Bangladesh has recently experienced an unprecedented urbanization of poverty. The country was in sixth position in the world according to the size of slum populations, at 30.4 million (Davis 2006; p. 24). Dhaka city is the city most affected by this uncontrollable process of the urbanization of poverty (Burkart et al. 2008). The city already contains one-third of the urban populations\(^1\) of Bangladesh (Sohag 2013). Dana (2011) notes that Dhaka is one of the fastest growing megacities in the world with an estimated 300,000 to 400,000 new migrants arriving each year. A survey by CUS, NIPORT and MEASURE Evaluation (2006) reports that about 37% of the urban population of Dhaka lives in the slums\(^2\). A recent survey entitled ‘Slum Areas and Floating Population 2014’ also confirms that there are 13,934 urban slums in

---
\(^1\) The projected population size of Dhaka was 21 million by 2015 (World Bank 2007).
\(^2\) A slum is a cluster of compact settlements of 5 or more households which generally grow very unsystematically and haphazardly in an unhealthy condition and atmosphere on government and private vacant land (BBS 2015, p. 05).
Bangladesh and that 24.39% of them are located in Dhaka\(^3\) (BBS 2015). This might be one reason why Dhaka is called ‘a city of poverty’ (Akbar et al. 2007). The slums of Dhaka occupy only 5.1% of the city’s total land. The gross population density of Dhaka is less than 121 persons/acre, but the population density in the slums is 891 persons/acre which is seven times higher than the city average (Mohit 2012).

**Table 1.1: Growth of slums in Dhaka**

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of slums and squatters</th>
<th>Population size</th>
<th>Percentage of total urban population</th>
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<tbody>
<tr>
<td>1974</td>
<td>NA</td>
<td>275,000</td>
<td>13</td>
</tr>
<tr>
<td>1991</td>
<td>2,156</td>
<td>718,143</td>
<td>10</td>
</tr>
<tr>
<td>1996</td>
<td>3,007</td>
<td>1.5 million</td>
<td>20</td>
</tr>
<tr>
<td>2005</td>
<td>4,966</td>
<td>3.4 million</td>
<td>37.40</td>
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</tbody>
</table>


As can be seen in Table 1.1, in 1974 the slum population of Dhaka was 275,000, which was 13% of the total urban population (CUS 1976). Another survey by CUS, in 1991, reported that the slum population was 718,143 who were living in 2,156 slums in the city (CUS 1993). In 1996, a survey by CUS and ADB (Asian Development Bank) found that the size of the slum population had reached 1.5 million (20% of the total population) who lived in 3007 slums in the city (CUS 1996). The latest survey by CUS, NIPORT and MEASURE Evaluation (2006) reported that there were 4,966 slums in the Dhaka Metropolitan Area (DMA\(^4\)) with total populations of 3.4 million. This showed a 70% increase in the number of clusters and more than a doubling of the slum populations between 1996 and 2005 (CUS, NIPORT and MEASURE Evaluation 2006, p. 12). The recent Census of Slum Areas and Floating Population 2014\(^5\) (BBS 2015) suggested that there were 3,399 slums in two city corporations of Dhaka, where a total of 643,735 people were living. It was also projected by the World Bank (2007, p. 33) that the slum populations in Dhaka would reach 8 million over the next decade. The distribution of slums remained similar over the last three decades, and most of the slum growth occurred in the periphery of the city (Mohit 2012; CUS, NIPORT and MEASURE Evaluation 2006).

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\(^3\) In Dhaka North City Corporation and Dhaka South City Corporation only.

\(^4\) Total of Dhaka Metropolitan Area (90 Wards of two Dhaka City Corporations and 12 adjacent Unions. Unions are the smallest rural administrative and local government units in Bangladesh)

\(^5\) Total of Dhaka North City Corporation and Dhaka South City Corporation
Different sources suggest that a huge growth of slums happened after the Independence of Bangladesh in 1971 because of rural-urban migration (Hossain 2006; Qadir 1975) due to the regular occurrence of disaster (viz. cyclones, floods, river erosions) and imbalances in economic development (Ahmed 2014; Sohag 2013; Islam 2001). Generally, the adjacent districts of Dhaka are the major sources of migrants. For example, some 60% of all migrants to Dhaka city have come from four greater districts, namely Faridpur, Dhaka, Comilla and Barisal (Islam 2001).

Slum populations of Dhaka have limited access to health and education facilities (Pryer 2003; Mookherji 2002; Kabir et al. 2000; Paul-Majumder, Mahmud and Afsar 1996). In Dhaka, less than 54% of households have access to health facilities, and for the poor this figure would be substantially lower (World Bank 2007, p. 52). These poor people are the most deprived group as they have very limited access to existing social opportunities, including education (World Bank 2007).

In addition to these social services, access to other basic infrastructure is very limited in the slums of Dhaka. The slum dwellers of Dhaka city are deprived of access to satisfactory urban services, such as safe water, sanitation facilities, electricity, gas supply etc. (Dana 2011; Rana 2011; Islam and Rahman 2002; Islam 2002). The quality of these services is found to be very poor and the supply remains highly irregular and inadequate (Hossain 2006). A small proportion of the urban poor (20%) have access to sanitary latrines and the majority of them still use a variety of non-hygienic latrines (Hossain 2006; Uddin and Jones 2000). A CUS (1996) study found that 67% of the urban poor in Dhaka use electricity and another 33% still do not have access to electricity. The study also found that 72% of the urban poor use traditional fuel for cooking and only 22% have access to gas facilities (CUS 1996). More than 60% of the poor just dump their garbage on the road or in open places because no refuse collection system is present in the community (Ahsan and Ahmed 1996).

The shortage of water supply is a particular problem in the slums of Dhaka. A report by the World Bank (2007) states that 70% of households of slums of Dhaka stay under the poverty line (income less than $US 2.50 per day) and do not have access to piped water. There is a private water vending system in several slums of the city (Akbar et al. 2007), though they have to pay rates several times higher than the official price of
legal water (BD Taka\textsuperscript{6} 4.33 per 1,000 liters) (World Bank 2007, p. 53). However, Table 1.2 presents a summary of water sources of the urban poor in Dhaka city based on different case studies conducted between 1975 and 2002. Despite the dissimilarities in the categories of water sources, the percentage of water users shows an obvious increase of tap-users from 1% in 1975 to approximately 40% in 2002. This certainly indicates improvement of water service provision for the urban poor over that time (Akbar et al. 2007); even though many still depend on informal water supply and other sources, including dug-wells, hand tube-well (pump), ponds, lakes and rivers.

### Table 1.2: Water sources for the urban poor in Dhaka

<table>
<thead>
<tr>
<th>Reference</th>
<th>Year</th>
<th>Study coverage</th>
<th>Water source</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qadir (1975)</td>
<td>1975</td>
<td>Squatter settlements of Dhaka city</td>
<td>Tap Hand pump Dug well Pond</td>
<td>1  63  2  35</td>
</tr>
<tr>
<td>Centre for Urban Studies (CUS) (1983)</td>
<td>1983</td>
<td>Informal settlements of Dhaka city</td>
<td>Tap and hand pump Dug well and pond</td>
<td>37 15</td>
</tr>
<tr>
<td>Centre for Urban Studies (CUS)</td>
<td>1988</td>
<td>Informal settlements of Dhaka city</td>
<td>Tap Hand pump</td>
<td>50 14.5</td>
</tr>
<tr>
<td>Islam, Rahman and Huq (1997)</td>
<td>1995</td>
<td>Overall urban poor of Dhaka city</td>
<td>Tap Hand pump Pond/canal/river Others</td>
<td>55 43.5 0.2 1.3</td>
</tr>
<tr>
<td>BBS (1999)</td>
<td>1997</td>
<td>Slums and squatter settlements of Dhaka</td>
<td>Tap Hand pump Dug well Others</td>
<td>31.52 38.52 4.27 25.96</td>
</tr>
<tr>
<td>Hanchett, Akhter and Khan (2003)</td>
<td>2001</td>
<td>Slums and squatter settlements of Dhaka and Chittagong</td>
<td>Tap Hand pump Unsafe sources</td>
<td>44.35 43.5 12.15</td>
</tr>
</tbody>
</table>

Source: Akbar et al. (2007; p. 25), World Bank, Proshika and SRS (2002)

Dhaka, therefore, might be a good example of water scarcity since about half of the urban population lives in slums and a majority of them do not have access to an adequate water supply (Mohit 2012; Akbar et al. 2007; Siddiqui et al. 1993). With the unpredictable and uncontrollable urbanization of poverty, the situation has been

\textsuperscript{6} 1 US $ is equivalent to 78.51 BD Taka (as of www.xe.com on 21 September 2016)
rapidly deteriorating (Bhuiyan 2010; Rana 2011, 2009; Islam 2005; UN-Habitat 2003; Pryer 2003; Huq-Hussain 1996). There is evidence of development initiatives for a formal water supply to the urban poor in Dhaka, though they are still ‘on-test’, temporary and insufficient to meet the actual needs of the poor. For instance, Akbar et al. (2007) exemplify an initiative of *Dushtha Shasthya Kendra* (DSK) to supply water to the informal poor through a community-based partnership program, which is still very limited and only in several slums of Dhaka. They argued that the reasons behind the water scarcity in Dhaka were not limited to physical inaccessibility, but included political, institutional and economic factors (Gronwall 2008; Akbar et al. 2007; UNDP 2006).

However, drawing upon this broader context of the urbanization of poverty and the inadequacy of utility service provision in Dhaka, Bangladesh, the following section sheds light on the process of participatory governance in dealing with community participation to ensure access to basic services, such as water. In particular, it identifies the knowledge gaps in the contemporary urban and development studies in the context of developing countries, and justifies the importance of this research.

### 1.2 An exploration into participatory governance

Alleviating poverty and inequality in service provisions was one of the major goals when we first embarked on a mission of implementing a new paradigm of participatory governance in the 1990s (Lovin, Murry and Shaffer 2004). The ineffective state performance, and the comparatively more effective initiatives of civil society and the private sector to deal with sociopolitical complexities, shaped the concept of participatory governance (Chattopadhyay 2015; Chhotray and Stoker 2009). However, the expectation of this paradigm of governance and development was to establish a new mechanism for governance approached through a plurality of actors/stakeholders, with an aim of collective and co-ordinated efforts to exercise control over power and the distribution of resources, by adopting many new sets of structural reforms under a broader rubric of good governance (Bhuiyan 2010; Shylendra 2009; UNDP 1997).

Beall and Fox (2009) argue that the importance of participation in development initiatives is widely accepted and justified from both normative and instrumental perspectives. From a normative perspective, participation and local ownership are seen
as intrinsically good, empowering people to find their own solutions with real freedoms. On the contrary, from an instrumental perspective, participation and local ownership offer better outcomes by harnessing the local knowledge and energies of populations while enhancing their commitment to development projects. Poverty Reduction Strategy Papers (PRSPs) was a great example of this type of development, with the help of the World Bank (Uddin and Baten 2011). The Bangladesh Rural Advancement Committee (BRAC) and the Grameen Bank are also notable NGOs working through community engagement to alleviate poverty and reduce social inequality.

Despite many successes, there are critics who continue to question the practices of community participation, development and governance. For example, anthropologist James Ferguson criticizes the development industry as an ‘anti-politics machine’ and demonstrates that development fails regularly for external managers who promote technical interventions and ignore the historical and political realities of the places concerned (Ferguson 1990). Similarly, Martin and Mathema (2010, p.7) argue that “unfortunately as it is, most development agencies are not well equipped to deal with development processes as if people matter: they are much more comfortable with the mechanistic approach of deciding what should be done and simply doing it”. Arturo Escobar also characterises development as hegemonic, and through which the developed western countries dominate and control the Third World (Escobar 1995). In their book, Participation: The New Tyranny, Cooke and Kothari (2001) argue against the idea that participation is unequivocally good. They demonstrate that the participation as theorised is not practically true, since the developmental agencies implement their agendas through masking their power behind the rhetoric and techniques of participation, which is basically a new tyranny. Later Samuel Hickey and Giles Mohan in their book, Participation: From Tyranny to Transformation, extend this critical debate on participatory development and argue for modification of participatory theory (Hickey and Mohan 2004). As they claim, participation can be

7 BRAC is now the world’s largest NGO, working for the development of the poor people in many countries including Bangladesh from 1972 (Martin and Mathema 2010, p. 8).
8 Grameen Bank was initiated in Bangladesh by Nobel Laureate Mohammad Yunus and is now replicated worldwide (Martin and Mathema 2010, p. 9).
considered as a legitimate process of development, but a transformative approach should also be employed in decision-making and engagement of the community.

Apart from these theoretical debates on participation and development, two other theoretical influences on participation—neoliberalism and new institutionalism—have gained significant attention within development studies. In neoliberalism, the individual is seen as a rational utility maximiser in the political and economic sphere (Chhotray and Stoker 2009). The state is viewed as ‘predatory’ and ‘less efficient’ than the market in dealing with the individual’s demands. A huge proliferation of this kind of ‘marketization’ and ‘consumer-fee based service delivery’ has already been observed in the world in the last several decades (Chhotray and Stoker 2009); even though it was criticised by many arguing that such market-based participatory policies may themselves threaten community capacity and social capital (Ackerman 2004), and more simply, hinder active participation in development process (Mackintosh and Roy 1999).

The new institutionalism also provides significant understanding of participation, focusing on community “as a potential agency to tackle the collective action problem as defined by Garrett Hardin (1968) in his landmark paper entitled ‘The Tragedy of the Commons’” (Chhotray and Stoker 2009, p. 170). Realizing the problems of collective action in participatory development process (Ostrom 1990), the concept of institutionalism evolves as a theory which “explains the origin and formulation of institutions in society…. that obscures power relationships within and outside the community, simplifies the overarching role and presence of the state to an ahistorical state-community dichotomy, and presents misleading notions of self-help, self-reliance and reciprocity to solve the problems of poor people” (Chhotray and Stoker 2009, p. 171). Despite the argument that institutionalism allows civil society and non-government organizations to come into functioning governance, it was criticised because of its rejection of the issue of social conflict (Hadiz 2004); its simplification of the relationship between the civil society and the state (Kaviraj and Khilnani 2001); its sudden-practicality of participation as a new brand of ‘market’ and community-based organizational voluntarism (Ackerman 2004); and because it did not adequately address gender and other dimensions of social difference (Guijt and Shah 1998a).
In the race to adopt a participatory governance framework, Bangladesh is yet to reach a satisfactory level, even though there have been remarkable political and institutional reforms in the recent past (Siddiqui et al. 2000). The government of Bangladesh has already undertaken partnership approaches in development activities, in which a number of non-government organizations (NGOs) and community-based organizations (CBOs) have been involved in the process of decision-making and project implementation (Akbar et al. 2007). In the big cities of Bangladesh, City Corporation, as a part of decentralization, has been involved with a view to deliver services in co-operation with elected local representatives and communities. It is expected that this kind of local government system will be more accountable and transparent to the citizens. The multi-actor system under the new paradigm of governance is intended to be more participatory and democratic according to the principle of good governance (Mander and Asif 2004; UNDP 1997).

The emergence of NGO activities as a part of civil society participation has been praiseworthy in this multi-actor governance system (Hossain 2007; Hasan 2006, Appadurai 2001; 1990; Kokpol 1998). Hossain (2007, p. 111) notes that “Bangladesh is among one of the developing countries in the world that has got an abundance of NGOs”. The activities of NGOs include aiding micro-credit, service delivery, awareness building, capacity building and income generation. Zafarullah and Rahman (2002) categorise that there are two types of civil society organizations (CSO): liberal and conservative. Liberal civil society includes urban-based professionals, women, cultural, religious and student groups, legal advisers, environmental campaigners, the print media and NGOs. On the contrary, the conservative civil societies are composed of the business elite, politicians, and traditional social and religious leaders (Hossain 2007). There are more than 22,000 NGOs in Bangladesh; but only a few of them are involved in basic service delivery in the cities of Bangladesh, such as water for the urban poor.

_Dushtha Shasthya Kendra_ (DSK) for example, a liberal NGO based in Dhaka, has been working for better health services in the informal urban communities since 1988. They started community-based water supply and sanitation projects in several slums of Dhaka in 1992. DSK was a pioneer local NGO which introduced ideas about how
the informal community can get access to formal utility services (such as water) through a partnership process (such as the DSK Model)\(^9\) with government authorities and international donor agencies (Akbar et al. 2007).

Several recent studies, in the context of the slums of Dhaka, have paid considerable attention to the issues of basic utility services and the dynamics of the urban livelihood of the poor. For example, political participation of the poor (Banks 2008), the struggle to secure an urban livelihood (Hackenbroch 2010; Wood and Salway 2000), poverty and survival strategies (Hossain 2008; 2006; 2005a; 2005b; Kabir 1998; Mizanuddin 1991; 1993), the informal dynamics of public utility (Hossain 2012; 2011; 2010), community water supply (Akbar et al. 2007; Akbar 2005), partnerships and capacity building (Hossain 2007), health issues of slum dwellers (Dana 2011; Mookherji 2002; Hoque et al. 1994), built environment and gender perspectives in climate change vulnerabilities (Jabeen 2014) and the coping strategies of the poor during floods (Rashid 2000) have been major focuses. These researches are particularly important in understanding the urban sociopolitical livelihood of the poor and the importance of building an awareness and capacity for slum improvement. Nonetheless, few studies so far have investigated the connections between the dynamic livelihood strategies of the poor, and the formal governance of utility services for slum improvement in Dhaka. And very little about the participatory approach to providing utility services (such as water, electricity and gas) to the urban poor in Dhaka has been formally documented and researched.

Many other urban and development studies in the global context have also recognised the issues of urban informality as one of the major concerns of urban development in the Third World countries. Various strategies, such as governmental reform to ensure participatory governance and decentralization, have also been offered to include the urban poor in the mainstream development process (Chattopadhyay 2015; Mitlin 2004a). Despite the evidence of the successful operation of participatory approaches in several cities of the world, community-based governance is still marred by various obstacles (see Chapter Two for details). For example, as Cooke and Kothari (2001) assert, the mission of participatory governance in development has experienced

\(^9\) DSK Model is discussed in Section 6.2.2, Chapter 6.
success in different cities and countries, but there are still many old and new developmental challenges to overcome, particularly in the developing countries where urban informality is soaring and community participation is contested by the overwhelming socio-spatial problems. Moreover, Swyngedouw (2005) observes that the present approach of governance, governance beyond the state, is a neoliberal agenda that advocates narrowing the number of responsibilities that the state shares with non-state actors. He suspects there are considerable risks in the proliferation of such ‘unauthorised actors’ which can make the system non-transparent, context-dependent and less accountable. He further comments on the formal and multi-actor governance systems. For him, in formal democratic governance, the rules are clear and all have the opportunity to participate. On the contrary, in multi-actor governance, participation itself becomes contested and governance becomes limited ‘in terms of who can, is, or will be allowed to participate’, and related to power and status (Swyngedouw, Kaika and Castro 2002; Swyngedouw 2005; Baud and de Wit 2008a).

Likewise, many urban informality studies have also captured the dynamics of urban informal livelihood and suggested that the importance of the informal economy in the cities of Third World countries should be recognised (Lindell 2010). For instance, Razak (1998; p. 104), in the context of India, notes that the social, economic and cultural characteristics of the squatter settlement communities become the instrumentals for assessing the quality of life, social dynamism, the grassroots organizations, the type of leadership, and financial and community resources, along with the role and function of the settlements in the process of urban development. Similarly, Hossain (2011) argues that informality is an important issue in urban governance. He further explains the importance of informal dynamics in the face of the changing nature of the state’s participation and relation with other urban stakeholders under the partnership processes.

This argument, however, attests to the rationality of the relationship/connection between urban informalities and formal service provisions in the new face of urban governance to deal with the informal slum community through community-based organizations. However, as mentioned earlier, relatively very little is known about the influences of urban informalities on participatory governance in the context of slums.
in Bangladesh. This concern thus requires not only an exploration of the urban informalities of the poor and the processes and challenges of participatory governance independently, but also an investigation of the linkages between locational, sociopolitical and economic informalities of the urban slum communities within the contemporary pathways of urban governance. In doing so, this thesis intends to examine a case of water supply provisions to the urban poor in Dhaka, using systematic methodologies to understand the impacts of locally ‘situated informalities’\textsuperscript{10} on urban water governance.

1.3 Research objectives and questions

The main objective of this thesis is to examine the processes and challenges of water supply to the urban poor in Dhaka. The specific objectives of this study are threefold:

The \textit{First} objective of the thesis is to explore the types, preferences and processes of water supply to the urban poor. \textit{Second}, it seeks to examine the challenges of water supply provisions, particularly aiming to explore situated informalities that enhance or impede informal and formal provisions of water supply\textsuperscript{11}. Basically, the thesis tries to understand informal embeddedness of the urban poor and how this embeddedness impacts on the formalization of water provision in slums. And \textit{third}, the thesis hopes to provide some policy-oriented suggestions for improvement of water service in the slums, considering the situated informalities or embeddedness of the urban poor.

In order to achieve these objectives, the following research questions would be examined:

(i) \textbf{How do the urban poor get access to water?}

This question corresponds to the analysis of types, sources and preferences of water supply to the urban poor in Dhaka. It further analyses the associations between water preferences (formal and informal water) and the demographic, socioeconomic and political characteristics of the urban poor.

\textsuperscript{10} Situated informalities refer to the sociopolitical embeddedness (Hess 2009, 2004) of the urban poor and informal complexities in relation to utility governance (see Section 2.4, Chapter Two for details).

\textsuperscript{11} Formal water supply refers to the pipeline water provisions with the help of public-private partnership projects. On the contrary, the informal water supply refers to the informal water connections to households and vending systems in the community by the private water providers.
(ii) What are the processes of and challenges to informal water provision in the slum?
This question sheds light particularly on the informal water supply to the urban poor. Drawing on this question, the thesis presents an evolutionary background to informal water supply provision in the slum, identifies the informal water providers and analyses the locational and informal sociopolitical factors that enhance informal water business in the slum community. It also investigates the challenges of informal water supply from the providers’ points of view.

(iii) What are the processes of and challenges to formal water provision in the slum?
The thesis examines the community-based water supply system and the roles of the governments (central and local) through this research question. In general, it analyses how the community participatory approach in supplying water to the urban poor was enacted and perceived by the consumers. Addressing the case of formal water supply to the urban poor, it analyses the process of community formation and the impact of situated local informalities on operating community organizations. In addition, it investigates the roles and challenges of the central and local governments in supplying formal water under the process of partnership with civil society organizations.

(iv) How should the relevant stakeholders respond to improve water supply provisions in the informal community?
The thesis also intends to recommend some policy implications in relation to water supply in the informal communities. Particularly, a focus has been given to specific responsibilities of the relevant stakeholders including government and non-government organizations for successful implementation of participatory water governance for further improvement of water supply provisions.

The following section describes a slum of Dhaka where these water supply provisions to the urban poor were investigated.

1.4 Karail slum in Dhaka
This section provides a brief overview of and rationale for selecting the Karail slum of Dhaka for this research. First, it describes the location and socioeconomic
Karail, the largest slum of Dhaka (Angeles et al. 2009), is located almost in the middle and wealthiest part of the city (Figure 1.1). The slum is surrounded by three renowned residential neighbourhoods of the city. The neighbourhoods are: Banani both in the North and West, Gulshan 1 in the East and Mohakhali in the South. Another notable characteristic of this slum is its location on the bank of Banani Lake, which is severely affected by the illegal encroachment of the settlements and informal business precincts (Figure 1.2). The area of Karail is approximately 90 acres and arguably is owned by three government agencies, including the Ministry of Science and Technology, Ministry of Land and the Ministry of Public Works of Bangladesh.

The emergence of the Karail slum was a response to informal rehabilitation of internal migrants as a result of both push and pull factors (Rana 2011). Sultana, Mohanty and Miraglia (2013) note that Karail started to grow throughout the 1990s to meet the housing needs of the internal rural-urban migrant poor with the help of local unscrupulous and enterprising groups who illegally captured the land and sold it to the migrants. A report of DSK (2010) states that the population size of Karail has grown to more than 100,000 in 16,000 families who are living there for an average of about 15 years. Cheaper living costs and close proximity to jobs are the two most favourable and appealing options for the poor about Karail (Sultana, Mohanty and Miraglia 2013). The majority of residents of Karail are day labourers, rickshaw pullers, garment workers, housemaids, shopkeepers, auto-drivers, hawkers, street vendors, and a variety of other informal jobs (Sultana, Mohanty and Miraglia 2013). The monthly income limits of the residents range from BDT 4,000 to 12,000 (US$50-150) (DSK 2010). Ghosh (2014) states that only 17% of the residents of Karail are owner-occupiers of the houses and the rest are just renters. In addition, about 68% of the residents live in one-room units and a majority of the rooms (56%) are less than 70 square feet (6.5 square meters) in size (Ghosh 2014). The houses are mostly made of bamboo and wood in the walls and corrugated tin on the roofs. Many of the roads and paths in Karail are concreted. Social services such as education and health services are also available with the help of several NGOs (Husain 2015).
Figure 1.1: Location of Karail slum in Dhaka (CUS, NIPORT and MEASURE Evaluation 2006, p. 23)
Based on the above-mentioned characteristics of Karail, the slum may be regarded as a ‘slum of hope’ rather than a ‘slum of despair’ (Stokes 1990; Lloyd 1979) since there are multiple public and private development agencies who have shown remarkable interest in its improvement. The community-based water provision with the partnership of DWASA and DSK might be the best example of showing a sort of acceptance of Karail (Akbar et al. 2007). This research considers Karail as a transitional settlement of the informal poor and a slum of hope; though the community is not safe from eviction threats and widespread negligence due to a lack of legal tenure rights (Sultana, Mohanty and Miraglia 2013).
There were two reasons for choosing Karail as a case study for this research. Firstly, Karail possesses all of the attributes required as an experiment for the research questions as outlined in section 1.3. The presence of the DSK-DWASA water project based on community participation in Karail provides a perfect case study to understand the challenges of formalization of water services for the urban poor. The locational specificities of Karail also attest to the idea that ‘location matters to get access to informal and formal services’. And the widespread presence of informal water supply provisions in Karail also helps this researcher to understand how informal provisions of utility services are performed with the help of informally embedded economic and sociopolitical relations among the stakeholders, and how those situated informalities impact on participatory water governance.

The second reason for choosing Karail for this study was the presence of various NGO activities in the slum. My previous contact with some NGOs who were working in Karail also gave me much impetus to figure out the research problems and potential data sources for this study.

1.5 Overview of chapters

This thesis explores the water supply systems for the urban poor in Dhaka city, Bangladesh. More specifically, it examines the impact of local informal embeddedness of the slum dwellers on the water service provisions. This introductory chapter sets out the context and rationale for the research and presents the key questions and objectives of the research. Figure 1.3 shows a schematic diagram of the thesis structure, and particularly helps to outline the flows of and interlinks between the chapters.

Chapter Two provides a critical review of the relevant literature organised into five sections. This chapter reviews how community participation and state-society relations are conceptualised from the broader perspective of urban governance. In addition, it critically examines the concept of urban informality in the social sciences as well as contemporary urban planning literature. Basically, these sections summarise the major focuses and gaps in the current governance and urban informality literature with regard to urban service provisions. The chapter also provides a conceptual framework that guides analyses and discussions of the empirical chapters to answer the research questions.
Chapter Three lays out the methodology that has guided fieldwork, and data analysis and presentation for this thesis. It describes various research methods of and approaches to data collection, and analyses the justification of their importance in the context of slum research in Bangladesh. Chapter Three highlights the prerequisites of slum research for a native Bangladeshi researcher. It further discusses possible risks and measures taken during fieldwork in the big slums of developing countries. Ethical guidance concerning this research is also added in this chapter.
Chapters Four, Five, Six and Seven are empirical parts of the thesis that present findings. Chapter Four provides a quantitative overview of the residents of Karail slum and their access to water. Specifically it analyses water preferences of the respondents in terms of their demographic, socio-economic and political engagements. First, it describes respondents’ demographic, social, economic and political backgrounds with regard to the location of residences (unit\textsuperscript{12} 1 or unit 2) in Karail. Then it examines how the location of residences links with access to water and the socioeconomic conditions of the poor.

Chapter Five explores informal water provision in Karail. It illustrates modes of informal water services and factors that help this informal provision. Specifically it analyses how the locational factors of Karail and the socio-economic and political relations among various stakeholders help this informal provision to survive. In addition, it explores the challenges to and constraints on informal water supply from the providers’ perspective.

Chapters Six and Seven examine community-based water supply and the roles of the central and local governments in formal water governance in Karail (Figure 1.3). Chapter Seven focuses only on the issues of community organization and the challenges of its operation in Karail. First it presents a brief background of formal water provision. Specifically, it explains how the participatory approach to water supply is enacted and challenged by the locally situated informalities. Chapter Eight further analyses the roles and challenges of the central and local government authorities in the process of participatory water governance. It argues that both the central and local governmental authorities have a distant, indirect and limited participation in the formal water project in Karail in comparison to civil society participation, such as DSK.

The concluding Chapter Eight synthesises all the empirical chapters in relation to the research questions. In addition, it presents theoretical and empirical contributions to the existing knowledge and practices in the fields of urban and development studies. Finally, the chapter offers several directions for future research.

\textsuperscript{12} Unit refers to spatial division of Karail slum. There are two units in Karail and they are designated as unit 1 and unit 2.
CHAPTER TWO

LITERATURE REVIEW AND THE RESEARCH FRAMEWORK

2.1 Introduction

This chapter provides the theoretical underpinnings and a conceptual framework that guides the empirical analysis in the thesis. The literature on urban poverty, informality and development in the developing countries encompasses two major perspectives—urban governance and urban informality—to analyse institutional and conceptual limitations in providing basic services to the urban poor. The urban governance perspective focuses on the inclusion of civil society and community-based organization in the partnership with the government to ensure accountability, responsiveness and participation of all stakeholders in the society. The urban informality perspective emphasizes the importance and functionality of the informal economy, and urban informal livelihood in the context of urban planning and policy making. This study considers the two perspectives to be complementary to each other. This chapter aims to review each of these perspectives in the contemporary research of geography and urban studies, and to develop a conceptual framework to employ in this research. The basic approach here is to analyse and integrate the problems of urban governance and informalities in dealing with water supply for the urban poor.

2.2 The urban governance perspective

The majority of the human populations are living in the urban world (United Nations 2014; Kasarda and Rondinelli 1990). Already, more than half of the world’s population is living in urban areas. The first major characteristic of world urbanization is the ‘rapid increase of urban population’. Globally, 54% of the world’s populations were residing in urban areas in 2014, which was 40% in 1980 and 30% in 1950 (United Nations 2014; Yeung 1991). It is also projected that 66% of the world’s population will be residing in cities by 2050 (United Nations 2014). The second major characteristic is ‘increase of megacities’. In 1990 there were 10 megacities with total
of 153 million people, representing less than 7% of the global urban population. Today, the number of megacities has nearly tripled to 28 with population of 453 million, representing 12% of the world’s urban population. And the third major, perhaps the worse, characteristic of the world urbanization is ‘urbanization of the poor’. An overwhelming increase rate of urban poor and their living conditions have been major issues of urban sustainability. Approximately, a quarter of the world’s urban population lives in slums (UN-Habitat 2013).

The urban experts, academics and policy makers have begun to recognize these major issues of the growth of megacities and rapid increase of urban poverty in the world. Since the 1990s, besides many other concepts and theories, the governance perspective has increasingly been adopted in the development discourse (Swyngedouw 2005; Walters 2004; Brenner 2004; Kokpol 1998; Pierre 1998; Stoker 1998; Rhodes 1996). Various international development organizations have already adopted good governance approaches in their development agendas and aid policies (World Bank 1992; Leftwich 1993; UNDP 1996). In the developing countries, this perspective has received significant attention from policy makers and academics, particularly as it pertains to urban politics and development since it offers an alternative approach of governing the cities, taking into consideration priorities and demands of all the stakeholders (Shylendra 2009; Chhotray and Stoker 2009; McCarney 1996). In addition, the ineffective performance of the government, and the more effective participation of civil society and private sectors in dealing with sociopolitical complexities, have shaped the concept of ‘participatory governance’, which has been a new but widespread paradigm of development (Chhotray and Stoker 2009).

2.2.1 Defining governance

Governance as a concept was first highlighted in a World Bank report entitled Sub-Saharan Africa: From Crisis to Sustainable Growth-A Long-term Perspective Study (World Bank 1989). Since then the concept of governance has spread (Beall and Fox 2009; Irazabal 2005; Bovaird and Loffler 2003; Stoker 2000; Pierre and Peters 2000; Pierre 1998; Putman 1993) as a distinct form of the traditional view of government (Rhodes 1996; McCarney, Halfani and Rodriguez 1995). Basically, the term ‘governance’ has given the government (state) a direction towards a partnership approach in the form of co-operation with both the private sector and civil society
More generally, the notion of governance can be understood as the relationships between the state and civil society, the rulers and the ruled, the governor and the governed (McCarney, Halfani and Rodriguez 1995; Rakodi 2001; Hossain 2007). In other words, it concerns performance of the government, including public and private sectors, global and local arrangements, formal structures, informal norms and practices, and spontaneous and intentional systems of control (Bhuiyan 2010; Roy 2005). Bhuiyan (2010) argues that governance has a dual meaning: on the one hand, it refers to the empirical manifestations of the state’s adaptation to its external environment as it emerged in the late 20th century; on the other hand, it also denotes a conceptual or theoretical representation of the coordination of social systems and, for the most part, the role of the state in that process.

Gerry Stoker provides a baseline definition of governance. For him, governance “refers to the action, manner or system of governing in which the boundary between organizations and public and private sectors has become permeable” (Stoker 1998, p. 38). Moreover, it recognises the interdependence of organizations (Stoker 1998). In the traditional view of government, there was a sharp distinction between market, state and civil society. But the theorists of governance believe this distinctive boundary is blurred (Stoker 1998; Francesch-Huidobro 2008; Leftwich 1994). Stoker (1998, pp. 34-35) distinguishes government and governance as:

“Government used to refer to the formal institutional structure and location of authoritative decision-making in the modern state. The concept of governance is wider and directs attention to the distribution of power both internal and external to the state…. Governance is about governmental and non-governmental organizations working together”.

The emergence of the governance approach opens a door for engagement with social wellbeing as if all members in a society are included in the mainstream (Hossain 2007) and their priority is considered to improve or sustain their wellbeing (Barenstien 1994). It means, in the governance framework, that people feel they can participate and engage with other actors in a society (Chattopadhyay 2015; Chan 2004; Newell and Bellaur 2002). Drawing upon Salamon’s (2002) governance visions, Francesch-Huidobro (2008, p. 20) provides an illustration of the paradigm shift from classical public administration to governance. In their view, the governance idea actually shifted
a hierarchical command and control governing system to a network-based governing system, which blurs “the state-society divide resulting from changes such as the development of new forms of public management, the growth of public-private partnerships, the increasing importance of policy networks and the greater impact of both supranational and sub-national organizations or multi-level governance” (Francesch-Huidobro 2008, p. 21). Governance is an attempt to engage with a new policy approach (such as good governance) that necessitates broader structural changes associated with both globalization and neoliberalism (Larner 2011; Walters 2004).

2.2.2 Focus of the urban governance perspective

Urban governance literature suggests that the inclusion of civil society organizations in governmental decision-making, community participation in development programs and partnerships between public and private organizations are the major focus areas in urban governance (Table 2.1, in page 55). It is very difficult to discuss these three aspects of governance separately, since they overlap and intertwine with each other. The following paragraphs describe the concepts of civil society, participation and partnerships in brief. This description will be followed by the discussions (section 2.2.3, 2.2.4 and 2.2.5) on the major issues and challenges of urban governance based on contemporary literature in the urban and development studies.

To the ancient Greek philosophers, the classical usage of the notion ‘civil society’ was equated with the state. The modern concept of civil society began to emerge in the Scottish and Continental Enlightenment of the 18th century “as a domain parallel to but separate from the state—a realm where citizens associate according to their own interests and wishes” (Carothers and Barndt 2000, p. 18). The term fell out of fashion in the mid-19th century. It was revived after World War II, following the ideas of Antonio Gramsci in this regard. In the 1990s, civil society became an important term, with particular connotations, employed by key players from presidents to political scientists, as formerly dictatorial countries around the world opened up space for civil society to work for democratization. As Carothers and Barndt (2000, p. 19) note “in the United States and Western Europe, public fatigue with tired party systems sparked interest in civil society as a means of social renewal…. Civil society became a key element of the post-cold-war zeitgeist”. Following this trend of social renewal, many
developing countries have taken the necessary steps to strengthen civil society as an effective development partner of the government and the market.

Civil society organizations include non-governmental organizations such as advocacy groups who work for the public interests—the environment, human rights, women’s empowerment, election monitoring, anti-corruption, microfinance and capacity building. But, Carothers and Barndt (2000) argue that civil society should not be equated with only non-governmental organizations, since civil society is a broader concept that encompasses all the organizations and associations that exist outside the state and the market. They go on to say that civil society includes not just the advocacy groups but also labour unions, professional associations, chambers of commerce, ethnic associations, religious organizations, student groups, cultural organizations, sports clubs and informal community groups. Nonetheless, they accept that there is a fascination with NGO activities as part of civil society that play a pivotal role in the developed and developing countries, particularly for democratic transitions. For example, as Carothers and Barndt (2000) argue, the non-governmental organizations shape policy through exerting pressure on the governments and providing technical support to the policy makers.

Community participation is another important focus area of urban governance studies (Table 2.1). Martin and Mathema (2010) argue that participatory planning, community action planning, community-based development etc. have been an integral part of urban planning and policy making. Sherry R. Arnstein’s concept of the ‘Ladder of Citizen Participation’ might be one of the most famous models of this participatory approach. She established a ladder of participation that includes eight levels (rungs) under three broad categories, Non-participation, Tokenism and Citizen Power. Similarly, many others have also defined the scope, nature and difficulties of participation (Lombard 2013a; Martin and Mathema 2010; Cavaye 2004). In the Australian context, Cavaye (2004) suggests four key aspects and actions for community engagement. He argues that community engagement should not be “a revolution or another re-invention of government. It is an incremental change process that incorporates old and new roles, builds on existing circumstances, and allows community linkages to mature and develop rather than simply proliferate” (Cavaye 2004; p. 98).
Partnership was also seen as an alternative approach to defining goals and providing deliberative spaces for policy-making (Mathur and Baazaz 2010; Hastings 1999, 1996; Pierre 1998). It was defined as a co-operative institutional arrangement for public services and was considered as a tool for involving the private sector in public management. Pierre and Peters (2000) define partnership as a continuous interaction and relationship between at least two principal actors. Peters (1998) more elaborately outlines five characteristics of partnerships. They are: a partnership obviously involves more than one actor, including a public actor; each participant is principal; there are enduring relationships among the actors with some continuing interactions; each of the participants brings something to the partnership; and a partnership implies some shared responsibility for the outcomes of their activities. Beauregard (1998) emphasizes the mutual benefits of establishing an instrumental, calculative and more-or-less enduring relationship between representatives of the private (for-profit and not-for-profit) and public sectors (government).

Therefore, a partnership approach is obviously an organizational arrangement that embodies a commitment for joint action towards collective public policy goals to allocate resources according to normative criteria (Baud and Dhanalakshmi 2008; Hastings 1996). This approach offers a multi-stakeholder arrangement that indicates (i) several organizations are involved and (ii) co-operation is not limited to the private profit-earning sector, but includes local communities (Baud and Dhanalakshmi 2008). According to Rakodi (2001) the ‘new management’ approach leads to partnership and devolution of responsibilities for infrastructure and service provision between state, market and civil society. For Peters (1998) partnerships enable programs to escape from the political and bureaucratic processes. However, the objective of partnership approach was based on inter-organizational networks to provide a better opportunity for the citizens considering their requirements and priorities (Baud and Dhanalakshmi 2008; Stoker 2000).

2.2.3 Major issues of urban governance

Urban governance literature mostly sheds light on the significance of civil society in democratization of the authoritarian government (Carley, Jenkins and Smith 2001; Kokpol 1998), urban poverty reduction (Shylendra 2009; Mitlin and Satterthwaite 2004; Mitlin 2004b; Carroll 1992), providing political voice and supporting collective
identity (Bebbington 2002) and new forms and challenges of urban governance (Baud and Wit 2008). Several of them also emphasize the importance of organised low income communities and alliance between grassroots organizations for urban development and delivering urban services with the support of NGOs (Chattopadhyay 2015; Patel and Mitlin 2004; Samaranayake 1997; Choguill 1996; Evans 1996). A significant proportion of urban governance literature addresses the issues of urban poverty and suggests possible measures of poverty reduction (Mitlin and Satterthwaite, 2004; Devas 2004, 2001; Mitlin 2000, 2001, 2004b; Etemadi 2000, 2001; Amis 2004). However, this section highlights some successful empirical stories of civil society inclusion, community participation and partnership approaches in the context of the developing countries (Usavagovitwong and Posriprasert 2006, Stein and Castillo 2005; Mwangi 2000; Hobson 2000; Lemos et al. 2002; Ahmed and Ali 2005; Sengupta 2006; Hossain 2007). The following section (section 2.2.4) will discuss the challenges of urban governance that are found in the contemporary urban governance literature.

Diana Mitlin (2004b) investigates the role of civil society and the constraints they are facing in relation to urban poverty in ten cities of the developing countries. She argues that there are examples of successful intervention of grassroots and non-governmental organizations in influencing urban policies and practices to favour the poor, although suspicion of many organizations remains and they are far from receiving an equal representation (Mitlin 2004b). In another review article, Mitlin (2001) demonstrates the limitations of civil society organizations. Her analysis demonstrates “the problems of leadership and partnership within grassroots organizations are linked with the broader context of state officials’ and politicians’ relations of patronage with community leaders” (p. 164). She argues that the civil society organizations are embedded in different kinds of society or social processes where grassroots organizations can rarely play a transforming role. She quotes Castells’s (1983) thesis on ‘dependency’, which reveals links between ‘dependency on the state of workers living in squatter settlements’ and the ‘dependency of the state on the world’s corporate capital’. Mitlin notes that this capital makes the city vulnerable and reduces the capacity of the city managers to do for the citizens as they view and choose. She concludes that many grassroots organizations encourage poverty alleviation rather than poverty reduction; and also do little for urban poor empowerment and or
increasing their activism, which requires better understanding of the needs and priorities of the poorest members in the communities (Mitlin 2001).

Usavagovitwong and Posriprasert (2006) describe a success story of upgrading living conditions in ‘canal settlements’ through partnership strategies including community organizations and governments in Bangkok, Thailand. In another Thai study, Boonyabancha (1999) describes how an urban community environmental activities fund, supported by local government agencies and the Danish Government Agency (DANCED), strengthen the capacity of the low-income-communities to develop and implement their own projects. Atkinson and Vorratnchaiphon (1996) describe the process of decentralization to move away from traditional centralised planning and control, to instead enhance co-operation between local community organizations and local municipalities in Thailand. The Homeless People’s Federation Philippines (HPFP) is also an example of a community-based federation which works for promoting savings in low-income communities to invest in their own development (Yu and Karaos 2004). The federation not only helps the poor with their savings but also brings people together to work for their common goals. Similarly, in the Korean context, Kwon, Khan and Bajracharya (2011) find that community participation is an effective method to aid disaster management and a prerequisite for upholding sustainability.

Kokpol (1998; p. 54) notes that “civil society is seen as playing a major role in bringing about the downfall of many authoritarian regimes or contributing to the process of political liberalization and democratization occurring in the Third World”. He goes on to say that governance has offered a scope for the inclusion of social forces or actors who are either beneficiaries of urban development or stakeholders. The inclusion of the private sector, the voluntary sector and the local self-help groups encourages people to withdraw their reliance on the state for service delivery and poverty alleviation in the course of structural adjustment, decentralization and reduction of public expenditures. Drawing on the issues of solid waste management in Thailand, he compares and analyzes the performance of two municipal governments.

In the South Asian context, various studies (Hossain 2012; Patel and Mitlin 2004; Hobson 2000; Appadurai 2001; Burra, Patel and Kerr 2003; Niiti and Sarker 2003; Dove 2004; Ahmad and Moroshita 2006) describe the partnership approach as a
successful model of grassroots-driven development. In Pune, India the Municipal-NGO-Community partnership program for sanitary toilet construction was successful (Hobson 2000). Appadurai (2001) describes another success story of community development through partnership between urban poor communities and local, national and even international agencies, which he regards as ‘deep democracy’. He analyzes how the groups create networks among themselves and with the international agencies as the instruments of deep democracy that seek to redefine governance and governability. Similarly, Dove (2004) discusses an urban development program that encourages civil society to be more active in decision-making with local municipal institutions and international donor agencies in Andhra Pradesh, India. Patel and Mitlin (2004) explore how Indian NGOs, the Society for the Promotion of Area Resource Centres (SPARC) and women’s co-operatives (Mahila Milan) work together for local innovation and mass mobilization using existing community and municipal resources. The Orangi Pilot Project (Hasan 2006) and community-driven sewerage development projects in Faisalabad (Ahmad and Moroshita 2006) are examples of success in Pakistan.

In the case of Bangladesh, research highlights the limitations of urban development policies that ignore the actual problems of the urban poor. Ahsan and Ahmed (1996) note that the issue of environmental services for the urban poor is neglected in the development projects, programs and policies employed in Dhaka. Similarly, Uddin and Jones (2000) claim that negligence in allowing an unsanitary condition in slums to exist is a big weakness of many development policies. Nahiduzzaman et al. (2006) also argue that the problems of housing ‘on the ground’ are not properly considered in policy and planning. In another study, Nahiduzzaman (2006) explores the nature of the politicization of public organizations and finds that housing is a business of the political elites. He asserts that the misuse of political power always satisfies the interests of politician businessmen and keeps away the urban poor. To evaluate the performance of the water supply system in providing potable water to the urban poor in Dhaka, Akbar et al. (2007) also indicate that social, political and institutional factors are important in the context of Bangladesh. Titumir and Hossain (2004) identify several barriers to access to environmental services. Besides the cost barriers, they find some important institutional barriers which include ‘decisions made at the centre’,
anxiety in approaching the authorities and poor access to information (Titumir and Hossain 2004).

There is evidence of the success of partnership approaches in providing utility services in Bangladesh as well (Hossain 2012, 2007; Jinnah 2007; Rahman 2002; Akash and Singha 2003). Hossain (2012) explores the significance and potential of the partnership approach in the context of Bangladeshi cities. He identifies some hindrances to partnership building for the development of sanitation infrastructure. Akash and Singha (2003) describe a community-driven approach to water supply in low-income settlements in Dhaka. They claim that a national NGO (Dushtha Shasthya Kendra-DSK) managed by women successfully negotiated with the poor stakeholders as well as the respective state organizations. Along the same lines, Jinnah (2007) discovered the successful story of the DSK in providing water in three slums of Dhaka.

There is also research (Mwangi 2000; Stein and Castillo 2005; Gaya and Diallo 1997) that examines the partnership approach in Africa and Latin America. Gaya and Diallo (1997) describe a community participation process with an NGO and local authorities in Rufisque, Senegal to solve environmental problems of the inadequate provision of water, sanitation, drainage and the collection and disposal of garbage in nine low-income communities. This study particularly demonstrates that the community partnership approach not only improves the environment, but also provides jobs and income for the young in low income communities. Mwangi (2000) discusses the partnership approaches in solving environmental problems in Nakura, Kenya. Similarly, Stein and Castillo (2005) examine housing and local development programs funded by the Swedish International Development Cooperation Agency (SIDA) in Central America. The study concludes with some recommendations for designing new financial services to improve housing for low-income communities. Gilbert (2007a) describes the performance of water companies and the water supply system in Bogota, Columbia as a success. Nonetheless, he goes on to discuss the present threat to its success because of attacks from both the Leftists and the Rightists on water price. The poor are already unable to pay and the rich are against price-difference between the rich and the poor in Columbia.

In addition to the success stories, there is much research that outlines the difficulties of governing utility services as major issues of urban governance. Several of them
focus on the possibilities, and the constraints, of a privatization or market-oriented approach to solve the problem of water supply for the urban poor in the third world cities (Harris and Maria 2013; Bakker and Kooy 2011; Goldman 2007). Various studies (Gilbert 2007a; Budds and McGranahan 2003, Loftus 2006, Smith and Ruiters 2006; Loftus and McDonald 2001) criticise the privatization approach in providing environmental services, including water. Some of them claim the reason for the emergence of privatization policies in service provision was a result of the failure of the state-owned organizations in many developing countries (Kessides 2005; Dillinger 1995). The critics argue that “privatization was part of neo-liberal dogma that was grist to transnational corporations, whose shareholders’ demands for greater profits would deprive the poor of essential human rights” (Gilbert 2007a, p. 1562). The failure of privatization policies in a number of poor countries also support this criticism (Budds and McGranahan 2003, Loftus 2006, Smith and Ruiters 2006; Loftus and McDonald 2001). Several studies claim that this approach will not be successful in solving water problems of the poor in the poor countries (Budds and McGranahan 2003; Hall and Lobina 2006; Gilbert 2007a). As they explain, the reason was: the companies are not interested to serve the poor because of their fear of making non-profitable investments (Gilbert 2007a; Budds and McGranahan 2003). Ortega (1992) argues that the private suppliers consider environmental services to the poor or risky consumers as risky business.

Casarin, et al. (2007) claim that the water concession program of Buenos Aires is a paradigmatic case of a concession failure. They argue that weak institutional environments may allow governments as well as private operators to behave opportunistically, which can facilitate powerful firms to shape the rules to their own advantage at a high social cost. In Dar es Salaam, Tanzania, Kjellon (2000) notes that the water sources in the poor settlements are manifold, but not free. The water supply system is a combined initiative of private, commercial and community organizations that compensate for the shortcomings of the public water distribution system. Vending is the most prolific in rich areas where people have purchasing power. On the contrary, in the poorer areas the water supply system is insecure and the poor have to pay a large amount for their water (Kjellon 2000). Similarly, Nunan and Satterthwaite (2001) revealed that the garbage collection system by the private companies in Mombasa did not bring satisfactory results in the slums.
2.2.4 Challenges of urban governance

The approaches to participation in development processes are increasingly being contested by the post-development critics. For example, Escobar (1995; p.4) assesses development policies in the developing countries as “ethnocentric and arrogant, at best naïve”. Many others also argue that the development policies in the Third World end up in ‘failure’, ‘underdevelopment’, ‘poverty’ and ‘unintended consequences’ (Ferguson 1990; Esteva 1992; Mohan 1997; Nederveen 2000; Nustad 2001; Rahnema & Bawtree 1997). Ferguson (1990) argues that the development policies not only fail, but also produce many unintended consequences. Therefore, it appears that the orthodox planning and development projects often end up in failure because the policy makers cannot foresee the outcomes in advance.

In a similar vein of criticisms of development theories, the participatory governance approaches are also challenged for their conceptual limitations and drawbacks in operation for urban development (Swyngedouw 2005; Jessop 2002). For example, Swyngedouw (2005) observes that the present approach of governance is a neoliberal agenda that narrows down the responsibilities of the state. Moore (2001) also argues that ‘bad governance’ is neither inherent in the culture or traditions of the people of poor countries, nor a product of poverty. Rather, it depends on how the state authority in developing countries is constructed—and is being maintained—through economic and political interactions with the rest of the world, particularly how policies and practices of the North travel to the South and to what extent this affects their governmentality (Moore 2001; Bhuiyan 2010).

However, this study does not completely subscribe to the argument of ‘governance failure’. Rather, it tries to explore real challenges of participatory water governance in the context of third world cities. One of the important challenges inherent in the urban governance perspective is the meaning of civil society. Kokpol (1998) argues that there is little agreement on the meaning of civil society since it leads to different operational definitions in political and urban research. For him, the political scientists define civil society as a segment of society that interacts with the state as autonomous groups, either to assert their influence in setting rules or to counterbalance state power (see also Harbeson, Rothchild and Chazan 1994; Tripp 1994; Bratton, 1994).
contrary, urban researchers use the term ‘civil society’ in a broader and more neutral manner (Kokpol 1998; p. 56). For example, McCarney (1996) first shows how the urban civil society works with the public and private organizations, and increases the political and economic spaces of negotiations and participation in urban development. For the urban researchers, the civil society organizations as social forces play pivotal political roles in shaping the cities, but never try to occupy the state power (see Hasan 1990; Peattie 1990).

Another contestation regarding the civil society argument is whether a strong civil society ensures democracy or democracy ensures a strong civil society. This question emphasizes the nature of the state-society relationship. Migdal (1988) finds that a strong society may weaken the state’s capacities, which suggests the notion of ‘strong society, weak state’. He goes on to say that for the redistribution of social control to occur with the help of state power, societies must be weakened. Similarly, Berman (1997), in the context of Germany in the 1920s and 1930s, analyses the role of civil society and claims that German’s vibrant civil society not only failed to solidify democracy and liberal values, but also subverted them (Cited in Carothers and Barndt 2000; p. 21). Pointing to the state of relatively weak civil society in largely stable democracy in France, Carothers and Barndt (2000; p. 23) notes that “civil society takes a distant back seat to a powerful state”.

Foley and Edwards (1996) take a neutral position and analyse the paradox of civil society. They claim that a dense network of civil association promotes stability and effectiveness of the democratic polity, though that may also undermine democratic government. However, Robert Putnam’s (1993) argument on the positivity of associational life (in Italy) through social capital and civicism, on the contrary, supports the importance of strong civil society that can be ‘counterweight to the state’ (Kokpol 1998). Putnam (2000, 2003), in the context of the US, further explains the effectiveness of social capital and argues that a weak civil society leads to a lack of civic engagement and social trust. This contestation, therefore, reflects that the conceptual debate on the civil society argument may continue because of geographies of ideas, objectives, and practices.

Another major challenge of urban governance is the ‘misconception of community and community participation’. The notion of community in the development
paradigm appears in the international development institutions such as WHO, UNICEF, the World Bank, and USAID. It was envisaged that an individual with a collective identity as a community would be empowered and active in developmental practices to ascertain his or her demands and priorities. Many countries took up the concept to establish their apolitical developmental ideology. But, it did not take a long time to realise that the ideology of community participation and partnership benefits only the intermediary interest groups. It does not benefit the majority, the marginal or the informal (Mohan 2001), and excludes the other half (Guijt and Shah 1998b). Drawing upon these limitations, many researchers, particularly the post-structuralists and post-colonialists, point out some misconceptions of the notion of ‘community’, ‘community participation’, and ‘participatory development’ (see Cooke and Kothari 2001). For example, Gardner and Lewis (1996) note that the notion of community is itself problematic, since it ignores the local heterogeneity in the name of community as if there is no demographic and sociopolitical difference. Moreover, many argue that the concept of participation is heavily motivated by political interests and uneven power relations in the society (Chhotray and Stoker 2009). Therefore, an important question arises, whether the communities are homogenous or heterogeneous?

Participatory governance approaches, in general, expect a community where people are homogenous and community-based organizations are regarded as harmonious entities constituted through consensus (Chhotray and Stoker 2009). But, this may not be the case where communities are in a state of inequality, such as informal slum communities in the developing countries (Asthana 1996). Stirrat (1997) challenges the basic scaffoldings and supporting pillars of the orthodoxy of participatory and community approaches. He notes that participation is not well defined and that has produced confusion regarding the concept of participation in development. Similarly, the conceptualization of the (organic) community in the South based on a European past is an example of misconception (Muraleedharan 2006). In addition, the idea of citizen or community participation as a self-organized process in urban transformation can also be challenging while it situates between formal and informal spheres of the urban systems (Silva 2016).
Therefore, this type of simplification of community is problematic, as it overlooks legality and legitimacy, discrimination and hierarchies in the community. Etzioni (1996) notes five points of criticism about community as a unit of analysis:

(i) community is poorly defined, leading to confusion and a lack of focus for action;

(ii) the normative use of community feeds political conservatism by conveniently ignoring ‘the darker side of traditional communities’;

(iii) communities never existed in the way people romanticise them today;

(iv) due to the focus on majority rule in community processes, minority groups may lose out; and

(v) a community focus may be culturally oppressive if members experience social pressure to abide by cultural norms and rules that are not truly shared (cited in Guijt and Shah, 1998a; p. 8).

In addition, there is another important point to be added to these five points, particularly in response to point four, which is: there might be some cases where the minority controls the rules and regulations, and the majority loses out.

This type of discrimination against the majority in the community also leads to another challenge of urban governance, \textit{whether the community-based organizations (CBOs) in the partnership programs are significantly representative.} This proposition broadly relates to two basic questions: who are the CBO leaders and is there any scope for identifying common interests or priorities? These questions also provoke an investigation into whether CBOs, as new institutions under governance frameworks, suffer explicit resistance and exploitation by ‘interest groups’ for their ‘individual or factional gains’ within situated informal power structures in the slum communities. Starkloff (1997) asserts that people participate in development either as beneficiaries of the projects or as employees to implement the projects, rather than involving themselves only in the decision-making. As a result, this type of engagement fails to recognise participation as an open network of power relations, which essentially shows the complexity of participatory approaches. In addition, the question of representativeness is also linked with inclusion of gender issues in the participatory approaches. The feminist arguments emphasize the issue of gender naivety in participatory approaches (Guijt and Shah 1998a). Therefore, the state of participation
of women in CBOs and barriers to participation might be important aspects worthy of investigation, to justify a healthier representativeness of the community in the CBOs.

Another important aspect of justifying the representativeness of the community is ‘effective leadership’. Stoker (1998) emphasizes that the new perspective of thinking may be shifted from ‘who governs’ to ‘who has capacity to act’. Stone (1989) reminds us to think of power as a matter of social production rather than social control. He further elaborates (1989; p. 229): the issue is not so much domination and subordination as capacity to act and accomplish goals. The power struggle concerns not only control and resistance, but also gaining and fusing a capacity to act—power to, not power over (cited in Stoker 1998; p. 47). In this approach, governments are driven to co-operate with those who hold economic, social and political resources essential to achieving a range of policy goals (Stoker, 1998; p. 47). Thus, as Stoker (1998) comments, the politics of a complex urban system should be understood as moving beyond the notion of power ‘as the ability to control’ to the fact that the crucial act of power is the ‘capacity to provide leadership and a mode of operation’ that enables significant tasks to be done.

In the governance perspective, this notion of power forms a ‘regime’ in which social actors and institutions gain the capacity to act by blending their resources, skills and purposes into a long-term coalition. In line with Stone’s (1989) point, Stoker (1998; p. 47) defines regime as “an informal yet relatively stable group with access to institutional resources that enable it to have a sustained role in making governing decisions”. Through this process, people in the community acquire leadership roles and establish a near monopoly on decision-making concerning their needs and priorities (Stone 1988; Stoker 1998). Therefore, for Stoker (1998; p. 48), the power regime is formed “as an informal basis for co-ordination and without an all-encompassing structure of command”. Power often varies considerably from the observed practice of participatory governance. The poststructuralists argue that this type of unequal power relation in the process of governance narrows down the scope of collective participation, which necessitates re-theorization of power in governance (Chhotray and Stoker 2009; p. 183). Therefore, unequal power relations and capacity to act does matter to democratic representativeness of leadership, and the pluralistic nature of governance. Pointing out the internal conflicts in community organizations,
Etemadi (2001, p118) identifies the most common reasons for division as there being a ‘lack of active participation by members, undemocratic if not oppressive management style, irregular or no annual election resulting in a monopoly of leadership and lack of financial transparency and accountability’.

The question, to what extent CBOs can exercise their duties of their own, instead of being strictly driven by the non-government organizations or ‘written in stone’ guidelines by the central government (Taylor 2000), is very important to understanding the politics of ‘identification of common interests’, while CBOs are narrowly linked with political representation and citizenship. Chhotray and Stoker (2009) argue that CBOs have no formal structural link with higher levels of the state or markets. In addition, Taylor (1999, 2000) argues that the rules of engagement in partnerships are firmly controlled by the public sector, for which the communities cannot ‘do things differently’. On the contrary, the CBO leaders and members may also be networked with informal power structures in the community to achieve materialistic interests from their leadership.

There is empirical evidence that support the argument of dependency on the ‘external experts’ or ‘external providers’ in the process of partnership. For example, Ekirapa, Mgomella and Kyobutungi (2012), in the context of Nairobi, Kenya, illustrate the limitations of dependency on the outside finance providers. They argue that the donors are heavily focused on HIV/AIDS-related health issues in Kenya, rather than the non-HIV health problems. Moreover, despite the presence of civil society organizations in dealing with HIV/AIDS, there is no strong evidence that their activities have achieved remarkable success to reduce disease in the informal communities. Thus the question arises, whether the ‘new ways to be creative’ idea of urban governance ‘with minimal state intervention’ (Kearns and Paddision 2000; p. 849) increases dependency on ‘external authorities’ and ignores local knowledge and priorities of the deprived.

Under the framework of governance, community involvement and capacity building of the partner organizations is a primary task. The objective is to include local knowledge and experience into participatory activities (Kwon, Khan and Bajracharya 2011). Taylor (2000) argues, however, that the level of success achieved so far in this respect is woefully insignificant (Taylor 2000). Similarly, Mosse (1997) claims that people’s knowledge is widely misconceived by the policy makers as a discrete and
autonomous category within externally controlled planning systems. There is a tendency to assume that the skill deficit lies only within communities rather than the partner organizations (Taylor 2000), who often fail to look at local knowledge as a product of social relations, and view it as a fixed commodity (Muraleedharan 2006; Mosse 1997). Many also accuse governance ideology of being too apolitical by nature. As it appears, participatory governance emphasizes reliance on procedural terms, rather than issues of local knowledge or direct and continuous forms of engagement by the deprived groups; hence there is less political mobilization due to its apolitical nature (Chhotray and Stoker 2009; Gaventa 2004; Mosse 2001, 1997).

In this respect, Gaventa (2004; p, 36) argues that the ‘transformative’ potential of participatory governance must always be assessed in relationship to the other spaces which surround them. He emphasizes the equal responsibility of every party, including both closed spaces and invited spaces in governance. For Gaventa (2004; p. 35) “closed spaces may seek to restore legitimacy by creating invited spaces; similarly invited spaces may be created from the other direction”. Thus, the responsibilities should not go to one institution or out of its bounds. Rather, what is needed is the promotion of citizenship and political representation from the deprived groups for a better understanding of their priorities and demands. Similarly, in the context of the UK, Hastings (1996, p. 266) notes that although “a wide range of interests are involved in the Scottish Partnerships, the strong imperative which many participants feel to try to persuade other partners of their own virtues, undermine the apparently democratic nature of the structure”.

The final and most important challenge of urban governance is the effective role of central and local government. Taylor (2000; p. 1022) notes that “the discourse of governance is moving us from an idea of power rooted in a particular institution at the local level, to a more dispersed notion of power and authority based on pluralism”. Thus, pluralism is a key argument which distinguishes the governance perspective from the (top-down) management approach (Kokpol 1998). In addition, the inclusion of the market and civil society into the state’s governmental and developmental activities is the specificity of governance. But, the question is, if the state acts only as an enabler, then who is to deal with the inability of market or civil society (non-governmental organizations)? This question might be worth investigating to explore
the roles of the central and local government and, more broadly, to investigate the development of decentralization.

A key question in this regard might be whether the governance process encourages ‘government-at-a-distance’ power relations. The concept of governance starts with an experience of the failure of government in dealing with distribution of services and wealth, and ensuring economic development for all. As Shylendra (2009, p. 44) comments “under the new governance paradigm, the state is supposed to limit its role and give more scope for other actors”. Similarly, many of the disagreements on governmental intervention which arise are based on the following problems:

(i) Individuals may know more about their preferences and circumstances than the government;
(ii) Government may make bigger mistakes than markets. Planning may increase risk by pointing everyone in the same direction. Government may be incapable of administering planning;
(iii) Government control may prevent private sector individual initiatives. Incentives, rewards and discipline of the market cannot be easily replicated within public organizations and systems;
(iv) Regulation and controls may create lobbying and corruption, often called rent seeking, to influence controls; and
(v) Vested interests and privileged groups may dominate the government and planning to serve and secure their interests and positions (Nicholas Stern as quoted in Shylendra, 2009; p. 43).

Despite these difficulties, from the global perspective, the experience of top-down state intervention has been mixed (Dreze and Sen 2002). There are examples where state-led policy has been fruitful for economic development (Shylendra 2009). In addition, there are fears that a reduced role of the state in development will worsen the

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13 Borrowing Latour’s (1987) concept of ‘action at a distance’, this term was used to describe the ways in which central governing institutions and/or individuals are dependent on external authorities or experts, and on the self-government of citizens to effectively govern spaces and individuals who are physically and/or figuratively distant (Miller and Rose, 1990; Rose and Miller, 1992). The notion of government-at-a-distance refers to the centrality of exercising governmental power to conduct the governmental duties maintaining subject-autonomy in the society and setting ethical codes of conduct for the experts as well as subjects across space (Dufty, 2007).
poverty situation (Ghosh 2002; Singh 1994; cited in Shylendra 2009, p. 44) which re-enforces the necessity of the successful implementation of decentralization. The notion of decentralization has substantial merit in terms of local empowerment and capacity building. Nonetheless, as Martin and Mathema (2010) argue, it is often limited to just the devolution of power and is divorced from the critical need for simultaneous (technical and financial) capacity building at the local level. A case study of the development of decentralised water services in Senegal by Jaglin, Repussard and Belbeoch (2011) shows the complexities of pluralistic water governance, while a project-based model conflicts with the role of the local government.

2.2.5 Proposed solutions: good governance and decentralization

As discussed in the previous section, the major challenge of urban governance is thus maintaining positive relationships between the state, the market and civil society ensuring equal participation of all the stakeholders. One of the prominent suggestions made to face this challenge was the maintenance of ‘good governance’ which is synonymous with ‘sound development management’ (World Bank 1992). Chhotray and Stoker (2009) claim that the rise of the ‘good governance’ idea came from a desire to acquit the development organizations, including the World Bank, from accusations of responsibility for the parochialism of the free-market idea, as marking a departure from the theoretical principles of the New Political Economy and the re-entry of the state into international development. However, Kokpol (1998; p. 61) argues that the popularity of good governance was “due to the fact that the international donor community has established it as a central part of the aid policy agenda”. This argument is also reflected in the suggestions of the World Bank, since the Bank itself claims that the term ‘good governance’ “emphasizes governance’s normative aspects and facilitates its use as a guide to aid allocation using criteria drawn from the political as well as economic dimensions of governance” (World Bank 1994, xiv; cited in Kokpol 1998, p. 61).

The World Bank (1994) identified four major areas of concern for the good governance approach, which are: i) improving the public sector management; ii) ensuring accountability of public and private sectors; iii) creating an appropriate legal framework for development; and iv) promoting transparency and flow of information.
Subsequently, many other organizations (ADB, OECD, and UNDP) also prescribe several dimensions of good governance which are: voice and accountability; political stability and absence of violence; government effectiveness; regulatory quality; rule of law; and control of corruption (Bhuiyan 2010). Particularly, the UNDP made an effort to include the issue of sustainable human development within the good governance framework. The agency claims that sound governance comprises a democratic system which ensures public participation; accountability and transparency; management of public resources efficiently and in response to societal needs giving due scope for the private sector and civil society; and an active state which can protect the vulnerable, improve governance efficiency and responsiveness, empower people and democratise the political system (Shylendra 2009; Mander and Asif 2004).

However, the idea of good governance appeared to be an ideal prescription for the new paradigm of participatory development. And many believe that this will ensure equal participation and reduce deprivation and fragmentation in society. For example, Cavill and Sohail (2004) assert that the provision of urban services typically depends on good governance which includes many actors such as municipalities, politicians, public officials, urban authorities, public agencies, customers (commercial, industrial, and domestic), non-government organizations/community-based organizations, the private sector, ministries and agencies of restraint (i.e. watchdogs and regulators). Likewise, Sen (1992) regards good governance as a public sphere, where people participate along with government in defining needs, in prioritizing needs and in enforcing accountability.

But, these suggestions were criticised by different researchers for their various limitations (Swyngedouw 2005; Akkerman 2004; Dollery and Wallis 2001; Guhan 1998). For example, Guhan (1998) claimed that the criteria of good governance were ‘partial, prejudiced and pernicious’. Shylendra (2009) asserted that the good governance measures were only for better economic management rather than for changing the form or nature of the political regime. Several others also claim that it was an attempt to introduce neoliberal ideology in developing countries according to the Washington Consensus, which encourages the involvement of the market and the private sector in development, as well as the state (Swyngedouw 2005; Mander and
Asif 2004). Chhotray and Stoker (2009; p. 119) argue that good governance “is yet another instrument of power that the developed minority continues to wield over the vast developing regions of the world”.

**Decentralization** has been another major feature of democratic development since the mid-1980s. It was observed that almost every democratic state has elected a sub-national government to devolve power to the local level (World Bank 2000). Devas (2004) outlines three main issues as the logical strand behind the decentralization process. First, considering the administrative complexities of a central government, he argued that detailed management of services and development should occur at the local level. The second issue was economic, to achieve a greater economic efficiency considering local needs and preferences. And the third issue was political. It is the local people who demand the right to make decisions of their own. Rondinelli, Nellis and Cheema (1983) define decentralization as a process of transferring the responsibility for planning, management and resource distribution from the central government to (a) field units of government agencies, (b) subordinate units or levels of government, (c) semi-autonomous public authorities or co-operation, (d) area-wide, regional or functional authorities, or (e) private or voluntary organizations (cited in Kokpol 1998, p. 70).

The decentralization process was also contested on the problematic concept of ‘elite capture’ (Manor 1999; Devas 2004). Devas (2004; p. 30) argues that “it would be naïve to assume that decentralization automatically ensures that local decision-making reflects local needs and priorities, particularly of the poor”. Critics also find that the local elites are most unlikely to be more benevolent than those at higher levels, and that the political decentralization may increase representation of the interests of the poor (Manor 1999; Schneider 2002; Devas and Grant 2003).

To sum up, the review of urban governance literature thus conveys the main focuses, issues and challenges of urban governance in the cities of the developing countries. Undoubtedly, the urban governance framework points to the major problems of the Third World cities and suggests multiple solutions. However it is yet to meet the requirements of many urban authorities and settle the debate among scholars around effective modalities for implementation of good governance concepts. It is evident; a
number of empirical and theoretical studies of the state-society relationship are still in contestation regarding the broader perspective of governance. In addition, it is argued that the urban governance framework largely follows the context of developed countries and highly successful examples elsewhere. Often the framework focuses only on the instrumental use of governance for better management, but it pays less attention to the issues of local knowledge and problematics, which is highly relevant for the cities in the Third World. The following section reviews the urban informality literature to understand the concept of informality, and to what extent the urban informality perspective is important to analyse contemporary urban development initiatives such as slum development.

2.3 Urban informality perspective

A seminal book entitled ‘Urban Informality: Transnational Perspectives from the Middle East, Latin America, and South Asia’ edited by Ananya Roy and Nezar AlSayyad, is very provocative in its discussion on Third World urbanism, particularly the forms of social actions and organizations and in its comparison to Western urbanism (Roy and AlSayyad 2004). The book explores the “forms of urbanization and urbanism with an attempt to discover social actors and forms of social organization, practices of urban informality that have emerged in recent decades in a variety of Third World contexts” (AlSayyad 2004, p. 8). Following Luis Wirth’s conceptualization of urbanism as ‘a way of life’14, AlSayyad (2004) emphasizes the meaning and practice of urban informality ‘as a way of life’. He further argues that the contributions of the Chicago School of Urban Sociology and the Los Angeles School of Urban Geography may not be relevant to the phenomenally fast growing Third World cities. He highlights the need to investigate the cities of the developing countries to understand new forms of urban informality in the global South.

AlSayyad (2004) anticipates that ‘urban informality’ would be the new paradigm to understand and analyze urbanism in the Third World cities. He claims that informality is “a new paradigm for understanding urban culture” (p. 9). In another article,

14 Urbanism as a way of life comprises three interrelated perspectives, viz. the physical structure, a system of social organization, and a set of attitudes and ideas of individuals and groups with regard to collective behaviour and social control (see AlSayyad 2004).
identifying three pressing issues of urban transformation in the developing countries, Ananya Roy (2005; p. 156) argues that ‘informality is an important epistemology for planning’. In a similar vein, this study aims to understand the meaning, practices, importance and effects of urban informality regarding the formalization of utility service for the urban poor in Dhaka. The intention is to explore how urban informalities grow, sustain and contend with the new paradigm of urban governance. This section describes the meaning of urban informality, reviews the recent tendencies of urban informality research in the fields of development and urban studies, and explores the major issues and suggestions which may be incorporated into the urban governance perspective for recommending a better pathway of urban governance. Table 2.1 (in page 55) provides a brief outline of the urban informality perspective.

2.3.1 Defining urban informality

The notion of informality was much discussed by the social scientists in the early 1970s, when orthodox developmentalism and modernization theories largely failed to eradicate poverty and meet basic needs of the people in the countries of the then ‘less-developed’ or ‘Third World’ (Hope 1996; Escobar 1995; De Soto 2000). W. Arthur Lewis in 1954 first coined the term ‘informality’ to present a dualistic model of interaction between the modern and traditional sectors in the poor countries (Soliman 2004). About two decades later, Keith Hart in 1973 identified the categories of the economy of developing countries as formal and informal. He defined informality as ‘self-employment’ emphasizing the informal income opportunities, rather than ‘informal sectors’. He distinguished informality from formality as a way of livelihood being unrecognised by the formal economy, or as a supplementary income earning opportunity (Gerxhani 2004; Maloney 2004; Bromley and Gerry 1979; Bromley 1978).

Even though Hart’s notion of informality was limited only to self-employment, his ground breaking ‘informal economy’ idea was widely adopted for analyzing informal activities which were previously ignored in the conventional development theories (Gerxhani 2004; Swaminathan 1991). In 1972, the International Labour Office (ILO) in Kenya defined informality more precisely, focusing on the issues of subsistence in

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15 Hart’s paper was originally presented to a conference in 1971.
relation to the positive effects of employment opportunities and the distribution of income (ILO 1972). However, by the late 1980s, several researchers also argued that informality is also present in the developed world, particularly focusing on the informal economies in the cities and their relations with the formal economies (Portes, Castells and Benton 1989; Harding and Jenkins 1989).

The informality literature, particularly with regard to the informal economy or informal sector, uses various terminologies to analyze urban society and development. For example, Clifford Geertz (1963) referred to this dualism as the ‘bazaar economy’ and the ‘firm-centered economy’, while Terry McGee (1970) termed this as the ‘hawker-dominated informal sector’ and ‘capitalistic-driven formal sector’. Subsequently, Milton Santos (1979) represented the dual economy based on a framework of two circuits. First, the lower circuit, which is equivalent to the informal sector or bazaar economy; and second, the upper circuit, which represents the formal sector or firm-centered economy (see Savage 2006). From Southeast Asian perspectives, Savage (2006) also defines lower circuit as “the lower economic strata of cities, people who work as hawkers, maids, artisans, prostitutes, drivers and shop assistants and are resident generally in slum and squatter settlements. On the contrary, the upper circuit includes very affluent, visible, well-educated, mobile, high-income people who are basically the *nouveau riche*” (Savage 2006, p. 49). To represent the informal economy, in addition, there are some other terminologies, such as the ‘black market’ (Smithies 1984) and the ‘underworld economy’ (Feige 1989).

Despite these terminological confusions or varieties, the idea of informality helps us to understand economic geographies of the Third World, particularly in order to distinguish them from other countries of the world based on economic variability. It also highlights the demands and priorities of the informal, as well as the logic behind their (urban informal) survival with informalities. For example, Alan Gilbert (2004, p. 35) notes that there are many Latin Americans who work, live and play in the ‘informal sector’, which does not fit into the formal sector of government employment, most kinds of white-collar work, and much of what goes on in a decent-sized factory. In addition, this informal sector is also characterised by the absence of pension rights, social security cover, work contracts, and environmental safety. He further defines
informality as “the process whereby people engage in painstaking efforts to construct dwellings, often years before services reach them” (p.36).

Similarly, the neo-Marxists Alejandro Portes and Saskia Sassen-Koon (1987, p. 31) comment that “the informal sector can be tentatively defined as the sum total of all income-earning activities with the exclusion of those that involve contractual and legally regulated employment”. From this perspective, the informal sector is neither autonomous nor complementary to the formal sector; rather it is subordinate to and exploited by the latter. Moreover, this informal sector is part of the continuum of the dependent capitalist system that exhibits certain characteristics similar to core-periphery relations as adherent to dependency theory (Murphy 1990).

On the contrary, for the neo-liberals, the informal sector includes all economic activities which are not controlled or regulated by the State. In addition, they see informal sector participants as victims of excessive and unnecessary government controls in matters concerning the establishment of an enterprise, property rights and the regulation of labour. As Murphy (1990, p. 165) notes “excessive regulation by the State is the culprit”.

Defining informality and the informal sector becomes very difficult in respect to the question ‘who is engaged in informal activities?’. The reason behind this difficulty basically relates to the problems of identifying the types of work or practices of people who are at any one time engaged in formal and informal economic practices, as marginal or partly mainstream, being illegal and invisible or with extra-legal legitimization (De Soto 1990). For example, Simmel\(^{16}\) believes that the marginal personality is a manifestation of cultural hybridity—of living on the margin of two cultures without being a full member of either (cited in AlSayyad 2004, p. 9; Bayat 2004, p. 82). On the contrary, the concept of marginality was strongly challenged by exploring the myths of marginality in the *favelas* in Brazil (Perlman 1976; Castells 1983; Bayat 2000). It was demonstrated that the myth of marginality was an instrument of social control of the poor, and that the marginalised were products of capitalist social structures (Bayat 2004, p. 83). However, in her recent article, Roy (2011) argues that

\(^{16}\) Simmel’s idea was mainly based on Oscar Lewis’s theory of the ‘culture of poverty’, which is similar to some theories proposed at the Chicago School of Urban Sociology.
urban informality is a heuristic device that uncovers the ever-shifting urban relationship between the legal and illegal, legitimate and illegitimate, authorised and unauthorised. This study accepts both of the logics of legality and marginality, and argues that the dualistic nature of practices and identities of the informal are intrinsic, and that we have to understand this dynamism or fluidity of the informality as the locus of Third World urbanism.

In this regard, Alan Gilbert’s (2004) identification of problems in defining the ‘informal sector’ and categorizing the informal is noteworthy. He notes in the context of Latin America, firstly, that many people do not work wholly in either the formal or the informal sector; rather they switch between them over time, even during the working week. Secondly, there are many street traders and garbage pickers who work independently, depending on formally manufactured products. Thirdly, there are many who work in the formal sector for eight hours, but live in the informal for the remaining sixteen. Fourthly, he asks how to define a family that includes a husband legally working in a company, and a wife who is employed as a domestic servant informally? And finally, what about those people who deal with informal people in the workplace, on their way to work, or at home (Gilbert 2004, p. 36).

2.3.2 Focus and issues in the urban informality perspectives

The recent focuses of urban informality research in the field of development and urban studies can be categorised into three sections: (i) causes and contributions of the informal economy, (ii) informal urban settlements/housing and (iii) dynamics of urban informals. The following paragraphs review these focuses of urban research and outline major theoretical and empirical contributions.

Causes and contributions of the informal economy

Urban informality was back on the agenda of international development when there was recognition that much of the urbanization and urban development is taking place in the developing world (Roy 2005), and that more than half of the urban population is living in the urban informal settlements of the megacities in the global South (Arnott 2009). In this context, an important feature of Third World urban development was ‘informal urbanization’. In particular, attention was paid by the urban sociologists,
economists and planners to the causes and contributions of the informal economy in the third world cities (Lindell 2010).

In his book, The Other Path, Hernando De Soto (1989, p. 14) states that the “informal economy is the people’s spontaneous and creative response to the state’s incapacity to satisfy the basic needs of the impoverished masses”. For him, the choice of informal economy depends on available access to the formal or the informal market, and the consideration of the inherent costs and benefits. On the contrary, Tunas (2008, p. 29) states that “in many developing countries, it is not a matter of choice; it is a matter of survival when people do not have any access to join the formal job market”. There are also studies which point to the absence of formal entitlement and opportunities for the urban poor (De Soto 2000; Johnson, Kaufmann and Shleifer 1997; Renooy 1990; Sen 1981) that result in the regime of illegality and informality as a way of life or survival for the informals. For example, as Soliman (2004, p. 179) asserts:

“Urban informality also represents a failure of official socioeconomic and political programs to meet the basic needs and requirements of the majority of people. When such programs fail to meet the requirements of society, informality takes place. Similarly, people may choose ad-hoc ways of obtaining goods and services to avoid complicated, time-consuming official procedures. Urban informality in this sense simply involves a form of highly rational economic behaviour, allowing people to obtain what they need at lower cost”.

Similarly, from the urban planning perspective, Roy (2005) notes that informality is produced by the state, since much of the planning apparatus considers that engagement with informality is difficult and the relationship between informality and planners is quite complicated. For Hossain (2011), urban informality is a purposive game of the opportunists who play their game displaying a distorted reality on the front screen in the name of public interest, for their back-screen benefits in a fragile situation of state institutions. Similarly, Maringanti (2008) claims that slums in many cities are not merely tolerated by the state, but that they have been actively supported and targeted by the state for development action. Dorman (2013), in the Egyptian context, shows how authoritarian power relations impact on urban planning and produce informal land management.
Other research also indicates that the emergence of the informal sector is an implication of the process of informatization (Sassen 1998; Mollenkopf and Castells 1991). As Tunas (2008, p. 29) states “the existing work forces with their skill level could not meet the standard of demand in the informatised economy. The failure of these excess working forces to get in to the informatised arena had often left the informal sector as the only solution to generate income”.

Drawing upon the fact of the urbanization of poverty and rural-urban migration in the developing countries, various research has focused on the significance of the urban informal economy and its relation with the formal economy (Moreno-Monroy 2012; Tunas 2008; Guha-Khasnobis, Kanbur and Ostrom 2006; Ishengoma and Kappel 2006; Maloney 2004; ILO 2002; Becker 1994). Moreno-Monroy (2012, p. 2019) notes that “the formal sector is only responsible for a share of urban employment levels and growth, while the informal economy plays a substantial role” in the developing countries. According to the ILO (2002), the share of employment absorbed by the informal economy between 1994 and 2000 was on average 72% in sub-Saharan Africa, 65% in Asia, 51% in Latin America and 48% in North Africa (cited in Moreno-Monroy 2012, p. 2019).

Tunas (2008) notes the significance of the informal economy as it has a major contribution to the formal urban economies of many Third World cities. Becker (1994) highlights the importance of human capital (education, skill, knowledge) of the poor in relation to the informal economy that provides income earning opportunities. Arnott (2009) recommends that enabling both formal and informal markets, such as the housing market, may solve the problem of unequal service provisions though active governmental intervention and assistance from the international community. In the context of South Africa, Rogerson (1996, p. 179) argues that “the informal economy must be an essential policy focus within a reconstruction and development program”. In the Latin American context, Maloney (2004, p. 1160) notes that informal self-employment “constitutes the largest source of employment among men after formal salaried employment, in some cases exceeding 40% of the work force”. Moreno-Monroy (2012) also notes the presence of ‘agglomeration economies’ that may arise from the interaction between informal and formal enterprises through backward and forward linkages. Similarly, Venkatesh (2006) analyses a case of the informal
underworld economy in a developed country, such as USA. In the context of a low-income community in Chicago, he notes that the underground economy is a product of the relationships between the ghetto and the wider world that weave low-income areas into the broader social fabric. The economically powerful agents transfer their social capital into the underground economy and control and secure the community by providing other social services.

Several studies also indicate the role of the informal sector in urban environmental management. For example, Amin (2005) finds that there is a beneficial role played by the informal sector in environmental services provision, such as solid waste management. He further suggests strategies that alleviate health hazards associated with the informal sector and overcome the polarised viewpoints with regard to suitable institutional options. Perera and Amin (1996) indicate that accommodating the informal economic activities on the streets and public spaces is an effective strategy for environmental management in the cities of developing countries. Similarly, Wilson, Velis and Cheeseman (2006) suggest that integrating the informal sector into formal waste management planning is preferable since it provides significant economic benefits to the informal recyclers.

**Informal settlements and housing**

Considerable research on informal settlements and property rights in the field of development studies has been conducted in the last four decades (Wu, Zhang and Webster 2012; Nijman 2010, Rahman 2005a, 2002, 2001; Gilbert 2007, Payne 2004; Varley 2002, De Soto 2000; Gilbert and Gugler 1992, Turner 1976). Wu, Zhang and Webster (2012) assert that one of the problems with the studies of informal housing in the past has been the application of over-generalised diagnosis and prescription and confused debate. For example, both Turner (1976) and De Soto (2000) assumed that property rights allocations in the informal settlements had been effective (Kiddle 2010). Turner (1976) emphasized the ‘self-help housing’ for the poor and in situ slum improvement programs. Similarly, De Soto (2000) suggested that the legalization of land entitlement, in the absence of legal property rights of the informal poor, hinders their access to the formal market. Payne (2004) also finds that tenure security is an important factor for housing improvement.
Nonetheless, several subsequent studies also argue against the logic of the necessities of formal land entitlement and tenure regularization (Gonzalez 2009; Gilbert 2002; Varley 2002). Varley (2002), for example, claims that the formalization of informal housing may enhance the gentrification and displacement of the poor. Similarly, Gonzalez (2009) criticises the idea of tenure formalization as a panacea to the problem of informal housing. Despite these arguments, in the Chinese context Wu, Zhang and Webster (2009, p. 1922) find that tenure regularization “is not necessarily a panacea of all ills in informal settlements but it may, under certain conditions, contribute to creating wealth among the poor”.

Several studies, in the context of informal settlements in Dhaka, Bangladesh, also emphasize land entitlement rather than slum eviction as a solution to housing problems. For example, Rahman (2005a, 2005b, 2001) highlights the issue of slum eviction in relation to human rights and the constraints and prospects of NGO involvement in solving informal housing problems. He suggests that the government of Bangladesh should accept the human rights of the poor and in situ slum development through NGO involvement and providing security of land tenure. Similarly, Habib (2009) explores the role of government and NGOs in slum development. Begum and Moinuddin (2010) underline the issue of social exclusion and investigate its relation with informal housing in Dhaka. Paul (2006) investigates a case of slum eviction in Dhaka and examines how the fear of eviction impacts on the lives of the informal urban poor. In his seminal article on informal housing in Dhaka, Choguill (1988) recommends an inter-sectoral approach to development and reducing and re-directing migration flow from Dhaka to elsewhere in the country as part of the solution to housing scarcity.

**Dynamics of urban informals**

Another tendency of urban informality research in the fields of urban sociology and anthropology is to characterise the urban informals. Oscar Lewis’s idea of the ‘culture of poverty’ gave much impetus to the belief and perceptions of the anti-poverty discourse and policies for a long time. As Bayat (2010, p. 48) notes, the notion of the ‘culture of poverty’ highlights fatalism, traditionalism, rootlessness, inadaptability, criminality, lack of ambition, hopelessness and so on as the essential components of the ‘passive poor’. It was argued that the passive nature of the poor perpetuates
generation to generation poverty in society. Along the same lines, the slums and squats were conceptualised as physically, socially and environmentally bad, degraded and unsustainable shelters in which to live. Several studies define a slum as a ‘disorganised area’; a ‘blighted area’ (Anderson 1990), an ‘area of substandard housing’ (Bergel 1990; Engels 1990), or as ‘the new shame of the cities’ (Grodzins 1990). Bayat and Danis (2000) argued that informal settlements were treated as “a state within the state” and “unnatural” communities which trigger “social disease” and “abnormal behaviour”. Similarly, Markandey (2007, p. 387) notes, from the third world perspective, that slums are defined as a “rash on landscape, a blot on civilization or a cancer on cityscape”. In the context of favela in Brazil, Janice Perlman (1987) also asserted that the squatter settlements were seen as “cancerous sores on the beautiful body of the city, dens of crime, violence, prostitution, and social breakdown”. Recently, several Latin American studies have also rekindled the idea of the ‘culture of poverty’ saying ‘favelas have their own cultural identity’ and that the barrios of Caracas are a parallel city that cannot participate and does not share the same values (See Varley 2013, p. 14).

However, the idea of a ‘culture of poverty’ was contended by many subsequent slum studies (Townsend 1979; Lloyd 1979; Hossain 2006; Hossain and Humphrey 2002; Jocano 1975; Perlman 1987; Perlman 2004). For example, Janice Perlman (1976) argued that the prevailing negative stereotype of the urban poor was a myth. She found that the “favela residents are not economically and politically marginal, but are excluded and repressed; that they are not socially and culturally marginal, but stigmatised and excluded from a closed class system” (p. 195). In the ‘Myth of Marginality’ thesis, she argued that ‘considering migrants as maladapted in the city life and also responsible for their own poverty’ are ‘misconceptions about the urban poor’. As she suggested, myths of marginality are empirically false, analytically misleading, and insidious in their policy implications (Perlman 2004). Similarly, in the context of The Philippines, Jocano (1975) demonstrated that the slum was ‘a way of life’, rather than just a cluster of dilapidated structures inhabited by less-privileged and poverty-stricken people. He defined the slum “as a social unit, composed of people who are adapted to a certain type of life style” (p. 6).
Jocano further noted (1975, p. 195) that the slum life is one kind of ecological pressure to which the slum dwellers respond. For example, stress is part of these pressures and violence is one of its manifestations. He explained the slum as a process in adaptation. Despite the slum being characterised by chronic difficulties and widespread sufferings, and the sense that happiness is a luxury to the dwellers; the moments of shared togetherness, feelings of contentment, and emotional attachment to one another and even ‘hope’ were present (Jocano 1975). He argued against the stereotyped portrayal of slums from middle class perspectives and urged the acceptance of slum dwellers as relevant to urban life.

Townsend (1979) asserted that Lewis’ ‘culture of poverty’ thesis was individual-oriented and uncontrolled, which is testable but difficult to confirm. In fact, the concept was largely based on Latin American societies that ignore the peculiarities of different forms of societies (Hossain 2006; Hossain and Humphrey 2002). Pillai (1990) argued that if the poor exhibit some characteristics of a sub-culture, it is nothing of a phenomenon which cannot be branded as a ‘culture’. Rather, as Jocano (1975, p. 7) noted, “slum dwellers…are more intelligent, calculating, and psychologically attuned to take advantages of changing conditions and available opportunities which occur in their lifetime”. Therefore, the poor are not actually marginalised and poverty is not internalised in the process of growing up (Jocano, 1975); rather they are very much strategic and intellectual in facing their everyday and even future problems individually or collectively. To reflect this positive aspect of the urban poor, there are studies which replace the word ‘slum’ by ‘informal housing’, ‘irregular settlement’, ‘spontaneous shelter’ and ‘self-help housing’ (Gilbert 2007b; Cornelius 1975; Mangin 1967).

Critiques of the ‘passive poor’ idea suggest that a substantial degree of social cohesion is present in many of the shanty towns, which demonstrates a lively and constructive political activity in local scale, such as voting systems, political movements and party meetings (Banks 2008; Edelman and Mitra 2006; Roberts 1995; Lloyd 1979; Perlman 1976; Qadir 1975). Perlman (1976) showed that political awareness of the urban poor in Brazil was higher than that of the rural people. Roberts (1995) also found that the urban poor are not politically marginalised; rather, they participate in political activities and gain benefits for themselves and for their neighborhoods. In the
Bangladeshi context, Qadir (1975) observed that the urban poor of Dhaka city participate to a remarkable degree in party-politics and engage in regular political processions, voting systems, and picketing during political strikes (Hossain 2006; Hossain 2005; Banks 2008).

Drawing upon the shortcomings of the Latino-centric ideology and debate around the urban poor, Asef Bayat (2010, p.56) assesses the politics of urban marginals in the developing world in terms of ‘quiet encroachment of the ordinary’. He portrays how the ordinary urban poor continue to expand their space by winning new positions from which to move on and create vibrant spontaneous communities and informal life. However, this idea of the ‘quiet encroachment of the ordinary’ was also contested (Hackenbroch and Hossain 2012; Maringanti 2008). As Maringanti (2008) notes, firstly, in many of the cases the urban poor are no longer quiet and illegal encroachers; rather, they are now frequently visible to the state and claim their formal identity. Secondly, characterizing the nature of the struggle of the poor as ‘without clear leadership, ideology, or structured organization’ is problematic while the urban poor are now systematically organised and taking part in community leadership and party politics. And thirdly, the threats to illegal urban services by the encroachers may be an obsolete strategy of the poor, as they are now able to negotiate with the authorities with their formal voter identities, and raise their voices by being involved and negotiating with politicians, civil society, the media, and academics. Therefore, the idea of the ‘quiet encroachment of the ordinary’ obviously introduces the survival strategy of the informals, although it misses out on many others who are more visible and attached to the formal urban economy. For example, a recent investigation by Hackenbroch and Hossain (2012) shows the rationality, processes and outcomes of informal negotiations by the urban poor in Dhaka for access to basic services, and they term the informal negotiations as the notion of the “organised encroachment of the powerful”.

Along the same lines, several critical studies in the human geography and urban planning disciplines also explore the processes and practices of urban informality in relation to the state (Ballegooijen and Rocco 2013; Hackenbroch and Hossain 2012; Bunnell and Harris 2012; Hossain 2011; Porter 2011; Roy 2009, 2005). Ballegooijen and Rocco (2013) discuss how urban informality in the developing world has been
understood in the developed world, and how it has been incorporated in the discourse of urban design. Roy (2005) portrays informality as a particular mode of metropolitan urbanization. As she explains, “it has become obvious that informal housing and land markets are not just the domain of the poor but that they are also important for the middle class, even the elite” (p. 149). She also argues against dividing the formal and informal sectors and claims that informality is “at the very heart of the state and is an integral part of the territorial practices of state power” (Roy 2009, p. 84). Along the same line, Porter (2011, p. 116) claims that “informality is not outside the formal systems, but is instead produced by formal structures and always intimately related to formal structures”. Likewise, Ahlers et al. (2014) assert that “what is informal and formal is continuously redefined and subject to negotiation”. They argue that the binary notion of formality and informality is fundamentally incorrect, since informality should be understood as a process of co-production.

In conclusion, this review of the contemporary urban informality literature suggests that considerable attention has been paid to theorise urban informality and the formal-informality nexus in the wide arena of the urban economy. In addition, significant attention has been given to the dynamics that demonstrate informality as a way of life and a survival mechanism of the urban informal livelihood. Research has also paid attention to human rights of the urban poor and the importance of tenure security to adapt to the urban formal economy. Other researchers also point to the importance of accommodating the informal sector into formal service provision for sustainable urban management.

Nonetheless, there is little evidence that the literature in the field of urban and development studies (as discussed in sections 2.2 and 2.3) have investigated the connections between urban informality and the governance of basic service delivery (Table 2.1). This study accepts the dynamisms of the urban livelihood of the poor and relates it to the actors, processes and challenges of urban governance as outlined in section 2.2. The following section offers an analytical framework that integrates both of the issues of urban governance and informality for better understanding and analyzing the problematics of water supply for the urban poor in the third world cities.
Table 2.1: The urban governance and urban informality perspectives

<table>
<thead>
<tr>
<th>Urban governance perspective</th>
<th>Focus</th>
<th>Key Issues</th>
<th>Suggestions</th>
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<tbody>
<tr>
<td></td>
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<td>Issues:</td>
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<td></td>
<td></td>
<td>• Inclusion of civil society</td>
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<td></td>
<td>• Meaning and contribution of civil society</td>
<td>• Good governance model</td>
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<td></td>
<td></td>
<td>• Urban poverty reduction, housing and utility services</td>
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<td></td>
<td></td>
<td>• Community alliance for urban development</td>
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<td></td>
<td>• Failure of privatization</td>
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<td>Challenges:</td>
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<tr>
<td></td>
<td></td>
<td>• Defining community and participation</td>
<td>• Open and legitimate relationship between state and civil society</td>
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<td></td>
<td></td>
<td>• Strong state v. weak civil society</td>
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<td></td>
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<td>• Dependency on foreign aids</td>
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<td></td>
<td></td>
<td>• Weakness of decentralization process</td>
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<tr>
<th>Urban informality perspective</th>
<th>Focus</th>
<th>Key Issues</th>
<th>Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>• Forms/practices of urban informality</td>
<td>• Informality/illegality is purposively/strategically produced for survival</td>
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<td></td>
<td></td>
<td>• Contributions of informal economy</td>
<td>• Informality is produced by the state</td>
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<td></td>
<td></td>
<td>• Informality as a way of life</td>
<td>• Political accessibility is crucial for the Third World urban poor</td>
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<tr>
<td></td>
<td></td>
<td>• Informal urbanism, and occupancy urbanism</td>
<td>• Rationality of informality is politically fabricated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Informality as an epistemology of urban planning</td>
<td>• Self-help housing and right to the city</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Nature of informals (passive or submissive poor, quiet or rebellious, powerful to resist or negotiate)</td>
<td>• Understanding context-specific power structure is important</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Political society, street politics</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Marginality, illegality, invisibility, ethnicity</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Importance of informal economy</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Formal and informal linkage</td>
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<td></td>
<td></td>
<td>• Informal housing</td>
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<td></td>
<td></td>
<td>• Informal mechanism of urban livelihood</td>
<td></td>
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<td></td>
<td></td>
<td>• Right to the city</td>
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</table>
2.4 Urban water governance and situated informality: an analytical framework

As discussed in the previous sections of this chapter, both of the urban governance and urban informality perspectives are very important in understanding the process and outcomes of participatory governance as well as the informal livelihoods of the urban poor in large developing cities, such as Dhaka. But much of the literature overlooks the local contextual aspects of governance and informality, and the connections between them. The framework shown in Figure 2.1 represents an association between formal and informal water supply provisions, considering the impact of informalities of the urban poor as a major determinant of the interrelationship. The urban informality is depicted by the notion of ‘situated informality’, which refers to the emplaced and embodied informalities of the urban poor as an indicator of local contextual complexities and the micro-politics of urban informal livelihood.

Situated informality draws on Bayat’s (2010; p. 62) concern about the “informalities that deprive the states of the knowledge necessary to exert surveillance and autonomy of everyday life and create a serious void in the domination of the modern state. For example, unregulated jobs, unregistered people and places, nameless streets and alleyways, police-less neighborhoods mean that these entities remain hidden from the government’s records”. In addition, it emphasises the local informal dynamics and temporariness of livelihood that often defines or confines the scope of formal regulation and informal opportunities. It recognises the diversity within and among the informal communities that influences community participation, partnerships and the broader urban governance process. Situated informality not only identifies differences but also considers that variegated informal practices are as important as the formal rules and regulations of governance in figuring out what to do now, where to go next, and how to get there. It argues that understanding the informal embeddedness and its impacts on the community is as significant as understanding the modern recipes for urban governance. However, as shown in the Figure 2.1, situated informality includes four characteristics: locational specificities, informal social networks, informal economic engagement and political contact.
2.4.1 Locational specificities

The locational specificities of informal community informs how cartographic location or specific topology of informal acts or influences in a distinctive manner and evolves as a space of difference (Roy 2011). It accepts the notion of spatial embeddedness (Hess 2004) of the informals, and articulates the relationships between different kinds of social, economic and political embeddedness (Granovetter 1985) which are strategically produced and performed through power-relations for the benefit of informal livelihood and existence. As Soja and Hooper (1993, p. 184-185) observe, “hegemonic power does not simply manipulate naively given differences between individuals and social groups; it actively produces and reproduces difference as a key strategy to create and maintain modes of social and spatial division that are advantageous to its continued empowerment”. This implies that the strategic making and re-making of locational embeddedness constructs a new space for opportunities or risks, which is ‘the space that difference makes’ (Soja and Hooper 1993). This argument also accords with that of the realists and post-structuralists, who believe that ‘geography matters’ or ‘space makes a difference’ (Sayer 1985; Harrison 2006). Following Lefebvre, Merrifield (2006) argues that this spatial fetishism indicates ‘spatial causal determinacy over the societal’. He further goes on to say that “space becomes re-interpreted not as a dead, inert thing or object but as organic and alive: space has a pulse, and it palpitates, flows, and collides with other spaces” (p. 105). Similarly, Gottdiener (1997) claims ‘space has a force of production’ and emphasizes the concept of spatial configuration. He suggests that “materialization of social organization constitutes its own unique spatial configuration, and it is that relation between constituent objects that enters into the forces of production as a certain space possessed of causal power” (p. 410). Along the same line, Tunas (2008, p. 36) also asserts that “a space is therefore organised in a way to make all the productive
processes possible to take place in the more efficient way”. This is the argument that actually suggests how the slum, as a spatial entity, provides an efficient way of survival for the poor and informality within a complex sociopolitical organization and spatiotemporal configuration of the cities (Marshall 2009).

Table 2.2: Operational definitions of variables and indicators of situated informality

<table>
<thead>
<tr>
<th>Variables</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Locational specificities</td>
<td>(i) Relative location of Karail</td>
</tr>
<tr>
<td></td>
<td>(ii) Accessibility and easy communication</td>
</tr>
<tr>
<td></td>
<td>(iii) Proximity to water-mains (Availability of illegal water).</td>
</tr>
<tr>
<td>2. Informal social network</td>
<td>(i) Social co-operation (Bridging networks)</td>
</tr>
<tr>
<td></td>
<td>(ii) Social trust</td>
</tr>
<tr>
<td>3. Informal economic engagement</td>
<td>(i) Availability of informal occupation/business</td>
</tr>
<tr>
<td></td>
<td>(ii) Job locations</td>
</tr>
<tr>
<td>4. Political contact</td>
<td>(i) Engagement in party-politics</td>
</tr>
<tr>
<td></td>
<td>(ii) Engagement in NGO activities and community meetings</td>
</tr>
<tr>
<td></td>
<td>(iii) Materialistic political ideology</td>
</tr>
</tbody>
</table>

It is thus important to understand locational specificities of the slum as a zone of exception (see Roy 2011) of the informals and their informal practices. Smith (2004, p. 18) suggests that this spatial reality has a ‘force’ by which ‘spaces themselves help to structure, mold and reinforce certain kinds of social behaviour, assumptions and relations that in turn have profound political effects’. Therefore, the locational situatedness of the informal community needs to be understood to analyse how it forms, forces, and influences social, economic and political embeddedness. Locational specificities thus remind us to think not only ‘who are the informals’ and ‘what are the informalities’, but also ‘where are the informals and informalities located’ (Bondi 1993). As illustrated in Table 2.2, this study considers (i) the relative location of Karail, (ii) the accessibility and easy communication and (iii) the proximity to water-mains (availability of illegal water) as the indicators of locational specificities.

2.4.2 Informal social network

The making and re-making of a social network in a certain way is also related to the ‘politics of anticipation’, a concept developed by Abdoumaliq Simone (2010) that entails “a way of thinking about what is taking place, of positioning oneself in
relationship to events and places in preparation to move quickly, to make one’s situation and actions more visible or to maintain them under some radar” (p. 96). He further goes on to say that “it is a way of reading the anticipated manoeuvres of stronger actors and forces and assessing where there might be a useful opportunity to become an obstacle or facilitator for the aspirations of others” (p. 96). In addition, as Roy (2011) notes, this anticipatory urban politics regarding peripheral status of the poor can also be an advantage. Drawing on these conceptualizations, the informal social network is defined as (anticipatory) informal social relation, solidarity and trust among the urban poor that are already present and act as informal social insurance against social risk and uncertainty of livelihood. This informal social relation does not refer to kinship or bonding relation, but rather it indicates the bridging network, which indicates social relation within a neighbourhood (Islam and Walkerden 2014). The bridging relation is very informal in nature because it starts once people live together in a community by depending on each other. It is actually their social asset that can be accumulated, or at least would not be eroded, and then would be available to protect them from socioeconomic vulnerability and external pressures, such as the threat of eviction. However, these ideas might be helpful to analyse how informal social networks are produced or reproduced based on anticipating and assessing their informal service opportunity and social vulnerability in the slum. Therefore, the situated social network considers already built up societal bridging relations among the urban poor. This study, thus, examines bridging relation and social trust between informal water providers and consumers. In addition, it argues that the strong bridging networks offer sustainable informal water business, while also impeding formal water governance.

2.4.3 Informal economic engagement

Informal economic engagement is the third category of situated informality, which refers to the informal economic livelihood of the urban poor. It indicates informal economic embeddedness in which the poor are already engaged. An important question arises when analysing the impact of this informal economic engagement in formalizing the services for the urban poor: why is there a tendency for the urban poor to be engaged in informal activities? Many argue that small enterprises in the slums generate more jobs and require less capital investment per job than larger enterprises
(Soliman 2004; Bromley 1990). De Soto (2000) portrays the slum economy as the people’s economy as a result of grassroots uprising against state bureaucracy, a revolution from below by the heroic entrepreneurs (Roy 2011). Gerxhani (2004) outlines two aspects of motives for engagement in the informal economy. Firstly, economic aspects which are related to unemployment and an inflexible formal labour market, a declining real price of capital and the high cost of formal production. And secondly, non-economic aspects which are related to the qualifications and skills of the poor, and the greater flexibility and satisfaction derived from having more leisure time when employed in informal work.

From the perspective of development economics, Renooy (1990) argues that there are two factors that determine active involvement in the informal economy. Firstly, the structural factors, which include the financial pressure, socio-psychological pressure, and institutional constraints. This structural factor was also highlighted by Sen (1981) in a particular case of entitlement and vulnerability, where he claimed that a famine was a result of structural change, rather than a consequence of environmental factors. In addition, Johnson, Kaufmann and Shleifer (1997) found that more regulation does indeed lead to a larger informal economy. Schneider and Mummert (2002) also note that both social networks and institutional structures have links with the informal economy in Germany (cited in Gerxhani 2004). And secondly, the opportunity factors, which consist of individual backgrounds (skills, education, contacts and living situations) and non-individual components (environments, cultural traditions, values and standards, and geographical factors). Drawing on this categorization, this study aims to identify and explore the factors that help sustain the informal water economy in the slum, and the extent to which that influences formalization of the water service. Particularly, it analyses informal economic engagement by considering the availability of informal water businesses and the locations of jobs to analyse economic embeddedness of the poor (Table 2.2).

2.4.4 Political contact

Political contact refers to the political engagement of the urban poor which is defined by participation in party-politics, and involvement with NGOs and various informal decision-making meetings in the community. This study accepts that political involvement of the urban poor is informal in nature, ideologically delicate and
strategically situational. The political contact in the slum community may also depend on the patron-client relation among the dominating provider poor and the submissive consumer poor. De Wit (1996, p. 57) asserts that “these latter groups are usually aware of the mechanisms that create and perpetuate the inequality they so acutely experience, but they have to get on with the struggle for survival”. This indicates that both of the stakeholders understand their political needs for survival in the community and entangle themselves in a patron-client relationship. Political contact of the poor is also characterised by materialistic political ideology which largely follows the rules of ‘machine-style politics’ (Scott 1970). In machine-style politics, the intention of political involvement is non-ideological, and has less interest in political principle, but more in securing and holding power and leadership (Scott 1970).

Drawing on these arguments, this research aims to analyse the political relationships among different actors in the water supply systems. Particularly, it seeks to demonstrate how dominating water providers hold political power by the instrumental use of machine-style politics and offer patronage to the water consumers. In contrast, it might also be interesting to see how the submissive consumer poor survive in the community with the situated political patronage. This study does not have any intention to evaluate political marginality17 of the poor (Edelman and Mitra 2006; de Wit 1996; Gilbert and Gugler 1983; Cornelius 1975), but rather to explore their informal practices of political contact, how those practices are linked with other situated informalities (Table 2.2) and how all together impact on the formalization of water. Thus, it demonstrates the informal political practices of the informal water providers and the consumers, which directly or indirectly enhance informal economic opportunities, and at the same time challenge formal water governance. However, the four components of situated informality significantly address the characteristics and nature of urban informal livelihood that arguably have connection with the success of formal and informal water governance. First, it suggests that the locational benefits or challenges of the informal communities may determine their access to formal and informal water services. Second, it demonstrates the socio-economic and political embeddedness of the urban poor. And finally, it affirms that considerations of local

17 Marginality in this context means a lack of either cognitive or behavioural involvement in the formal political processes and institutions of the city and nation (Cornelius, 1975).
contextual knowledge are essential if reasonable results are to be accomplished by solving specific local complexities of water governance.

### Table 2.3: Major themes/indicators of water supply provisions

<table>
<thead>
<tr>
<th>Supply Provisions</th>
<th>Themes/indicators</th>
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</thead>
<tbody>
<tr>
<td>1. Informal water supply</td>
<td>(a) Background and evolution</td>
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<tr>
<td></td>
<td>(b) Actors: types of actors, relationship among actors</td>
</tr>
<tr>
<td></td>
<td>(c) Process and mechanism: sources of water, modes of services, and payment and management</td>
</tr>
<tr>
<td></td>
<td>(d) Challenges and outcomes: impacts of situated informalities and effectiveness of services</td>
</tr>
<tr>
<td>2. Formal water supply</td>
<td>(a) Background and evolution</td>
</tr>
<tr>
<td></td>
<td>(b) Actors: types of actors, relationship among actors</td>
</tr>
<tr>
<td></td>
<td>(c) Process and mechanism: community formation and participation, effective leadership, roles of NGOs and the government, supply networks, and payment and management</td>
</tr>
<tr>
<td></td>
<td>(d) Challenges and outcomes: challenges of situated informalities and effectiveness of services</td>
</tr>
</tbody>
</table>

In short, based on these categories of situated informality, this study aims to understand how locational, socio-economic and political embeddedness of the urban poor impacts on the informal and formal water service provisions in Dhaka (Figure 2.1). As shown in Table 2.3, both types of water supply provisions will be analysed based on the four major themes: background and evolution, actors, process, and challenges (Chapters Five, Six and Seven). Specifically, this research will focus on how the situated informalities of the urban poor are related to the formal and informal processes, mechanisms and outcomes of water supply systems, besides other managerial and financial limitations of the government and non-government authorities. It is also argued that a better understanding of the local complexities and their impacts will help to evaluate and re-formulate community-based organization and the roles and challenges of the governments (central and local) in participating in water governance (Chapters Six and Seven).

However, the framework presented in Figure 2.1 helps us to understand not only the water supply provisions and their interrelations, but also integrates the impacts and challenges of locally situated informalities, which are arguably the major factors that
determine the success of water governance and, more broadly, determine the formalization of the utility services. Specifically, the analytical framework describes the situatedness of informal practices in a specific context and the appropriate responses which may arise in the future. This is perhaps the main limitation of the governance perspective as it is unable to assess the possibility of slum development based on ‘what is already out’, rather than ‘what is coming in’. In addition, the framework not only characterises the informal poor and their communities, but also illuminates researchers to the possible impacts of locational, social, economic, and political informalities with regard to water governance. It helps to analyse the motives of the urban poor to be informally engaged with economic activities and politics. Finally, the framework offers a guide for analysing the water supply problem of Dhaka, which may also be applicable in analysing many other utility services in the slums of other developing countries.

2.5 Conclusions

The main focus of this chapter was to review the literature with a view to construct a conceptual framework that guides the empirical analyses of the thesis. It tried to conceptualise the research problem considering two theoretical perspectives i.e. urban governance and urban informality. As the review suggested, the existing urban governance literature focuses on three main issues of: inclusion of civil society, community participation and the partnership approach. It was found that most of the literature sheds light on grassroots-driven development and poverty reduction through civil society and community participation in the cities of developing countries. On the contrary, the urban informality literature focuses on the importance/nature of the informal economy and formal-informal dichotomy in the urban society. It was obvious that neither of the perspectives pay much attention to the local contextual knowledge in analysing the contemporary challenges of urban informality and governance. However, by integrating significant components of these perspectives, this chapter has offered an analytical framework to examine the water supply provisions for the urban poor in Dhaka. The framework has introduced the term ‘situated informality’ that refers to the issues of local contextual complexities which are arguably the major challenges to the success of water governance. The following chapter will describe the methods employed for the investigation of formal and informal water supply systems in Dhaka.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This research aims to investigate the processes and challenges of water supply systems for the urban poor in Dhaka city. It attempts to explore the local contextual complexities of water governance through the lens of urban governance and urban informality perspectives. As discussed in Chapters One and Two, this research hopes to highlight policy implications for sustainable water governance considering the situated informalities in which the urban poor are embedded with the formal and informal water supply systems. Formal water supply refers to the community-based water supply by the non-government and government organizations. On the other hand, informal water supply system refers to the water governance controlled and monitored by the local informal water suppliers.

This research employs a mixed methods research methodology for data and information collection and analysis. Both the primary and secondary data have been collected and analysed. This chapter discusses the methods, techniques and limitations of data collection. Section 3.2 explains the research design, sources of data and data collection procedures. It also outlines justifications of the methods chosen. Section 3.3 describes the fieldwork context and positionality of the researcher, and points out the challenges and suitable strategies of data collection in the slums of Third World cities, such as Dhaka. Section 3.4 discusses how the data was handled and processed for analysis. Finally, section 3.5 summarises the major ethical considerations of this research before the conclusion in section 3.6.

3.2 Research design and methods

The research design was based on a case study approach that entails detailed, intensive and context-specific analysis of a single case (Bryman 2012; Zeisel 2006). A case is defined as a specific, complex, and functioning thing, which is a bounded-integrated
system, such as a community or organization (Bryman 2012; Stake 1995). For an intensive examination of the water supply systems for the urban poor in Dhaka city, Karail slum was selected as the case of this research (See Chapter One for details).

This research accepts pragmatism as a philosophical strand for choosing the research methods to address the research questions as outlined in Chapters One and Two. Pragmatism is a kind of philosophy that arises out of actions, situations, and consequences (Creswell 2009; Pansiri 2005). It suggests that the researchers will emphasize the research problems and will use all approaches available to understand those problems rather than focusing only on research methods (Morgan 2001; Patton 2002). This indicates that pragmatism opens up the door for multiple methods or mixed methods approaches for in-depth analysis (Creswell 2009). Hence, according to this philosophical strand, a researcher has the freedom to choose the methods, techniques, and procedures of research that best meet his/her needs and purposes. Creswell (2009) further states that pragmatism requires not only collecting and analyzing both kinds of data; it also involves the use of both approaches for which the overall strength of research is better than either qualitative or quantitative research alone. Along the same lines, Valentine (2001; p. 43) argues that “there is no set recipe for research design; different methods have particular strengths and collect different forms of empirical material”. Therefore, as pragmatism suggests, a good research design needs a logical choice of research methods that meet the aims of the research and generate significant data for analysis (Valentine 2001).

Drawing upon this pragmatic approach to methodological choice, this study has deployed both the quantitative and qualitative methodologies for data collection, analysis and representation to achieve the aims of the research as presented in Table 3.1. The quantitative research is principally based on numerical and impersonal data (Neuman 2006; Mingjie 2002). This method allows the researcher to be familiar with the research problem or concept to be studied and to generate hypotheses to be tested in advance (Nahiduzzaman 2006). On the contrary, the qualitative methodologies help to explore the feelings, understandings and knowledge of others through interviews, discussions and participant observation to explore complexities of everyday life, to gain a deeper insight into the processes shaping our social worlds without any
preconceived hypothesis (Kothari 2008; Goddard and Melville 2004; Silverman 2005; Dwyer and Limb 2001; Strauss and Corbin 1990).

Table 3.1: Research objectives and methods

<table>
<thead>
<tr>
<th>Major objectives</th>
<th>Information required</th>
<th>Methods used</th>
</tr>
</thead>
<tbody>
<tr>
<td>to explore the provisions of water supply to the urban poor in Dhaka</td>
<td>Demographic, socioeconomic and political characteristics of the urban poor, Informal water supply systems, Community-based water supply systems</td>
<td>Questionnaire survey, Participatory observation, Interviews, Focus group discussions, Photographs</td>
</tr>
<tr>
<td>to examine the challenges of water supply provisions</td>
<td>Managerial issues of water governance, Local complexities of water provisions, Impacts of locally situated informalities on the water governance</td>
<td>Participatory observation, Interviews, Focus group discussions</td>
</tr>
<tr>
<td>to recommend sustainable water governance strategies considering the informal embeddedness of the poor</td>
<td>Importance of informalities and informal embeddedness of the urban poor, Possible ways of sustainable water governance</td>
<td>Interviews, Focus group discussions</td>
</tr>
</tbody>
</table>

A ‘sequential transformative strategy’\textsuperscript{18} (Creswell 2009; p. 212) was followed to conduct the fieldwork in Dhaka. Within the timeframe of the field research (July 2014 to January 2015), the first two months were largely devoted to conducting participatory observation, questionnaire surveys, and secondary data collection. The rest of the time was used for in-depth interviews and focus group discussions. It is worth noting that participatory observation was deployed right from the beginning in the fieldwork. This approach was significant in this research since participatory observation helped this researcher to understand the physical, socioeconomic and political characteristics of Karail as well as to concurrently identify suitable participants for the questionnaire survey. Both the observation and questionnaire survey methods in the first phase of fieldwork subsequently helped this researcher to find suitable participants for interviews and group discussions, and conduct those interviews and discussions in the

\textsuperscript{18} The sequential transformative strategy is a two-phase project with a theoretical lens overlaying the sequential procedures. It has an initial phase followed by a second phase that builds on the earlier phase…. In this strategy, the researcher may use either method in the first phase of research (Creswell 2009; p. 212)
second phase. Even though this research employed a mixed methods approach, more emphasis was given to qualitative data during analysis. The findings of the questionnaire survey were important to understanding the demography and to compare two units of Karail based on socioeconomic and political engagement of the respondents (Chapter Four).

### 3.2.1 Sources of data

Data was collected from both the secondary and primary sources. Secondary sources included libraries, official records of government and non-government organizations, television programs and the internet. On the contrary, the primary data was collected through participatory observation, interviews, focus group discussions and questionnaire surveys.

In the beginning of the fieldwork in Dhaka, I collected secondary data regarding slums and basic service provisions from two Bangladeshi researchers who have extensive experience in slum research. First, I met with Professor Nurul Islam Nazem\(^\text{19}\) of Dhaka University. He communicated to me the major sources of slum research in Bangladesh. In particular he guided me to the Centre for Urban Studies (CUS). At the CUS, I accessed various relevant books, magazines, and research booklets. I also met Professor Sayer Gafur\(^\text{20}\) to understand the non-geographers’ thoughts about slum and urban informality, and to learn about suitable data sources for this research. He advised me to buy relevant books which were available in some specific book stores in Dhaka. Both professors advised me to make contact with the *Dushtha Shasthya Kendra* (DSK), Dhaka to collect necessary information about their water project in Karail and their other slum research studies. Subsequently, I visited DSK offices and collected various documents and records. Primarily, the DSK website was also a good source of information about slums and water projects in Dhaka. DSK’s advice was fruitful in finding secondary data, as well as conducting primary data collection through participatory observation, interviews, focus group discussions and questionnaires.

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\(^{20}\) Professor, Department of Architecture, Bangladesh University of Science and Technology.
3.2.2 Participatory observation

It was determined that the participatory observation method would provide important insights into the livelihood of the slum dwellers of Karail. It was also envisioned that a ‘deep hanging out’ with the participants would be helpful for collecting reliable information to document everyday practices of the urban poor (Das 2011; Moser 2008; Crang and Cook 2007; Wogan 2004). Equipped with all of the above information, I started fieldwork with this method in July 2014. I observed the everyday practices of the dwellers in Karail and documented information of all the significant events and activities. This method was particularly important, first, to gain a broader perspective or overview of the slum community, neighborhood relationships and everyday practices with regard to water uses. Secondly, this method helped me to come up with relevant questions about the complexities of water supply for conducting interviews and group discussions in the next phase of fieldwork. Thirdly, it was possible to understand slum-life through direct observation at various places in Karail which was not possible by other methods. And finally, the observation data was used in mapping locations of informal water vendors and pumps in Karail.

However, on the first day of my visit to Karail, I started my journey with a rickshaw puller from Mohakhali Bus Stand. My intention was to locate Mr. Shamol who was one of the informants of this research and who was living in Karail. I came to know about him from a DSK official, who gave me a possible location of his home and his identity as a community leader of NDBUS\textsuperscript{21}. It was ten o’clock in the morning when I reached Karail. I started walking into the slum following the directions to Mr. Shamol’s home. I met him for the first time and told him the purpose of my visit to Karail. After a few formalities, I described my research objectives and fieldwork plan. He was very interested to work with me and shared his previous work experience with other researchers who came to Karail for data collection.

I started observing Karail slum with him from the North-West corner following a Google Map of the Karail area. A sample copy of the map is given in Figure 3.1. He

\textsuperscript{21} NDBUS (Nagar Daridra Basteeshashir Unnayan Sangstha) Development Association of Urban Poor Slum Dwellers.
accompanied me all along and showed me business areas, different offices of NGOs and political parties, informal water vendors, DWASA-DSK water project activities and so on. He also introduced me to many community leaders working in various organizations during our walk around Karail. Next day, I travelled with him by boat on the Banani Lake and observed informal water pipelines and electricity lines between the Karail and Gulshan 1/Mohakhali areas.

I carried out a number of similar visits in the first week of the fieldwork. Karail, as a result, became very well-known to me. I started meeting people I was introduced to in different places in Karail. That initial phase gave me confidence to work independently in Karail. I asked Mr. Shamol to introduce me to some informal water providers so that I could observe their activities closely. He then introduced me to Mr. Abdul Mannan (Secretary of a CBO, the DSK and another informant of this research) who understands informal water supply systems very well. He invited Mr. Mannan to come to his home and informed him that a university teacher of Rajshahi wanted to see him. When he came, we talked about my intention to make participatory observations of several informal and formal water supply systems in Karail. Mr. Mannan suggested that I see him the next week so that he could introduce me to suitable participants.
In the subsequent observation process, I had a close look at different informal and formal services, including the water supply in Karail. In particular, I observed aspects of the everyday lives of the slum dwellers, water supply and collection processes, and interactions between the dwellers at various levels of the community. I spent three days with three different informal water vendors to observe their activities and their relations with the water providers and consumers. I also informally talked to several operators of informal water connections to learn about the problems they face supplying water to individual houses.

It was also possible to observe different CBO meetings with the help of Mr. Shamol and Mr. Mannan. I attended a number of CBO (of DSK) meetings and closely observed the potentials and challenges of CBO activities in Karail. I was also kept informed by them if there was any forthcoming big event in the whole period of the fieldwork. For example, I had an opportunity to observe how the dwellers of Karail organised protest movements against the threat of eviction on a particular day. It was observed that all of the NGO leaders, CBO leaders and political leaders of the big slums of Dhaka gathered together in the CBO office of the DSK. The CBO committee of Karail played the central role in organizing the protest against evictions.

I recorded all of the major findings of these observations in several ways. First, I kept a fieldwork diary to note down all important events that were observed. Second, I took as many photos as possible of different formal and informal infrastructures, offices and events in Karail (Chapters Five and Six). And finally, in some cases, I also captured some video footage of CBO meetings, protests (human chains) on the roads, water vending and so on.

Even though this participatory observation in Karail was successfully completed with the help of two informants, it was not completely trouble free. One of the problems was that I was a bit scared to openly bring a camera and mobile phone with me while I was alone. Despite Mr. Shamol and Mannan assuring me that nothing bad would happen to me in Karail, I always felt scared to independently move around and photograph in Karail. Secondly, I had to finish daily scheduled work before it was dark to avoid any unexpected occurrences.
3.2.3 Questionnaire survey

The questionnaire survey method was also selected to collect data from the water consumers in Karail. This method was significant for four reasons:

i) It helped to generate quantitative data about demographic information regarding the participants, water consumption, socioeconomic status and perceptions of various facilities in Karail;

ii) It was possible to apply statistical tests of association to conclude whether all of the slum dwellers in Karail had equal opportunities or not;

iii) This structured questionnaire method was helpful to reduce the risk of misinterpretation of the responses of the participants (Bryman 2012); and

iv) It was easy to record all of the information with a pre-coded hardcopy questionnaire and analyse it with SPSS 16 (Statistical Package for the Social Sciences) software.

A pilot survey was conducted before finalizing the questionnaire. A total of 10 questionnaire surveys were employed to test the significance of the questions in relation to the research objectives. Two research assistants helped me to conduct this questionnaire survey. Their assistance was necessary to finish the survey in time. The assistants were highly experienced in conducting questionnaire surveys. Both of them lived in Dhaka and were graduate students at Daffodil International University at the time of data collection. They were reminded about the research ethics involved in conducting this questionnaire survey.

A face-to-face interview technique followed the administration of this survey. A copy of the questionnaire can be found in Appendix 1. Table 3.2 shows the major themes which were included in the questionnaire. The face-to-face technique was very significant because it allowed the interviewers to clarify the exact meaning of the questions, which increased the accuracy of the responses and minimised the non-response rate (de Vaus 2002). In addition, this technique was beneficial to understand the similarities and differences between two units of Karail in terms of types and modes of water sources and their socio-economic conditions.
Table 3.2: Major themes of questionnaire survey

<table>
<thead>
<tr>
<th>Variables</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Personal and demographic information</td>
<td>Name, Gender, Age, Marital status, Educational status, Religion, Occupation, Household type, Household size, Duration of residence, District origin, Objective of migration, Economic conditions</td>
</tr>
<tr>
<td>2. Water supply systems</td>
<td>Types of supply systems, Duration of supply, Time of supply, Amount of water, Management and payment systems</td>
</tr>
<tr>
<td>3. Water consumptions and satisfactions</td>
<td>Sources of water for different uses/purposes, Amount of water uses, How to store water, How to collect water, Who collects water, When to collect water from vendors, Levels of satisfaction</td>
</tr>
<tr>
<td>4. Demands and solutions</td>
<td>Problems regarding water supply, Priorities and solutions</td>
</tr>
<tr>
<td>5. Other service/sanitation facilities</td>
<td>Toilets and refinance, Waste management, Electricity and gas, Communication and transport</td>
</tr>
<tr>
<td>6. Social relations</td>
<td>Social network, Membership of social associations, Trust and solidarity, and sociability, and connections between political involvement and access to water services</td>
</tr>
<tr>
<td>7. Political involvement</td>
<td>Political contact and support, Objectives of political involvement, and connections between political involvement and access to water services</td>
</tr>
</tbody>
</table>

A total of 120 questionnaire surveys were conducted for the two units\(^\text{22}\) of Karail (Figure 3.2). Following a systematic random sampling procedure, 60 water consumers from each unit were selected based on their types (informal and formal) of water connections and duration (at least for two years) of living in Karail. Three major paths (roads) from both of the units were chosen to select households for the questionnaire survey. Every third household of a path was primarily selected for the survey. In the case of unavailability of anybody from a household, the next household on the same path was chosen. We experienced very few cases of this kind of absence or refusal to participate in the research. We conducted the survey mostly on Fridays (Government Holiday in Bangladesh) when most of the dwellers are generally available at home.

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\(^{22}\) Karail is divided into two units based on old and new areas. The old area is known as unit 1, while the new area is unit 2. There is no specific physical boundary to mark the divisions but this is widely known and practiced in the community. For example, there are committees for political parties according to unit number. There are NGO offices in different areas of Karail who use this division in their addresses. The boundary drawn in Figure 3.2 was based on the opinions of two informants of this research (Interview 35 and Interview 36).
The research assistants first knocked on the door and introduced themselves as researchers who wanted to conduct a survey of 90 minutes in length. As we found, almost sixty percent of the respondents (who agreed to participate) instantly decided to participate in the survey and rest of them proposed appointments on the next Friday or other available dates and supplied phone numbers for contact before visiting them. Most of the appointments were not postponed, except three were rescheduled by mobile phone.

![Figure 3.2: Location of two units of Karail](source: Author-Fieldwork 2014)

The participants were recruited with their permission. A Bangla version of the Information Sheet and Consent Form of the research were supplied to them. The research assistants also explained the objectives of the research and significance of their participation. Once they agreed to participate, questions from a hard copy questionnaire were asked one after another in Bangla and responses noted down by the research assistants. Both the close-ended and open-ended questions were included in the questionnaire. It was arranged according to the ‘easy-hard-easy’ approach, which indicates the easier questions were in the first and last sections of the questionnaire while difficult questions were in the middle.
A minor difficulty with the questionnaire survey was experienced in the case of close-ended questions of the questionnaire. Some respondents provided more information than was required. In such cases, the research assistants had to extract the exact answer from their discussions. Another difficulty was with regard to female participants. In most of the cases of quantitative answers, they conferred with their husbands before responding. For example, many of them do not exactly know how much water is used for daily needs or how much is paid for water. On some occasions, we had to contact them by telephone for exact answers.

3.2.4 Interviews

The interview was a key method deployed in this research after finishing the questionnaire survey. This method was very significant for three main reasons. First, it was possible to recruit a wide range of participants to understand the water supply systems in Karail. Second, this method was appropriate to collect qualitative information regarding the challenges of water supply provisions, particularly to analyse local informal complexities of water governance. Finally, it was observed during the questionnaire survey that the participants were more comfortable with open-ended questions rather than pre-structured questions. McGuirk and O’Neill (2005) note that the structured response options in questionnaires are limited to prescribed answers designed by the researcher. Similarly Dufty (2008; p. 64) argues that “closed response options may also irritate respondents, as they do not allow the respondent to provide detail on issues that are more complex”. That is why a flexible qualitative interview approach (one to one) with ‘open response options’ was effective in collecting detailed information from the interviewees’ points of view, rather than rigid pre-structured answers/responses. Therefore, a focus was also given not only to ‘what the participants say’ but also ‘in the way that they say it’ (Bryman 2012).

Table 3.3 shows the types of participants, number of participants and duration of interviews. Interviews were conducted through semi-structured guides with four different categories of participants: water consumers, informal water providers/operators (who are engaged with informal water supply), formal water providers (who are engaged in the DWASA-DSK water supply project), and civil
society members (various professionals). The semi-structured interview guides can be found in Appendices 2, 3, 4 and 5.

Besides the questionnaire survey with the water consumers, this semi-structured interview method also helped to collect qualitative data from 25 water consumers for in-depth analysis of the complexities of water supply in Karail, socioeconomic and political informalities, and embeddedness of the consumers and perceptions of future development. Similarly, the interview with seven informal water providers and operators was significant in exploring the historical background of informal water provisions in Karail, modes of informal water supply, processes of water supply, payment and collection systems, relations between water providers and consumers, the importance of political contacts and the perceptions regarding future development.

Table 3.3: Participants in interviews

<table>
<thead>
<tr>
<th>Types of Participants</th>
<th>Number of Participants</th>
<th>Duration (Minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Water consumers</td>
<td>15 (Informal)</td>
<td>60-90</td>
</tr>
<tr>
<td></td>
<td>10 (Formal)</td>
<td></td>
</tr>
<tr>
<td>2. Informal water providers and operators</td>
<td>7</td>
<td>60</td>
</tr>
<tr>
<td>3. Formal water providers (DSK and DWASA officials and CBO executives)</td>
<td>6</td>
<td>60</td>
</tr>
<tr>
<td>4. Civil society members (including academics, planners, journalists, politicians)</td>
<td>10</td>
<td>60</td>
</tr>
</tbody>
</table>

The water consumers and informal water providers were invited by distributing Invitation Flyers about this research with the help of two informants (Mr. Shamol and Mr. Mannan). All of the interviews with the water consumers and water providers were conducted in the living room of Mr. Shamol.

A different interview guide was used to interview the formal water providers (DWASA and DSK officials, and CBO executives). The purpose of the interviews was to explore the background of the formal water project in Karail, constraints on water supply, the complexities of community-based organizations and local informalities, and coordination and partnership between governmental and non-governmental organizations. The civil society members (professionals such as professors, planners, journalists and politicians) were also interviewed with a different interview guide to
understand their views on water supply for the urban poor in Dhaka, and to learn their views about future development regarding informal communities in Dhaka. It is worth noting that the civil society members were recruited for interviews based on their professional experiences with slums, poverty, and urban planning. For example, the professors, who had research experience with regard to slums and urban informality, were approached for interviews. Along the same line, the local politicians of the Karail area were interviewed since they were the most knowledgeable persons for information about the roles of local and central governments in supplying water to the urban poor.

Most of the formal water providers and civil society participants were found through snowballing methods. For example, I collected the phone number of Professor Nurul Islam Nazem from Professor Mallik Akram Hossain, who was previously my colleague at Rajshahi University. Several interviewees were also identified while searching for secondary sources. For example, while visiting CUS to collect secondary data with regard to slums in Bangladesh, I came across Professor Nazrul Islam and we exchanged ‘hello’s before he went into his office. I asked his personal assistant to pass my visiting card to get an appointment at that time. In ten minutes, I got an appointment and interviewed him with regard to the research in this area. The formal water providers including the DSK and DWASA officials were contacted through the CBO executives of Karail. These two informants in particular were the starting point to snowball CBO executives, and DSK and DWASA officials. However, the interviews with water providers and civil society members took place in their offices with mutual agreement.

In all of the categories of interviews, the interested participants were provided with an Information Sheet and Consent Form (Bangla Version) which explained the objectives of the research and significance of their participation. Once they agreed to participate, I started the interviews with several informal warm-up questions, such as how are you? How is your life going here in Karail? When did you come here? And how did you know about Karail? All of the questions included in the interview guides were asked only to several interviewees in the beginning of the interview phase. Once I felt I had

23 Professor Nazrul Islam is the Founder President of CUS.
a good understanding from answers to certain questions, I stopped asking those questions and focused on learning and unveiling new information.

All of the interviews were 60-90 minutes in length (Table 3.3). The interviews were digitally recorded with permission of the participants. Most of them agreed to be recorded, except some civil society members. In those situations, I took notes of the interviews in details. Besides audio recording, a brief note was also taken for all other interviews to overcome any possible malfunctioning of the recording device. I interviewed more than 60 different participants, but 48 interviews were used in this research. Twelve interviews were rejected for their inappropriateness in relation to the research objectives and short duration.

As it is common with participatory observation, I experienced several minor problems during interviews. As identified by many others (Bryman 2012), the common problem of open-ended discussions was finishing the interview within the scheduled time. In most of the cases, the urban poor were interested to share and relate the problems of Karail. Some of them narrated their life-story focusing on the challenges of their everyday lives. However, another difficulty of the interview method was that most of the officials of government or non-government organizations did not want to share their limitations; rather their tendency was to exaggerate their success. Many suggested to me that I should discover and understand the problems myself, since they were unable to say anything negative about their host organizations.

3.2.5 Focus group discussions

The limitations of the interview method, described previously, were the strengths of focus group discussions deployed in this research. As Crang and Cook (2007) state, a group discussion is helpful to talk over contrasting views on specific topics. In addition, a group discussion may trigger a chain of information and generate far more information than other methods (Moser, 2008). A group discussion also helps the researcher to develop an understanding about why a group of people feel the way they do (Bryman, 2012). In the setting of a group discussion, individual’s opinions are not taken for granted. Rather, they may be challenged by others if there is any inconsistency. The focus group discussion method was effective in this research for four major reasons.
First, it helped to generate some contrasting but important views from different members of the groups which were not possible in the one-to-one interviews and questionnaire survey. Second, this method was useful to cross-check answers to the same questions given by the same persons in interviews as well as group discussions. That is why several participants (water consumers, informal water providers and CBO executives) of the interviews were also recruited in the group discussions. Third, this method was used as a wrapping-up session of the fieldwork as I conducted group discussions in the latter part of the second phase. As I had planned, the group discussion provided an opportunity to ask additional questions to further understand the research problems. In addition, this method also provided me with an opportunity to ask some important questions that were missing in the interviews. And finally, this method was effective to understand the common interests of the various participants related to water supply improvements in Karail.

Table 3.4: Participants in Focus Group Discussions

<table>
<thead>
<tr>
<th>Types of Discussions</th>
<th>Participants</th>
<th>Number of Discussions</th>
<th>Number of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homogenous</td>
<td>Water consumers</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Informal water providers</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Formal water providers</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Heterogeneous</td>
<td>Water consumers, water providers, NGO officials and community leaders</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

As can be seen in Table 3.4, I conducted three homogenous and one heterogeneous group discussions of 90-120 minutes in length. A guide for conducting group discussions can be found in Appendix 6. The water consumers, informal water providers and formal water providers (DSK officials) were recruited in three different homogenous group discussions. However, the focus in this case was to examine how different participants respond differently on a single question. Different categories of participants were invited to participate in the heterogeneous group discussion. As mentioned earlier, several participants of the interviews were also recruited to verify their responses in the different set up of group discussions. A detailed list of the participants can be found in Appendix 7.

The participants were invited and recruited by the same approach that was used in the interview method. All of the discussions were conducted in the living room of Mr. Shamol after receiving consent from all of the participants. We chose Friday afternoon
(weekly holiday in Bangladesh) for group discussions to keep the non-attendance rate low. As with the interview method, the discussions were audio-recorded and notes were also taken by the research assistants.

A key requirement for successful focus group discussion is a skilled moderator (Walter 2010). As a moderator of the discussions, I tried to follow the themes of the discussions one by one, though they were not in same order on all occasions. In the beginning of the discussions, the objectives of the research were read out and the importance of the research with regard to water supply in Karail was explained. I also ensured that their contributions were accommodated and they were allowed to leave the discussion if they chose. It was not necessary to introduce every participant to each other since almost all of them were previously known. However, after getting their consent of participation, I started discussions with a general question: how do you get water for your daily uses? I tried to give everybody the same amount of time to discuss a specific topic. In a situation of contradictory opinions from different participants, I took up the floor and tried to settle the issues or change the theme of discussions. That is why I omitted some sensitive questions, such as political contacts of the participants and its possible impacts on water supply during the discussions. In addition, I tried to act from a neutral position, but explained some issues from my personal point of view to open up the discussions for active participation (Das 2011; Crang and Cook 2007).

Nevertheless, a big challenge of the focus group discussion was moderating the sessions. I found some of the participants wanted to dominate and talk more than was my expectation. On the contrary, some participants did not want to express their opinions, except to support the previous discussants. The women participants (water consumers) in particular were hesitant in expressing their thoughts. In addition to that, I felt some of the participants were well prepared, as if they were appearing for examinations. Despite these minor difficulties, it was possible to successfully complete all of the sessions.

3.3 Fieldwork context and positionality

Drawing on the fieldwork experiences in Karail slum and Dhaka city, Bangladesh, this section discusses the importance of understanding the fieldwork context and positionality of a researcher for successful completion of data collection. Some
researchers argue that fieldwork contexts and the researcher’s positionality have substantial influence on selecting suitable methods for data collection (Moser 2008; Dufty 2008; Patton 2002; Skelton 2001). Learning about Bangladeshi society and the slum communities in Dhaka city was an important factor to determine the most appropriate approaches of data collection from secondary sources and getting access to slum dwellers for primary data. As Moser (2008; p.66) emphasises, it was crucial to tap into the extensive networks of social connections and to be flexible and responsive to changing fieldwork conditions. Along the same line, Cloke et al. (2004) also argue that networking is something that is to be followed from the beginning of a project. This approach of ‘maintaining social connections’ was very helpful in conducting fieldwork in Dhaka city, Bangladesh.

Besides the context of the research, the researcher’s positionality is an important factor since research, as a dialectic process, involves the participants and the researchers, both of whom affect the production of data (Lusambili 2007; Narayan 1993). Particularly in qualitative slum research, the positionality of a researcher is very important because the engagement of the participants with the research, access to participants, and the nature of the data may vary according to ‘who is collecting data’. Many suggest that a native researcher may have experienced multifaceted positions, such as gender, education, ethnic affiliations, linguistics, and different levels of communicative competency in the field (Jacobs-Huey 2002; Narayan 1993). In addition, Lusambili (2007:103) states that “the researcher’s positions are fluid, and culturally and socially situated”. However, my positionality as a native researcher, freelance columnist-journalist, University teacher in Bangladesh and PhD candidate at a university of Australia, gave significant impetus to easily build rapport with the informants and participants of this research.

There are different levels of symbolic capital attached to the researchers and the respondents which affects the relationship between them, and ultimately helps to explore the validity and reliability of the data needed for the research. For example, their levels of communicative competency, which can be defined as the ability to appropriately use and interpret speech varieties and discourse styles within home speech communities (Jacobs-Huey 2002). It is notable that such competency does not refer only to fluency in a particular language. Rather, it depends on how a researcher
understands respondents’ language affordability, and handles the interview sessions according to specific/regional accent varieties with the respondents. For example, some of the respondents may feel comfortable with the formal accent of Bangla, while some others may not. It is not only a matter of understanding the meaning of the accents, words or language. Communicative competency can also effect better communication, rapport building, and exploration of data, which was particularly crucial in carrying out this research.

In the context of Bangladesh, as a native outsider, it is not very easy to enter into a slum, and quickly build up rapport with the respondents. One reason might be that the slum dwellers choose to act responsibly with the researcher depending on the extent to which they consider the research will affect their lives, survival and sustainability in the slum. Fortunately, my previous experiences of research in other slums in Bangladesh including Karail helped me greatly to understand and identify the informants and respondents. The following two sections specifically describe the major challenges and opportunities that were observed in conducting fieldwork in Karail.

3.3.1 Conducting fieldwork in Dhaka, Bangladesh

Numerous researchers have explored aspects of Bangladeshi society and the socio-economic context of slums in Dhaka. However, little has been published on research experiences in the Bangladeshi contexts. In conducting fieldwork for this research, it was found that there are challenges as well as opportunities for a researcher that can affect fieldwork strategies and methods of data collection.

One of the major difficulties in accessing secondary data collection was getting consent from public authorities. Even though there are specific laws (such as the Right to Information Ordinance), the responsible authorities show a reluctance to share official records and information, perhaps to avoid unnecessary complexities in the future. A prior reliable social network with the responsible officials is sometimes fruitful in gaining access to secondary sources with formal permission. My identity as a university teacher was helpful in identifying people (graduates from Rajshahi University, Bangladesh) in the relevant offices to get access to the higher
authorities/officials for permission or interviews. I found the top level officers agreed to talk to me after learning I was from a university and now conducting research at an Australian university.

In the beginning of my fieldwork in Dhaka, I visited the WaterAid office and met one official who was known to me because he had studied at my university (Rajshahi). I started with an informal talk with him to determine the objectives and activities of WaterAid in Bangladesh. Then I described to him my research objectives and possible sources of data. He suggested that I talk to an official who was handling slum-related research projects, particularly those in Karail. As a result, I was fortunate enough to find in the same office a person with whom I engaged in discussions about the water project in Karail and possible data collection from the slum dwellers. This informal visit to the WaterAid office was an effective start of secondary data exploration that provided me in depth understanding about slums, slum communities, and water projects in slums.

I also made an important contact with an officer of the DSK from this (WaterAid) visit. First, I met that person from the DSK in his Mohakhali office and shared my research objectives. In an informal talk in a tea stall near his office, we discussed our professional and regional identities. He was also from the same region of Bangladesh where I was born. After learning about each other, we became friends and used to talk over the telephone and meet every now and then during the fieldwork. This social relationship subsequently helped me to get access to DSK top-level officials and community leaders of Karail as well.

Even though social relationships through rapport building were effective in most of the cases, in some cases it was not possible. I experienced difficulty acquiring access to DWASA officials and their relevant secondary information. After several visits to the LIC, DWASA, I only managed to collect two pages of information about the water project in Karail. The responsible officer gave me only ten minutes to talk, although I had scheduled an appointment with him beforehand. He suggested that I talk to DSK officials to learn about the water project in detail. Such avoidance to participate in research by government officials makes access to suitable data and information difficult. One of the reasons for this avoidance might be ‘inefficient and disorganised databases’ that restrain the officials from sharing it with outsiders or researchers.
Another difficulty of research in Bangladesh is that most officials are reluctant to formally participate in research for fear of being annoyed in the future.

These difficulties, however, influenced the methodological approach of this research. While I hoped to collect substantial information about the water project in Karail from the LIC, DWASA, I found very limited information and minimal participation from the DWASA officials. This experience also discouraged me from conducting any questionnaire surveys with government officials in Bangladesh.

3.3.2 Conducting fieldwork in a slum of Dhaka

In the context of slums in Dhaka, the opportunities and constraints which emerged in conducting fieldwork was different from the broader context of Bangladesh as described in section 3.3.1. I found most of the slum dwellers in Karail to be very supportive and sincere in participating in research. Nonetheless, sometimes it seems very difficult to find a good network or connection with the slum dwellers, particularly the slum leaders. It was very difficult for me to identify and contact individual slum dwellers to participate in the research by myself. Rather, I found contacting the research participants through community leaders24 (as research informants) to be an easy and effective method for identifying and engaging slum dwellers in interviews or focus group discussions. Two formerly-known community leaders (from my previous research in Karail) helped me greatly in identifying appropriate participants for this research. The only challenge in this approach was to control bias in identification of the participants by a particular community leader. To avoid this bias, I accompanied them to pick suitable participants for interviews and focus group discussions. In general, the community leaders wanted to be present at all of the occasions of interviews. I had to convince them that the research would not harm any participants and the findings would not undermine their community-based organizations.

The same situation arose in the case of focus group discussions, since the DSK community leaders and informal water providers were included in the groups. In this situation, the other (water consumer) participants were a bit nervous to say anything about the water projects and informal water supply systems in Karail. To avoid

24 Community leaders refer who are working as leaders for community-based organizations only.
unnecessary situations of conflict, I had to co-ordinate with care so that nobody came in conflict with anybody in the group. Realizing this difficulty in one heterogeneous focus group discussion, I had to depend on only homogenous focus group discussions.

Another important question with regard to fieldwork in slum research is whether offering token gifts or money to the participants is helpful for rapport building or not. Many argue that token gifts/money has the potential to deepen the relationship between interviewers and participants during fieldwork (Gillen 2012; Sultana 2007). However, my fieldwork experience in Karail suggests something different. The participants did not demand any gift or money for their participation in interviews, questionnaire surveys or focus group discussions. Rather, they requested that I write something positive for them so that Karail would be further developed and threats of evictions would be reduced.

Another important aspect of fieldwork in slums is attire and language. During the fieldwork, I came to feel that the slum dwellers are more likely to be friendly with outsiders who are in casual dress, instead of formal attire. The urban poor seem to think that most rich people are normally well dressed, and do not accept their (slum dwellers) presence in the city. In a similar vein, I found, it was better to speak in general Bangla language, which is a less formal dialect, with the slum dwellers during fieldwork. It might also be helpful if a researcher could speak in Bangla with different regional accents. My experience was that most of the slum dwellers liked to speak in Bangla in their local accents.

Another challenge of conducting fieldwork in slums relates to ‘reluctance in talking to outsiders’. I found that most of the slum dwellers are quite positive in answering all the questions posed to them, except concerning their political identity. Some participants asked me ‘what will happen after our participation?’_. It indicates they wanted to know what positive outcomes would be brought to their personal lives and to Karail by this research, since they had participated in previous research but (as they thought) the outcomes were not visible. To convince this type of participant, I had to explain the objectives and potential empirical findings of the research to them. In

25 Please note that offering token gift/money was not considered during the ethics approval of this research. Hence, nobody was offered token gift/money during the fieldwork.
general, the slum poor always look for support from the outsiders so that their lives might be better secured with basic services, and that the threat of eviction by the government might be reduced. As a freelance columnist of Samakal (a daily newspaper in Bangla), I had an opportunity to publish two articles in Samakal with regard to the problems of the urban poor in Karail. One of the informants helped me to circulate these articles among the dwellers and the community leaders. After that my positionality had acquired another identity as a journalist-columnist, besides university teacher and researcher. Once the community leaders and the general dwellers got to know this columnist-journalist identity, I felt everybody became friendlier and more willing to talk and participate in interviews and focus group discussions.

Even though collecting participants for interviews and focus group discussions was comparatively easy, I (with two survey research assistants) had to face some constraints with the questionnaire survey. The first constraint was that most of the participants (water consumers) did not want to fill the survey forms on their own. Some of them requested that their names not be put on the surveys and declined to sign any kind of hardcopy. And secondly, there were few female participants who declined to participate directly; instead they suggested I contact their husbands.

### 3.4 Data analysis

Tashakkori and Teddlei (1998; pp. 128-135) suggest three groups of mixed analytic methods, which are (i) Parallel mixed analysis, (ii) Sequential (Qualitative first and then Quantitative) analysis and (iii) Sequential (Quantitative first, then Qualitative) analysis. This research has followed the last sequential analysis approach, which includes analysis of quantitative data (based on the questionnaire survey) first and then qualitative data (based on observation, interviews and group discussions). The questionnaire data was analyzed using SPSS 16 (Statistical Package for the Social Sciences) program. As all of the questions of the questionnaire were previously coded, it was not necessary to code them once again after completing the survey. Using the same coding, data inputs and analysis was completed. Though the research assistants helped to conduct questionnaire surveys, they were not involved in data inputs and statistical analysis. As suggested by Creswell (2009; p. 151-152), the quantitative analysis was conducted following the six steps:
(i) reporting information about the number of responded and non-responded questions;
(ii) minimizing the response bias;
(iii) discussing a plan to provide a descriptive analysis of data;
(iv) identifying the statistical procedures (i.e. test of associations);
(v) identifying the statistical computer program for calculating and testing the major inferential research questions; and
(vi) presenting the results in tables/figures, and interpreting the results from the statistical test.

Qualitative data collected by participatory observation, interview and focus group discussions was manually analyzed. For example, observational notes were summarised during the fieldworks and possible remarks were made to retrieve important findings during writing the thesis. Photographs and video clips were saved with the date collected to easily synchronise with the observational findings. A Google map of Karail (Figure 3.1) was used during observation and important findings were marked on it during the fieldworks. Subsequently, this information was used to draft the final maps (see Chapter Five).

All semi-structured interviews and group discussions were transcribed in Bangla. The transcription process was completed before January 2015 and all of the participants were asked to verify the transcribed interviews and discussions in the first week of January 2015.

A Five-Phased Cycle Model suggested by Yin (2011, p. 178) was used to analyse this qualitative data. The phases include: (i) compiling, (ii) disassembling, (iii) re-assembling (and arraying), (iv) interpreting, and (v) concluding. As Yin (2011) suggests, analysis begins by compiling and sorting the field notes and interview transcripts. The compiling process includes putting the data in order. The second phase, the disassembling procedure, includes breaking down the compiled data into smaller fragments or pieces. This procedure may be repeated based on the trial-and-error process of testing codes. The third phase includes the process of re-organizing the disassembled data into different groups and sequences.
The fourth phase involves using the assembled data to create a new narrative, which is the key analytic portion of the manuscript. For better interpretations, I followed a Consensus-Conflict-Absence approach (Aikins and Offori-Atta 2007; p. 766). The approach was based on the following three principles:

(i) focusing on the consensus or similarities ‘within’ and ‘between’ the open-ended answers or comments of the respondents;
(ii) identifying the dissimilarities or conflict areas ‘within’ and ‘between’ the open-ended answers or comments of the respondents; and
(iii) finding out the missing or absent components or attributes.

The fifth and final phase is concluding the interpretations, though it considers other phases of the cycle where necessary.

Besides these quantitative and qualitative analyses, maps were also drawn using ArcGIS 10.3 and Google Earth. The location maps of Karail were geo-referenced based on Google Earth. Necessary features were digitalised and transformed to shape files to use in ArcGIS 10.3. Subsequently, other important qualitative and quantitative attributes were added on maps for analysis. For example, information regarding locations of informal water vendors was collected from the informants and subsequently presented on maps.

3.5 Research ethics

Ethics approval was sought from Western Sydney University Human Ethics Committee in 2014 (Approval Number: H10681) prior to fieldwork. A written consent to participate was obtained from the participants, and they were allowed to withdraw from the study at any time. The data was locked in the principal investigator’s drawers/lockers at office, with the principal investigator being the only one with access to the drawers/lockers. Upon conferment of the degree for the principal investigator all questionnaires will be shredded. All data were serialised (with numbers) to keep identity strictly anonymous. No portions of the surveyed questionnaires were used as demonstrations at professional meetings or in the form of training materials for university students. All data generated was protected via a password protected file on a password protected hard drive. To further protect confidentiality, participants were
given the opportunity to review interview transcripts. Demographic information such as age, gender and organizational affiliations were collected for the purposes of the research. But the participants were not forced to provide any specifics.

3.6 Conclusions

This chapter has discussed the methodological approaches and methods used in this research. Opportunities and difficulties encountered during data collection through questionnaire survey, participatory observation, interviews and focus group discussions have been described. Particular attention has been given to the fieldwork context and positionality of the researcher with regard to slum research in Dhaka, Bangladesh. Basically, the chapter has reflected upon the fundamental methodological requirements of slum research and the steps in data analysis. The following chapters will provide empirical findings of the research based on the methods discussed in this chapter.
CHAPTER FOUR
ACCESS TO WATER: PREFERENCES AND DIFFERENCES

4.1 Introduction
This chapter is based on questionnaire survey data on water supply systems, and analyses the relationships between water preferences (i.e. access to formal or informal water) and demographic, socioeconomic and political characteristics (as determinants) of Karail residents. First the chapter describes demographic characteristics, socioeconomic and political engagements of the respondents based on their location of residences (unit 1 and unit 2). Second, it explains the sources, uses and prices of water in Karail. This discussion helps us to understand the broader perspective of water supply systems to the residents. Finally, the chapter explores associations between water preferences and the selected demographic, economic and sociopolitical variables. It examines whether or not demographic characteristics, socioeconomic and political engagements of the water users determine water preferences. This investigation helps answer the question: does the formal water provision in Karail maintain equal opportunities to all of the respondents of unit 1 and unit 2 in Karail? This chapter thus broadly contextualises the water supply provisions to the urban poor in Karail and helps to generate qualitative questions for the analyses of Chapters Five, Six and Seven.

4.2 Demographic characteristics
4.2.1 Age, gender and marital status
The average age of the respondents is 34 years (minimum 18 years and maximum 70 years). As can be seen in Table 4.1, almost half (44.20%) of the respondents belong to the age category of 25-35 years. Only a small proportion (7.50% of the total) of them is older than 55 years. About half of the survey respondents (61 out of 120) are female. A vast majority of all respondents (94.20%) are married.
4.2.2 Educational qualifications

The literacy rate of the respondents was satisfactory according to the national literacy rate (51.77% in 2011) of Bangladesh (BBS 2016, p. 39). As can be seen in Table 4.2, about two-thirds of the respondents (65%) are literate, including 11.70% who have matriculated (at least SSC\textsuperscript{26} passed). It was also found that 8.30% of the respondents of unit 1 attend colleges (HSC\textsuperscript{27}) and tertiary levels of education. Table 4.2 also depicts that the respondents of unit 1 have more tertiary levels of education than the respondents of unit 2. However, a remarkable proportion of the respondents (35%) are still illiterate. They never attended school or dropped out before the primary level of education.

Table 4.1: Age structure of the respondents

<table>
<thead>
<tr>
<th>Age structure</th>
<th>Unit 1</th>
<th>Unit 2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>% within</td>
<td>No</td>
</tr>
<tr>
<td>Less than 25</td>
<td>9</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>25-35</td>
<td>26</td>
<td>43.30</td>
<td>27</td>
</tr>
<tr>
<td>35-45</td>
<td>13</td>
<td>21.70</td>
<td>13</td>
</tr>
<tr>
<td>45-55</td>
<td>5</td>
<td>8.30</td>
<td>7</td>
</tr>
<tr>
<td>More than 55</td>
<td>7</td>
<td>11.60</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 4.2: Educational qualifications of the respondents

<table>
<thead>
<tr>
<th>Status</th>
<th>Unit 1</th>
<th>Unit 2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>% within</td>
<td>No</td>
</tr>
<tr>
<td>No schooling</td>
<td>21</td>
<td>35</td>
<td>21</td>
</tr>
<tr>
<td>Primary schooling</td>
<td>16</td>
<td>26.70</td>
<td>23</td>
</tr>
<tr>
<td>Secondary schooling</td>
<td>13</td>
<td>21.70</td>
<td>12</td>
</tr>
<tr>
<td>SSC and Above</td>
<td>10</td>
<td>16.60</td>
<td>4</td>
</tr>
</tbody>
</table>

4.2.3 Household size and family type

The households were divided into three categories based on the number of members. The small household refers to less than three members. The medium household is defined by 3 to 5 members. And the large household refers to more than 5 members. However, the survey finds that the average household size is 4.43. This number varies marginally between the two units. Medium and large households tend to be located

\textsuperscript{26} SSC- Secondary School Certificate;  
\textsuperscript{27} HSC-Higher Secondary Certificate
more in unit 1 (Table 4.4). The standard deviations also indicate that there is no significant difference between the two units in the household size.

The respondents were also categorised based on their family types. As can be seen in Table 4.3, 55.10% of them belong to nuclear families (parents with children), 42.70% are couples without a child and a small proportion (2.20%) of them is extended type (couples with parents and children). Table 4.4 also shows that there is a significant difference in family types between unit 1 and unit 2. While the highest share (62.70%) of households in unit 1 is nuclear, the highest share (60%) of households in unit 2 is couples. The chi-square test also suggests a significant association between the location of residences and family types ($\chi^2=6.054$, df=2, $p<0.05$). Therefore, it can be concluded that the larger families tend to reside in unit 1.

### Table 4.3: Family types of the respondents

<table>
<thead>
<tr>
<th>Types</th>
<th>Unit 1</th>
<th></th>
<th>Unit 2</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>% within</td>
<td>No</td>
<td>% within</td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>Couples</td>
<td>20</td>
<td>33.90</td>
<td>18</td>
<td>60</td>
<td>38</td>
<td>42.7</td>
</tr>
<tr>
<td>Nuclear</td>
<td>37</td>
<td>62.70</td>
<td>12</td>
<td>40</td>
<td>49</td>
<td>55.1</td>
</tr>
<tr>
<td>Extended</td>
<td>2</td>
<td>3.4</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>100</td>
<td>30</td>
<td>100</td>
<td>89</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 4.4: Descriptive statistics of demographic variables

<table>
<thead>
<tr>
<th>Indicators</th>
<th>No of respondents</th>
<th>Average</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Unit 1</td>
<td>Unit 2</td>
</tr>
<tr>
<td>Age</td>
<td>120</td>
<td>34.87</td>
<td>32.52</td>
</tr>
<tr>
<td>Household size</td>
<td>120</td>
<td>4.68</td>
<td>4.18</td>
</tr>
<tr>
<td>Duration of residence</td>
<td>120</td>
<td>11.58</td>
<td>10.43</td>
</tr>
</tbody>
</table>

### 4.2.4 Migration and duration of residence

Migration patterns of Karail disprove the idea that most of the migrants from Dhaka and its adjacent districts migrate to Karail (Islam, 2002). More than 33% of the respondents are from the districts of Mymensingh and Sherpur, located in the middle-northern part of Bangladesh\(^{28}\). Only 10% of the respondents migrated to Karail from other parts of Dhaka and the nearer districts, such as Faridpur, Gazipur and Manikganj.

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\(^{28}\) Approximately 130 kilometers far away from Dhaka city
The survey also finds that 73.40% of respondents came to Karail directly from their previous residences. Moreover, it was found that a majority of the respondents (83.30%) of Unit 2 and 63.30% of unit 1 came directly to Karail from the districts of Mymensingh and Sherpur. The survey finds that most of the respondents from unit 1 (72%) originated from Mymensingh. On the other hand, most of the respondents from unit 2 originated from Sherpur, Barisal and Gaibandha. The respondents were also asked ‘whether they knew about conditions in Karail before their migration’. It was found that more than 70% of them were informed in advance about the living conditions of Karail by their relatives. Particularly, a majority of the respondents originating from Mymensingh, Sherpur and Gaibandha knew about Karail before they migrated. This indicates that social network might be an important determinant of direct migration to Karail.

Figure 4.1 shows variation of residential durations between locations of residences of the respondents. Almost half of the respondents (47.50%) were living there for a long time (more than ten years) and nearly a quarter of them (24.20%) were relative newcomers (living there for less than three years). It was also obvious that a higher percentage of long duration migrants live in unit 1, while a major portion of short and medium duration migrants live in unit 2. This difference indicates that the long duration migrants are more likely to reside in unit 1, though the association between durations of residence and locations of households was not statistically significant ($\chi^2=0.944$, df=2, $p>0.05$).
4.3 Economic engagement of the respondents

4.3.1 Occupational patterns

Almost all of the working-age residents of Karail were engaged in formal or informal economic activities. The reason for there being fewer ‘workless’ residents is because everybody has to work in any way possible to survive in Dhaka. Among the respondents, 26.70% were reported as housewives, 21.70% were engaged in small business and 20.80% were engaged in formal services such as garment workers, drivers and guards in the nearby offices and residential areas. It was quite surprising to know that more than one-fifth of the respondents were engaged in formal services. This may be because wrong or indirect answers were supplied by the respondents due to their sociocultural barriers. For example, only 2.5% of the respondents were reported as being housemaids. The percentage of housewives was also higher than expected, maybe because they felt shy to admit their economic identity as housemaids. However, more than 14% of the respondents were day labourers, who were engaged in temporary work anywhere in their reach. Moreover, one-third of the respondents living in unit 1 were engaged in business, while only 11% of the respondents in unit 2 were engaged in business. In addition, almost one-third of the residents (31.67%) of unit 2 were engaged in formal services, which were three times larger than the amount in unit 1 (Table 4.6). It was also interesting to note that a majority of the respondents (81.20%) accepted their present occupations as ‘good’ or ‘fine’. This indicates that they were quite happy with their present income earning opportunities.

4.3.2 Income and savings

The average monthly income of the respondents was BDT 13,069, although it did differ between unit 1 and unit 2. As can be seen in Table 4.5, the average monthly income of the respondents of unit 1 was approximately BDT 3,000 more than the respondents of unit 2. This may be due to the fact that the most of the business professionals and long duration migrants live in unit 1. In addition, the larger values of standard deviation indicate that the residents within Karail have considerable

\[1 \text{ US } \$ \text{ is equivalent to } 78.51 \text{ BD Taka (as of www.xe.com on 21 September 2016). The monthly income status is similar to the basic salary of Grade 7 professionals of Bangladesh according to the National Pay Scale 2009 (http://www.mof.gov.bd/en/budget/pay_commission_latest/Pay-Civil%202009.pdf)}\]
heterogeneity in income earning opportunities. On the whole, income ranges from BDT 1,000 to BDT 40,000. Both units of Karail had similar heterogeneous income patterns among the respondents (within units), though income deviation among the respondents is much higher in unit 1. The statistical association test also suggests that monthly income categories and locations of residence in Karail is significant ($\chi^2 =15.55$, df =2, $p<0.05$). In addition, the larger families have better chances to earn more ($\chi^2 =21.369$, df =4, $p<0.05$, Gamma =.606).

### Table 4.5: Descriptive statistics of economic conditions

<table>
<thead>
<tr>
<th>Indicators</th>
<th>No. of respondents</th>
<th>Average</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Unit 1</td>
<td>Unit 2</td>
</tr>
<tr>
<td>*HHs’ monthly income</td>
<td>120</td>
<td>14,488</td>
<td>11,650</td>
</tr>
<tr>
<td>HHs’ monthly savings</td>
<td>120</td>
<td>4,400</td>
<td>2,380</td>
</tr>
<tr>
<td>Job-hours in a day</td>
<td>89</td>
<td>10.64</td>
<td>10.45</td>
</tr>
<tr>
<td>Job-days in a month</td>
<td>89</td>
<td>28.43</td>
<td>26.21</td>
</tr>
<tr>
<td>Distance of job-places</td>
<td>83</td>
<td>192</td>
<td>582</td>
</tr>
</tbody>
</table>

*HHH refers to household

The monthly savings of the respondents was a positive symptom of economic conditions of Karail. The survey finds that average monthly savings of the respondents was BDT 3,390, which also varied between unit 1 and unit 2 in the line of the income patterns. Nonetheless, it also appears in Table 4.5 that the amount of monthly savings of the respondents of unit 1 was almost double that of unit 2. This indicates that the residents of unit 1 enjoy stronger economic conditions than unit 2. As can be seen in Table 4.6, the chi square test also supports this inference since there is a significant association between monthly savings and locations of residence in Karail ($\chi^2 =7.212$, df=2, $p<0.05$). However, it was also found that monthly savings is significantly associated with household size. It implies that the larger households living in unit 1 have a moderate chance of enjoying higher savings opportunities ($\chi^2 =10.117$, df =4, $p<0.05$, Gamma =.351).

#### 4.3.3 Job locations and durations

Despite variations in monthly income and savings between unit 1 and unit 2, working-hours in a day and working-days in a month were almost the same for the respondents of the two units. The standard deviations also suggest that the working-time variations between and among the units are not remarkably different (Table 4.5). This indicates that income and savings are not related to the working-hours. Moreover, there is no
significant association between daily working-hours and locations of residence in Karail ($\chi^2=1.743, df=2, p>0.05$).

Table 4.6: Relations between location of residences and economic engagement

<table>
<thead>
<tr>
<th>Variables of economic engagement</th>
<th>Location of residences</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unit 1</td>
<td>%</td>
<td>Unit 2</td>
<td>%</td>
<td>Total</td>
</tr>
<tr>
<td>Occupational patterns</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day labour</td>
<td>8</td>
<td>13.33</td>
<td>9</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>Business</td>
<td>19</td>
<td>31.67</td>
<td>7</td>
<td>11.67</td>
<td>26</td>
</tr>
<tr>
<td>Housewife</td>
<td>15</td>
<td>25</td>
<td>17</td>
<td>28.33</td>
<td>32</td>
</tr>
<tr>
<td>Housemaid</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>Garment workers</td>
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<td>2</td>
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<td>0</td>
<td>0</td>
<td>4</td>
<td>6.67</td>
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<td>6</td>
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<td>19</td>
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<tr>
<td>Monthly income</td>
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<tr>
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<td>Medium</td>
<td>16</td>
<td>26.7</td>
<td>37</td>
<td>61.7</td>
<td>53</td>
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<td>68.3</td>
<td>20</td>
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<td>61</td>
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<td>Monthly savings</td>
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<tr>
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<td>49</td>
<td>81.7</td>
<td>58</td>
<td>96.7</td>
<td>107</td>
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<tr>
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<td>9</td>
<td>15</td>
<td>2</td>
<td>3.3</td>
<td>11</td>
</tr>
<tr>
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<td>0</td>
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<tr>
<td>Job locations</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>In Karail</td>
<td>30</td>
<td>65.2</td>
<td>14</td>
<td>34.1</td>
<td>44</td>
</tr>
<tr>
<td>Outside Karail</td>
<td>16</td>
<td>34.8</td>
<td>27</td>
<td>65.9</td>
<td>43</td>
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</tr>
<tr>
<td>Job durations (daily working-hours)</td>
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<td></td>
</tr>
<tr>
<td>Low</td>
<td>13</td>
<td>27.7</td>
<td>13</td>
<td>27.7</td>
<td>26</td>
</tr>
<tr>
<td>Medium</td>
<td>28</td>
<td>59.6</td>
<td>27</td>
<td>64.3</td>
<td>55</td>
</tr>
<tr>
<td>High</td>
<td>6</td>
<td>12.8</td>
<td>2</td>
<td>4.8</td>
<td>8</td>
</tr>
<tr>
<td>Chai-square test</td>
<td>$\chi^2=1.743, df=2, p&gt;0.05$; Insignificant relation</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Generally, the residents of Karail work inside, or in the adjacent areas of, Karail. It was found that almost half of the respondents (50.60%) work inside Karail and the rest of them go to work outside, but not very far from Karail. Average distance to working places of the respondents was only 370 metres. The residents of unit 2 have to travel almost three times further to their jobs than the residents of unit 1. This indicates that the jobs in distant places paid less. On the contrary, the respondents working inside Karail had higher incomes and savings. This is also evidenced by the chai-square test.
which suggests that there is a significant association between job locations and locations of residence in Karail ($\chi^2 = 8.372$, df=1, $p<0.05$) (Table 4.6).

4.4 Social engagement of the respondents

4.4.1 Participation in community activities and movement

The water consumers of Karail seem to be socially active and aware of all sorts of community activities. A majority of them (83.30%) were engaged in community development activities such as construction of roads, mosques and schools; filling up low-lying areas; cleaning up drains and lakes and child education (Table 4.7). Almost all of them had a positive mind-set to co-operate with non-government organizations when they bring any opportunities or service facilities such as micro-credits, water, sanitation, education, awareness building programs etc. What they felt about participation in community activities was not only for the development of Karail, but also part of the politics for their rights and entitlements in Dhaka city. That is why a majority of them (94.10%) were inclined to be unanimously co-operative towards all kinds of movements, including the movement for improving the water supply (Table 4.7). However, the chi-square test suggests that there is no difference between the respondents in the two units in terms of community participation ($\chi^2=1.420$, df=1, $p>0.05$). This indicates that a co-operative attitude towards improving basic services cannot be determined by locational difference of residences, even though they have spatial heterogeneity in terms of demographic and economic characteristics, as we discovered in sections 4.2 and 4.3.

4.4.2 Social co-operation and solidarity

Besides this community engagement, the residents always offer their co-operation and solidarity to their neighbours. In response to the question, ‘if there was a water supply problem in Karail, how likely is it that people would co-operate to try to solve the problem?’, 89% of the respondents admitted that they were likely to co-operate to solve the problems of their neighbours (Table 4.7). Moreover, in reply to the question ‘suppose something unfortunate happened to someone in Karail, how likely is it that some people would get together to help them?’ as many as 97.5% of the respondents reported that they would be likely to stand together to help each other (Table 4.7). It was also noticeable that the replies of participants of both units were very similar.
However, this indicates a positive feeling of mutual interests that denies locational differences and variations in economic status.

Table 4.7: Relations between location of residences and social engagement of the respondents

<table>
<thead>
<tr>
<th>Variables of social engagement</th>
<th>Location of residences</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unit 1</td>
<td>Unit 2</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HH No.</td>
<td>%</td>
<td>HH No.</td>
<td>%</td>
<td>HH No.</td>
</tr>
<tr>
<td>Participation in community activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>50</td>
<td>83.3</td>
<td>50</td>
<td>83.3</td>
<td>100</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>16.7</td>
<td>10</td>
<td>16.7</td>
<td>20</td>
</tr>
<tr>
<td>Participation in social movement for water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>54</td>
<td>91.5</td>
<td>58</td>
<td>96.7</td>
<td>112</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>8.5</td>
<td>2</td>
<td>3.3</td>
<td>7</td>
</tr>
<tr>
<td>Chai-square test</td>
<td>$\chi^{2}=1.420$, df=1, $p&gt;0.05$; Insignificant relation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social co-operation for water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very likely</td>
<td>32</td>
<td>53.3</td>
<td>18</td>
<td>31</td>
<td>50</td>
</tr>
<tr>
<td>Somewhat likely</td>
<td>26</td>
<td>43.3</td>
<td>29</td>
<td>50</td>
<td>55</td>
</tr>
<tr>
<td>Neither likely nor unlikely</td>
<td>2</td>
<td>3.3</td>
<td>2</td>
<td>3.3</td>
<td>4</td>
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<tr>
<td>Somewhat unlikely</td>
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<td>0</td>
<td>1</td>
<td>1.7</td>
<td>1</td>
</tr>
<tr>
<td>Very unlikely</td>
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<td>0</td>
<td>8</td>
<td>13.8</td>
<td>8</td>
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<tr>
<td>Chai-square test</td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>Social co-operation on any unfortunate events</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Very likely</td>
<td>28</td>
<td>47.5</td>
<td>33</td>
<td>55.9</td>
<td>61</td>
</tr>
<tr>
<td>Somewhat likely</td>
<td>31</td>
<td>52.5</td>
<td>23</td>
<td>39</td>
<td>54</td>
</tr>
<tr>
<td>Neither likely nor unlikely</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>5.1</td>
<td>3</td>
</tr>
<tr>
<td>Somewhat unlikely</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Very unlikely</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Social trust on lending and borrowing money</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree strongly</td>
<td>6</td>
<td>10</td>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Agree somewhat</td>
<td>45</td>
<td>75</td>
<td>49</td>
<td>81.7</td>
<td>94</td>
</tr>
<tr>
<td>Neither agree nor disagree</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Disagree somewhat</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>1.7</td>
<td>4</td>
</tr>
<tr>
<td>Disagree strongly</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>6.7</td>
<td>7</td>
</tr>
</tbody>
</table>

4.4.3 Social trust

Social trust is an important indicator of social engagement. This study accepts that a positive environment for lending and borrowing money might be an effective indicator of social trust. It was found that 78.30% of the respondents somewhat agreed to the statement ‘the residents of Karail believe their neighbours in lending or borrowing money’. Moreover, these responses were broadly similar for both unit 1 and unit 2 in
Karail (Table 4.7). This finding indicates the presence of strong communal belief in social trust among all the residents of Karail.

4.5 Political engagement of the respondents

Political engagement of the respondents is defined by their participation not only in party-politics, but also formal involvement with the non-government organizations and participation in various decision-making meetings in the community. In addition, perceptions of the importance of community leaders and political (party) leaders also indicate respondents’ intangible attachment to politics and leadership.

4.5.1 Involvement in party-politics

Involvement in party-politics refers to active participation in various activities of a political party such as leadership, support and voting for the party candidates and participation in rallies or movements for the party. However, the respondents were asked ‘to what extent they are involved in party-politics’. The survey found that 71.70% of the water consumers did not have direct involvement in party-politics. Therefore, the remaining 28.3% had involvement with parties, but only as supporters and voters. Only one person was found as a party-leader among all the respondents (Table 4.8). This indicates that the water consumers of Karail are less likely to be involved in direct party-politics. The survey also reports that there was no significant relation between locations of residences and involvement in party-politics ($\chi^2=3.709$, df=1, $p>0.05$).

4.5.2 Involvement with non-governmental organizations (NGOs)

Only 27.50% of the survey respondents admitted their memberships in NGOs, including Dushtha Shasthya Kendra (DSK). This small number may be because of their reluctance to admit involvement with NGOs. However, as can be seen in Table 4.8, the result of the chai-square test suggests that there is no significant relation between the locations of residence and memberships in NGOs ($\chi^2=2.048$, df=1, $p>0.05$). This indicates that the respondents of both units have similar access to NGO activities.
4.5.3 Participation and control over decision-making processes

The survey also explores the status of empowerment of the water consumers in Karail on the basis of their access to, and participation in, any kind of decision-making processes in Karail. This type of participation of the respondents indicates their continual attachment to political processes that improve living standards and help protect the residents of Karail from eviction threats. In general, the respondents were found to be aware of every positive and negative current and future event in Karail. A majority (81.50%) of the respondents admitted that they have access to decision-making processes, although 18.5% still were left out of those processes (Table 4.8). The chi-square test suggests that access to decision-making processes does not have significant association with locations of residences ($\chi^2=.266, df=1, p>0.05$). This also indicates that the residents of both units have equal access to decision-making processes.

Despite the fact of equal access (participation) to meetings, it was found that not all participants of Karail had equal control over decision-making in the meetings. As can be seen in Table 4.8, it is obvious that a majority of the respondents (65%) in unit 1 had control over most or all decisions in comparison with residents of unit 2 (38.40%). This is also evident in the chi-square test which suggests that there is a significant association between locations of residence and control over decision-making by the respondents in Karail ($\chi^2=17.657, df=3, p<0.05$).

4.5.4 Importance of community and political leaders

Table 4.8 depicts the perceptions of the respondents on importance of community leaders and political leaders in Karail. It was found that more than 85% of the respondents admitted to the importance of leadership in the arena of community associations and party-politics. It was also noticeable that the respondents of both units had similar opinions, which was reflected in an insignificant association between locations of residence and importance of community leaders and political leaders in Karail (Table 4.8).
### Table 4.8: Relations between location of residences and political engagement

<table>
<thead>
<tr>
<th>Variables of social engagement</th>
<th>Location of residences</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unit 1</td>
<td>Unit 2</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HH No.</td>
<td>%</td>
<td>HH No.</td>
<td>%</td>
<td>HH No.</td>
</tr>
<tr>
<td><strong>Engagement in party-politics</strong></td>
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<td>33.3</td>
<td>14</td>
<td>23.3</td>
<td>34</td>
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<td>76.7</td>
<td>86</td>
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<td><strong>Membership in NGOs</strong></td>
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<td>21.7</td>
<td>20</td>
<td>33.3</td>
<td>33</td>
</tr>
<tr>
<td>No</td>
<td>47</td>
<td>78.3</td>
<td>40</td>
<td>66.7</td>
<td>87</td>
</tr>
<tr>
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<td><strong>Participation in decision-making</strong></td>
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<td></td>
</tr>
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<td>Yes</td>
<td>47</td>
<td>79.7</td>
<td>50</td>
<td>83.3</td>
<td>97</td>
</tr>
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<td>10</td>
<td>16.7</td>
<td>22</td>
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<td>Chai-square test</td>
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<tr>
<td><strong>Control over decision-making</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Control over very few decisions</td>
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<td>1.7</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Control over some decisions</td>
<td>20</td>
<td>33.3</td>
<td>37</td>
<td>61.7</td>
<td>57</td>
</tr>
<tr>
<td>Control over most decisions</td>
<td>21</td>
<td>35</td>
<td>4</td>
<td>6.7</td>
<td>25</td>
</tr>
<tr>
<td>Control over all decisions</td>
<td>18</td>
<td>30</td>
<td>19</td>
<td>31.7</td>
<td>37</td>
</tr>
<tr>
<td>Chai-square test</td>
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<td></td>
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</tr>
<tr>
<td><strong>Importance of community leader</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very important</td>
<td>50</td>
<td>83.3</td>
<td>53</td>
<td>88.3</td>
<td>103</td>
</tr>
<tr>
<td>Somewhat important</td>
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<td>16.7</td>
<td>7</td>
<td>11.7</td>
<td>17</td>
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<tr>
<td><strong>Importance of political (party) leader</strong></td>
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<tr>
<td>Very important</td>
<td>51</td>
<td>85</td>
<td>54</td>
<td>91.5</td>
<td>105</td>
</tr>
<tr>
<td>Somewhat important</td>
<td>9</td>
<td>15</td>
<td>5</td>
<td>8.5</td>
<td>14</td>
</tr>
<tr>
<td>Chai-square test</td>
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<td></td>
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</tr>
</tbody>
</table>

### 4.6 Access to water in Karail

#### 4.6.1 Sources of water

Sources of water can be broadly categorised based on two modes of supply systems, which are formal water supply and informal water supply. Formal supply provision includes only the system of water supply that is registered with Dhaka Water Supply and Sewerage Authority (DWASA) through *Dushtha Shasthya Kendra* (DSK) and managed by the Community-based Organization (CBO) in Karail. On the other hand,
informal water provisions include pipe-line water supply to households, water vendors, personal hand tubewells and boreholes (Table 4.9). The respondents in the survey were found to be dependent on both formal and informal pipe-line water supply to their households. As can be seen in Table 4.9, the last two informal sources (Tubewell and Borehole) were seldom used by the respondents.

Table 4.9 reveals that more than 64% of the respondents had access to informal water sources, which include 46.70% from informal pipe-lines, 11.79% from water vendors and only 5.8% from personal tubewells and boreholes. Notably, the respondents of unit 2 were more dependent on water vending than unit 1. On the contrary, unit 1 had more access to formal water facilities (45%) than unit 2, since only 26.67% of unit 2 residents had access to formal water supply. This indicates that unit 1 has more access to registered or formal water supply systems. The statistical chi square test also proves that there is a difference between the two units in terms of sources of water ($\chi^2=4.385$, $df=1$, $p <.05$).

<table>
<thead>
<tr>
<th>Sources of water</th>
<th>Unit 1</th>
<th>Unit 2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
</tr>
<tr>
<td>Formal- Piped water</td>
<td>27</td>
<td>45</td>
<td>16</td>
</tr>
<tr>
<td>Informal- Piped water</td>
<td>30</td>
<td>50</td>
<td>26</td>
</tr>
<tr>
<td>Informal- Vendor</td>
<td>1</td>
<td>1.66</td>
<td>13</td>
</tr>
<tr>
<td>Informal- Tubewell</td>
<td>1</td>
<td>1.66</td>
<td>3</td>
</tr>
<tr>
<td>Informal- Borehole</td>
<td>1</td>
<td>1.66</td>
<td>2</td>
</tr>
<tr>
<td>Informal water Total</td>
<td>33</td>
<td>55</td>
<td>44</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
<td>60</td>
</tr>
</tbody>
</table>

4.6.2 Monthly average water uses and prices

Table 4.10 demonstrates water uses and pricing patterns in Karail. It was found that the average amount of water consumption was approximately 82 litres/household/day or approximately 22 litre/person/day\(^{30}\). This amount also varies between the two units.

---

\(^{30}\) Based on the International Health Standard an adult needs approximately 50 litres of water per day to meet minimum health and hygiene requirements (Gleick, 1996). A WHO report on ‘Domestic water quantity, service, level and health’ by Howard and Bartram (2003) also suggests that the optimal access level of water is ‘likely to be above 100l/c/d and may be up to 300l/c/d’.
It was found that the respondents in unit 2 use more water than those in unit 1, but pay relatively less in water charges. As can be seen in Table 4.10, the daily average water use in unit 2 was 93.17 litres/household, which was 22 litres/household more than the unit 1. On the contrary, the monthly average water charge paid by the residents in unit 2 was BDT 204.30, which was approximately BDT 56 less than that paid in unit 1. However, the differences in terms of water use and payments were not only found between the units, but were also remarkably different within the individual units. For example, the values of coefficient of variations indicate a greater inconsistency in water use and payment among the respondents of unit 1 (Table 4.10). On the contrary, the respondents of unit 2 were comparatively consistent in terms of water use and payment since the coefficient of variations was low.

Table 4.10: Unit-wise water uses and prices

<table>
<thead>
<tr>
<th>Items</th>
<th>Unit 1</th>
<th>Unit 2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total amount of water used by the respondents (Litres/daily)</td>
<td>4271</td>
<td>5590</td>
<td>9861</td>
</tr>
<tr>
<td>Daily average amount of water used by the respondents (Litres/household)</td>
<td>71.18</td>
<td>93.17</td>
<td>82.18</td>
</tr>
<tr>
<td>SD</td>
<td>31-38</td>
<td>SD-34</td>
<td>SD-38</td>
</tr>
<tr>
<td>CV</td>
<td>53.38</td>
<td>CV-36.49</td>
<td>CV-46.24</td>
</tr>
<tr>
<td>Total price of water (BDT/month)</td>
<td>15460</td>
<td>12258</td>
<td>27718</td>
</tr>
<tr>
<td>Monthly average price (BDT)</td>
<td>260.50</td>
<td>204.30</td>
<td>232</td>
</tr>
<tr>
<td>SD</td>
<td>199</td>
<td>SD-42</td>
<td>SD-146</td>
</tr>
<tr>
<td>CV</td>
<td>77.23</td>
<td>CV-20.55</td>
<td>CV-63.20</td>
</tr>
</tbody>
</table>

Table 4.11: Mode-wise water uses and prices

<table>
<thead>
<tr>
<th>Items</th>
<th>Formal Water</th>
<th>Informal Water</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total amount of water used by the respondents (Litres/daily)</td>
<td>3361</td>
<td>6500</td>
<td>9861</td>
</tr>
<tr>
<td>Daily average amount of water used by the respondents (Litres)</td>
<td>78.16 SD-33.96 CV- 43.45</td>
<td>84.42 SD-39.66 CV- 46.98</td>
<td>82.18 SD-38 CV-46.24</td>
</tr>
<tr>
<td>Total price of water (BDT/month)</td>
<td>8680</td>
<td>19208</td>
<td>27888</td>
</tr>
<tr>
<td>Monthly average price (BDT)</td>
<td>201.86 SD-51.88 CV-25.70</td>
<td>249.45 SD-176.38 CV-70.71</td>
<td>232 SD-146 CV-63.20</td>
</tr>
</tbody>
</table>

SD indicates values of standard deviation.
CV indicates values of coefficient of variations.
Table 4.11 shows differences between the two modes of water supply or preferences in terms of amount of water use and prices. The daily average amount and monthly average price of informal water were larger than the average amount and price of formal water. The monthly average price of informal was BDT 249.45, which was approximately BDT 50/month more than the price of formal water. In the case of informal water, the values of standard deviation and coefficient of variation indicate that the water prices are inconsistent among the respondents. On the contrary, the prices of formal water seem to be consistent since the value of coefficient of variation is only 25.70 (Table 4.11). This finding suggests that there may be no fixed price for informal water.

4.7 Associations between water preferences and demographic characteristics, economic and sociopolitical engagements

The Pearson’s Chai-square statistic is used to test associations between selected independent variables and the water preferences (formal and informal). The suitable independent variables are selected from the variables of demographic characteristics, economic engagement and sociopolitical engagement of the respondents (Table 4.12). Besides the chai-square test, column percentages are also analysed to compare variations between formal and informal water sources.

4.7.1 Sources of water and demographic characteristics

Table 4.12 shows the column percentages and findings of chai-square association tests between sources of water and demographic variables (educational status, household size and duration of residence). The column percentage differences in terms of educational status of the respondents depict that the literate respondents have more access to both of the water sources. This indicates that the literate water consumers in Karail have dominant access to water, but not to a particular source of formal or informal water. Despite this fact, the chai-square test, however, suggests that the educational status of the respondents does not significantly determine their access to formal or informal water ($\chi^2=2.613$, df=1, $p>0.05$). Therefore, the sources of water and educational status of the respondents are independent. Similarly, the size of the respondents’ households’ does not signify access to particular water sources. As can be seen in Table 4.12, more than half of the medium size households had access to
both formal and informal water. Though the big and small households had more access to informal water than to formal water, the difference compared to formal water was very small. This is also evident in the chi-square test that suggests that there is no dependency between households’ sizes and sources of water ($\chi^2=1.647$, df=2, $p>0.05$).

Table 4.12 also shows percentage differences among the households based on duration of residences and access to water sources. The long duration migrants (53.20%) had more access to informal water. On the contrary, short duration migrants (30.20%) had more access to formal water. This difference indicates that the long-term residents in Karail are more likely to use informal water. The statistical test however does not find any significant association between duration of residences and sources of water ($\chi^2=2.936$, df=2, $p>0.05$).

The association tests between the three demographic variables and sources of water do not find significant correlations. Therefore, it may be concluded that the demographic characteristics of the respondents do not have any impact on water preferences in Karail.

Table 4.12: Relations between sources of water and demographic variables

<table>
<thead>
<tr>
<th>Demographic variables</th>
<th>Sources of Water</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Formal</td>
<td>Informal</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HH No.</td>
<td>%</td>
<td>HH No.</td>
<td>%</td>
<td>HH No.</td>
</tr>
<tr>
<td><strong>Educational status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literate</td>
<td>32</td>
<td>74.4</td>
<td>46</td>
<td>59.1</td>
<td>78</td>
</tr>
<tr>
<td>Illiterate</td>
<td>11</td>
<td>25.6</td>
<td>31</td>
<td>25.8</td>
<td>42</td>
</tr>
<tr>
<td>Chai-square test</td>
<td>$\chi^2=2.613$, df=1, $p&gt;0.05$; Insignificant relation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Households’ size</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small</td>
<td>14</td>
<td>32.6</td>
<td>30</td>
<td>39</td>
<td>44</td>
</tr>
<tr>
<td>Medium</td>
<td>23</td>
<td>53.5</td>
<td>32</td>
<td>41.6</td>
<td>55</td>
</tr>
<tr>
<td>Big</td>
<td>6</td>
<td>14</td>
<td>15</td>
<td>19.5</td>
<td>21</td>
</tr>
<tr>
<td>Chai-square test</td>
<td>$\chi^2=1.647$, df=2, $p&gt;0.05$; Insignificant relation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Duration of migration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short duration migrants</td>
<td>13</td>
<td>30.2</td>
<td>16</td>
<td>20.8</td>
<td>29</td>
</tr>
<tr>
<td>Medium duration migrants</td>
<td>14</td>
<td>32.6</td>
<td>20</td>
<td>26</td>
<td>34</td>
</tr>
<tr>
<td>Long duration migrants</td>
<td>16</td>
<td>37.5</td>
<td>41</td>
<td>53.2</td>
<td>57</td>
</tr>
<tr>
<td>Chai-square test</td>
<td>$\chi^2=2.936$, df=2, $p&gt;0.05$; Insignificant relation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.7.2 Sources of water and economic engagement

The selected four indicators of economic engagement are monthly income, monthly savings, job locations and job durations. Firstly, it was hypothesised that the households in the category of high monthly income (more than BDT 10,000) are likely to have more access to formal water. As can be seen in the Table 4.13, approximately half of the respondents in the high income category had access to both categories of water sources\(^{33}\). Likewise, approximately 44% of the respondents in the medium income category had access to formal water, and 44% of them also had access to informal water. This indicates a fair access to water sources by the respondents of different economic status. This is also evident in the chi-square test, that suggests an insignificant association between income categories and sources of water ($\chi^2=1.052$, df=2, $p>0.05$). This indicates that income differences do not affect the water preferences in Karail. A similar test was carried out considering monthly savings and sources of water. It was found that the savings capacities of the respondents are not significantly associated with the sources of water ($\chi^2=1.777$, df=2, $p>0.05$).

However, it was found that job locations of the residents and sources of water are significantly associated ($\chi^2=3.886$, df=1, $p<0.05$). Job durations, on the other hand, are not significantly associated with sources of water ($\chi^2=1.890$, df=2, $p>0.05$). The column percentages in terms of job locations also suggest that the respondents economically engaged inside Karail are likely to have more access to formal water. On the contrary, job durations and water preferences are independent of each other (Table 4.13). This indicates that the job durations do not matter in gaining access to formal or informal water in Karail.

Overall results of analysis of associations between economic engagement and sources of water suggest that monthly income, monthly savings and job durations of the respondents are not related with access to formal or informal water. Only job location was associated with sources of water. However, it can be concluded that the better

\(^{33}\) It was observed that the respondents have options to choose formal and informal water. They can also switch to alternative water sources in an emergency. For this analysis, only the current source of water, as it was reported by the water users during the survey, was considered.
income and savings opportunities and long duration of job per day do not determine water preferences of the respondents, except for those who are working inside Karail.

Table 4.13: Relations between sources of water and economic engagement

<table>
<thead>
<tr>
<th>Variables of economic engagement</th>
<th>Sources of water</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Formal</td>
<td>Informal</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HH No.</td>
<td>%</td>
<td>HH No.</td>
<td>%</td>
</tr>
<tr>
<td>Monthly income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>2.3</td>
<td>5</td>
<td>6.5</td>
</tr>
<tr>
<td>Medium</td>
<td>19</td>
<td>44.2</td>
<td>34</td>
<td>44.2</td>
</tr>
<tr>
<td>High</td>
<td>23</td>
<td>53.5</td>
<td>38</td>
<td>49.4</td>
</tr>
<tr>
<td>Chai-square test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\chi^2=1.052$, df=2, $p&gt;0.05$; Insignificant relation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monthly savings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>40</td>
<td>93</td>
<td>67</td>
<td>87</td>
</tr>
<tr>
<td>Medium</td>
<td>2</td>
<td>4.7</td>
<td>9</td>
<td>11.7</td>
</tr>
<tr>
<td>High</td>
<td>1</td>
<td>2.3</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>Chai-square test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\chi^2=1.777$, df=2, $p&gt;0.05$; Insignificant relation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job locations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inside Karail</td>
<td>19</td>
<td>65.5</td>
<td>25</td>
<td>43.1</td>
</tr>
<tr>
<td>Outside Karail</td>
<td>10</td>
<td>34.5</td>
<td>33</td>
<td>56.9</td>
</tr>
<tr>
<td>Chai-square test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\chi^2=3.886$, df=1, $p&lt;0.05$; <strong>Significant relation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job durations (daily working-hours)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>10</td>
<td>33.3</td>
<td>16</td>
<td>27.1</td>
</tr>
<tr>
<td>Medium</td>
<td>19</td>
<td>63.3</td>
<td>36</td>
<td>61</td>
</tr>
<tr>
<td>High</td>
<td>1</td>
<td>3.3</td>
<td>7</td>
<td>11.9</td>
</tr>
<tr>
<td>Chai-square test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\chi^2=1.890$, df=2, $p&gt;0.05$; Insignificant relation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.7.3 Sources of water and social engagement

The survey also tries to figure out association between social engagement and sources of water. Primarily, the objective was to determine impacts of social engagement in getting access to better water sources. Participation in community activities and social movements\(^{34}\) were selected as the indicators of social engagement.

As can be seen in Table 4.14, a majority of respondents (87%) who had access to informal water services participated in community activities. In the same line, 76.70% of the respondents who had access to formal water services, participated in community activities. These small differences in percentages indicate that participation in

\(^{34}\) Social movement refers to organizing processing and demonstration for urban basic needs, such water and sanitation.
community activities may not provide any incentive to the respondents to get access to formal water services. Similarly, the chi-square test suggests that participation in community activities and sources of water are not significantly associated ($\chi^2=2.095, df=1, p>0.05$). Despite this disagreement of the association in terms of participation in community activities, the survey finds a significant association between participation in social movement and choices of water sources ($\chi^2=4.015, df=1, p<0.05$). This indicates that the choices of water sources made by residents might be dependent on their willingness to participate in social movements.

Table 4.14: Relations between sources of water and social engagement

<table>
<thead>
<tr>
<th>Variables of social engagement</th>
<th>Sources of Water</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Formal</td>
<td>Informal</td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HH No.</td>
<td>%</td>
<td>HH No.</td>
<td>%</td>
<td>HH No.</td>
<td>%</td>
</tr>
<tr>
<td>Participation in community activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>33</td>
<td>76.7</td>
<td>67</td>
<td>87</td>
<td>100</td>
<td>83.4</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>23.3</td>
<td>10</td>
<td>13</td>
<td>20</td>
<td>16.7</td>
</tr>
<tr>
<td>Chai-square test</td>
<td>$\chi^2=2.095, df=1, p&gt;0.05$; Insignificant relation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Participation in social movement for water</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>38</td>
<td>88.4</td>
<td>74</td>
<td>97.4</td>
<td>112</td>
<td>94.1</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>11.5</td>
<td>2</td>
<td>2.6</td>
<td>7</td>
<td>5.9</td>
</tr>
<tr>
<td>Chai-square test</td>
<td>$\chi^2=4.015, df=1, p&lt;0.05$; Significant relation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It can be concluded that a strong social engagement of the respondents is likely to provide formal access to water. This might be due to the fact that the respondents who are socially engaged with community improvement activities have more access to information about the future development of Karail. It may help them to be registered first with the donor organizations (such as WaterAid, DSK) and government authorities (DWASA), who have been providing formal water in Karail.

4.7.4 Sources of water and political engagement

The survey also aims to examine whether there is any tangible impact of political engagement in getting access to a particular water source. In doing so, engagement in party-politics, membership of NGOs and participation in decision-making were selected as the indicators of political engagement of the respondents.

As can be seen in Table 4.15, both the recipients of formal and informal water had engagement with party-politics. It was reported that 28.50% of the total respondents
generally vote for their party candidates and participate in the various party programmes such as processions, rallies and campaigns. On the other hand, the respondent consumers who were not engaged in party-politics (71.70%) had also access to formal and informal water and their percentage difference in terms of sources of water was insignificant. This indicates that engagement with party-politics does not have any relation with getting access to formal or informal water. Similarly, the chi-square test also finds an insignificant association between engagement in party-politics and sources of water ($\chi^2=.124$, df=1, $p>0.05$).

The survey finds that 27.50% of the water consumers had formal memberships with non-governmental organizations who were working in Karail for various reasons (such as water and sanitation, micro-credits, education, child nutrition, maternity etc.). Regarding membership in NGOs, Table 4.15 shows that the column percentage differences between the formal water recipients and informal water recipients are quite small and ignorable. This is also supported by the chi-square test which suggests that membership in NGOs and sources of water are independent ($\chi^2=.124$, df=1, $p>0.05$). This indicates that the membership in NGOs is not a significant determinant to the water consumers that can provide certain incentive to get access to formal water.

<table>
<thead>
<tr>
<th>Variables of social engagement</th>
<th>Sources of water</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Formal HH No.</td>
<td>%</td>
<td>Informal HH No.</td>
<td>%</td>
<td>Total HH No.</td>
</tr>
<tr>
<td>Engagement in party-politics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>14</td>
<td>32.6</td>
<td>20</td>
<td>26</td>
<td>34</td>
</tr>
<tr>
<td>No</td>
<td>29</td>
<td>67.4</td>
<td>57</td>
<td>74</td>
<td>86</td>
</tr>
<tr>
<td>Chai-square test</td>
<td>$\chi^2=.589$, df=1, $p&gt;0.05$; Insignificant relation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Membership in NGOs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>11</td>
<td>25.6</td>
<td>22</td>
<td>28.6</td>
<td>33</td>
</tr>
<tr>
<td>No</td>
<td>32</td>
<td>74.4</td>
<td>55</td>
<td>71.4</td>
<td>87</td>
</tr>
<tr>
<td>Chai-square test</td>
<td>$\chi^2=.124$, df=1, $p&gt;0.05$; Insignificant relation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participation in decision-making</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>34</td>
<td>79.1</td>
<td>63</td>
<td>82.9</td>
<td>97</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>20.9</td>
<td>13</td>
<td>17.1</td>
<td>22</td>
</tr>
<tr>
<td>Chai-square test</td>
<td>$\chi^2=.267$, df=1, $p&gt;0.05$; Insignificant relation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.15 shows relationship between participation in decision-making meetings and sources of water. It was hypothesised that the respondents with more access to
decision-making meetings are likely to have more access to formal water. However, it was found that there is no remarkable difference between percentages of formal water consumers and informal water consumers. The chi-square test also accepts the null hypothesis and suggests that participation in decision-making does not have any relation with access to formal or informal water ($\chi^2=.267$, df=1, $p>0.05$).

Thus, finally it can be concluded that all of the indicators of political engagement were not significantly associated with sources of water. This indicates that getting access to formal water does not necessarily need political party-identity, NGOs memberships and/or participation in decision-making meetings.

### 4.8 Conclusions

This chapter analyzed water preferences of the respondents in terms of their demographic, socio-economic and political engagements. Particularly, it was concerned with to what extent respondents’ demographic characteristics and social, economic and political engagements determine water preferences. Firstly, it has described respondents’ demographic, social, economic and political background with regard to location of residences (unit 1 or unit 2). It was found that the unit 1 is more established than the unit 2 in terms of presence of long duration residents and economic opportunities. Social network was found to be very important for direct migration to Karail. The respondents with better economic status (higher income and savings) are staying in unit 1. It was found that who are working outside Karail have less monthly income and savings. There is considerable social harmony and solidarity among the residents in Karail. Majority of them do not participate in party-politics, but have almost equal participation in NGO activities by all from the unit 1 and unit 2. But, the residents of unit 1 have more control over decision-making regarding slum improvement activities.

Secondly, the chapter analysed water uses and payment differences. The average amount of water uses and payment were 82 liters/household/day and BDT 232/month respectively. It was found that the respondents in unit 2 uses more water but pay less than the respondents of unit 1. But, in terms of internal variations within a location, the residents of unit 2 are more unique than the residents of unit 1.
Finally, the chapter analysed association between water preferences and demographic, economic and sociopolitical variables to understand whether or not these variables determine access to formal water supply. The remarkable findings include that the demographic characteristics of the respondents have insignificant relation with water preferences. The better economic status does not also relate to access to formal water supply. Participation in social and political activities has nothing to do with water preferences, though the residents who participated in social movement for water services have significant relation with access to formal water supply.

However, the overall findings of the chapter have suggested that the respondents of both unit 1 and unit 2 have equal access to formal and informal water supply. Particularly, it can be concluded that despite socioeconomic variations among the residents in unit 1 and unit 2, the formal water supply in Karail is not provided along the line of demographic characteristics and economic and sociopolitical engagements of the water consumers. In addition, the water consumers accept the importance of social relations and leaderships in the community. A majority of them still connected with the informal water provisions because of their dependency on informal sociopolitical relations that ensure not only water but also survival in the community in various ways. The temporary formal water supply may recognise their entitlement in the city, but cannot provide reliable sociopolitical network/solidarity in the community. Basically, this is a part of the complexity of water governance for the informal community in the city. As it is argued, water supply to the urban poor is not merely a service, but a relationship. The following three chapters will explore these informal relational complexities in urban water governance.
CHAPTER FIVE

WATER SUPPLY THROUGH INFORMAL SOURCES

5.1 Introduction

This chapter examines the informal provision of water supply in Karail, particularly focusing on the modes, factors and challenges of informal water services. Based on data and information from interviews and focus group discussions with water consumers and providers, it aims to explore the informal sociopolitical relationship among various stakeholders and the practices of informal water supply in Karail. Photographs taken during the fieldwork are also used to demonstrate informal practices with regard to informal water supply. The chapter begins with a description of the historical evolution of informal water provision. Through an investigation of different modes of water supply, it explains who the informal water providers are, what causes changes in water charges and what the factors are that help informal water businesses. The chapter also examines the challenges of informal water services from the providers’ perspective.

5.2 Evolution of informal water in Karail: a revolution from below

The emergence of the informal water supply in Karail was a great success for the residents, which can also be termed as ‘a revolution from below’ (See Roy, 2011). It demonstrates that Karail is probably the most active and lively zone of informal economic entrepreneurs, what Hernando de Soto (2000) terms as a place of ‘heroic entrepreneurs’. The provision of informal water is also an example of the ‘self-organizing economy of the people’ (Roy, 2011) in Karail.

Before the 1990s, the indigenous boreholes (Kua) and the Banani Lake were the major sources of water in Karail (Figure 5.1). Only a few of the residents were able to

35 Kua is a traditional source of water for household activities. Kua can be several metres deep in the ground to reach down to the layer of water. Normally, water is withdrawn by a bucket with a long rope (Figure 6.1).
collect drinking water from the nearby municipal water-taps and T&T colony\(^\text{36}\) (Figure 5.4). At that time, many of the owner-occupiers of the houses bored wells and shared water with their tenants free of charge. They used to bathe and wash cloths in Banani Lake and the borehole water was used only for drinking and washing cooking utensils.

![Figure 5.1: A borehole (kua) in Karail](image)

Source: Author-Fieldwork 2014

In 1994, a local NGO managed to set up 22 hand-tubewells to provide potable water to the dwellers in Karail. Unfortunately those tubewells became inoperable after two/three years because of the depletion of underground water in Dhaka (Shamsudduha 2010; Ahmad 2011). As a result, the dwellers faced a water crisis, particularly for the drinking water in summer. At that time, they had to walk a long distance to nearby residential areas (Banani, Mohakhali, and Gulshan 1) and wait in a long queue for only a small amount of drinking water (Figure 5.2). In a situation like that, the dwellers of Karail requested that the formal authorities (DWASA and DCC) supply them at least with drinking water. In addition, they had to block roads and hold demonstrations for water in the premises of the National Press Club in Dhaka (Figure 5.3). The response was only to provide a few trucks of water temporarily in the peak

\(^{36}\) T&T colony refers to the housing estate for the officials of Bangladesh Telecommunications Company Limited (BTCL). It was formerly known as Bangladesh Telephone and Telegraph Board (BTTB).
of the emergency, particularly in the hot summer (in the months of April, May and June). The authorities denied the Karail households’ demands by citing formal rules and regulations that prevent formal water supply to undocumented slum households.

Figure 5.2: People in queue for water collection in Dhaka (Source: Khan, 2014)

In the wake of this situation of water crises and the silence or absence of formal authorities, some slum-leaders managed to set up informal water infrastructure for water vending and subsequently supplying piped water through informal negotiations with the local political leaders and DWASA officials (See section 5.5.3 for detailed explanation). As can be seen in Figure 5.4, there are seventy informal water pumps and seven vending stations in Karail. Each and every household in Karail now has access to this informal water supply. Of course it is not a free-flow water provision, rather systematically controlled by informal providers who have constructed water supply infrastructure of their own. These are the groups of the urban poor in Karail who serve as water providers. They are not very large in number but have substantial power relations with the top-tier local political leaders in Dhaka. They are comparatively older residents and owner-occupiers of many houses and business enterprises in Karail. It is imperative for a water provider to have financial capital to invest in water infrastructure as well as political capital to ascertain access to the sources of water and the ability to serve the consumers convincingly. The informal
water supply system in Karail indicates a presence of well-governed water provision in the absence of government authorities (Hackenbrogh, 2010). Nonetheless, the evolution of the informal water supply in Karail was a revolutionary initiative by the informal providers that met the needs of the community.

Figure 5.3: A note of demonstration for water (Wailing of Water: We are in misery for water. Hundreds of people are suffering for water crisis. We cannot live without water, but we are out of water supply. We are struggling for water, but no one comes to supply us. What else we will do for water. If we can collectively solve the crisis of water, then no one will suffer for it).

Source: Author-Fieldwork 2014
5.3 Informal water supply system

There are no formal rules and regulations regarding the informal water supply system in Karail. The providers and consumers are contracted verbally and govern the system by their self-motivation and mutual understanding that ensure some form of order in the informal system. The following sub-sections describe the modes of water services, the payment methods and the factors that lead to changes of water charges.

Figure 5.4: Informal water sources in Karail

Source: Author-Fieldwork 2014

5.3.1 Modes of informal water supply

The different modes of informal water availability in Karail prefigure the provision of at least two types of water supply. The first mode can be termed as a ‘vending’ system. The vending stations are randomly distributed in Karail, particularly located at the side of small passageways or open spaces (Figures 5.4, 5.5, and 5.6). Some vending stations are located in the abandoned places, where sanitation infrastructures were previously constructed by NGOs. The informal water providers first occupied these areas and subsequently started to use them as vending stations after necessary reconstruction. Interestingly, the water providers did not have any permission and did not even face
any resistance from the respective NGOs and the community for their illegal occupancy, since the informal arrangement of water supply was, in fact, a welcome development in Karail and it appeared to be ‘a revolutionary social-work’ rather than ‘a possession for selfish businesses or exploitation’ by the dominating slum leaders.

Figure 5.5: Uses of water on-spot in a vending station
Source: Author-Fieldwork 2014

Figure 5.6: A girl vending operator managing queue
Source: Author-Fieldwork 2014
The second mode is known as ‘pipeline supply’, which refers to a supply system by plastic pipelines that connect the households or shops with the water tanks and water pumps. The pipeline connection is temporary and can be seen untidily laid out on the passageways or in the drains along the alleys and even on the roof-tops of the houses (Figures 5.7, 5.8, 5.9, 5.10, and 5.11).

Figure 5.7: A junction of pipelines beside a passageway
Source: Author-Fieldwork 2014

Figure 5.8: Pipelines are kept open on the passageway
Source: Author-Fieldwork 2014
Figure 5.9: Pipeline connections over the rooftop  
Source: Author-Fieldwork 2014

Figure 5.10: Pipeline connections through gutter beside a passageway  
Source: Author-Fieldwork 2014
5.3.2 Sources of water and payment methods

Figure 5.12 shows sources of water, techniques of storage and the types of consumer-points (households, shops and vending stations) of the informal water supply system. The major water source is water-mains of the DWASA located in Mohakhali and Gulshan 1. Hundreds of pipelines from Karail pass through Banani Lake to connect to DWASA water-mains on the other side of the slum. One of the key informants helped me to travel by boat in the lake and it was observed that there are numbers of active, damaged and abandoned pipelines in the Lake. The visible and floating pipes are damaged or inactive, while partially or completely submerged pipes are active. Besides DWASA water-mains, informal providers also collect water from their own deep tubewell (DTW). One informal water provider claimed that some of them have recently bored DTWs to extract underground water for informal water supply (Interview 29). As he explained, they had to do it to ensure regular and uninterrupted water supply to the consumers. In addition, they want to avoid illegal use of DWASA water and do not want to face frequent police raids against illegal water use.
One informal consumer countered this explanation by explaining that “the informal water providers actually use DWASA water-mains as a water source, but pretend to the people and the DWASA officials that they have their own DTWs for water supply” (Interview 3). He further explained that if the providers supply water from their own sources, the monthly water charge will be at least double. This indicates that the claim by the informal providers that they have constructed their own DTWs might be strategic in order to conceal the truth.

Whatever the source may be, water has to be collected using pumps and is stored in over-head or underground water tanks. Most of the over-head water tanks are constructed near the vending stations. On the contrary, the underground water tanks are located near the water pumps in close proximity to the residences of the owner providers. In general, the timing of storing water depends on the availability of electricity. In the case of the vending system, the providers/operators keep open the water outlets for the consumers. They manage the queue and collect a water charge based on how much water is used or collected. Generally, people go to vending stations to bathe and collect drinking water in buckets, earthen pitchers and used-plastic bottles of soft-drinks and cooking oil (Figures 5.13, 5.14). The operators decide the charges for water on the spot according to the size of buckets or pots. In general, it costs BDT 4 for bathing and at least BDT 2 for one bucket of water or one earthen pitcher. One
water provider explained that “we sometimes give water free of charge to the poorest consumers if they are identified as such” (Interview 27). He also commented that they try to keep the price of vending water flexible according to the economic condition of the consumers and also the overall cost of water supply.

In the case of pipeline supply to households, there are operators who connect main water pipelines to the individual consumer household’s pipelines one by one (Figure 5.15). Someone in the households must be present to collect and store water. There is no fixed time of water supply. Generally, the providers try to keep to the same schedule every day for water supply so that the consumers can follow them. But, it depends on availability of electricity and availability of water at the source. There is no meter-reading system to manage and calculate water charges. The monthly water charge is fixed by the providers. In general, for 10 minutes water supply in a day the consumers need to pay monthly at least BDT 100 to 130. Even though it seems a small amount in a month for the consumers, it is actually approximately ten times higher than the DWASA rates (World Bank, 2007; Akbar et al. 2004; Hossain, 2010) considering the short duration and small volumes of water supplied to the consumers.

Figure 5.13: A vending operator managing payment from consumers
Source: Author-Fieldwork 2014
Figure 5.14: Children are paying a vendor for drinking water
Source: Author-Fieldwork 2014

Figure 5.15: An operator connecting a line to a household
Source: Author-Fieldwork 2014
It was discovered that there is a mixed payment method for household connections. First, individual tenant consumers can pay their water charges for pipeline connections if that is not included in their monthly house rental. And second, the owner of the houses can directly pay water charges to the providers on behalf of the tenant consumers, if they are contracted in a way that the water charge is included in their rental as a package. In the case of vending water, as mentioned before, the consumers need to pay on the spot.

5.3.3 Factors affecting water charges

Water charge, in general, is fixed and contracted with consumers beforehand, but it might also be conditional. The conditions are also informally settled between the providers and consumers. In response to the question ‘what causes water price changes or increase?’ the key informants, providers and consumers offered similar responses. They identified seven factors that may cause increases in water charges. The factors are: (i) availability of electricity, (ii) availability of water at the source (iii) seasonal variations (iv) changes in electricity-charges, (v) DWASA raids, (vi) political negotiations and (vii) the nature of government.

The first three reasons are related to the availability of water and electricity. As with the informal water supply in Karail, electricity\(^{37}\) is also informally and illegally connected to the households (Prosun, 2011). It is common for the residents of Dhaka to face electricity cut offs for considerable time periods (load shedding) in summer, particularly in the months of April and May (The Daily Star 2014). One informal consumer in an interview said:

“We experienced increases in informal water charges during summer. The provider informed us about the problem of load shedding and resulting water scarcity causing an increase in water charges. We were not happy with the increase, but we accepted it for two reasons; first, water is a daily essential need and second, the amount of changes was not that high” (Interview 4).

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\(^{37}\) Electrical lines are illegally connected to the city grid by third parties. The residents in Karail pay them on a monthly basis. The average monthly cost for electricity is approximately BDT 500 only, though it depends on the number of connection points (such as one for television, one for bulb, one for fan) which are taken (Prosun, 2011).
One informal water provider also agreed with the statement and added “it is true that we had to increase water charges in the past for various reasons. But, we are now capable of providing better services without any disruptions and extra charges in summer” (FGD 2).

The last four reasons are related to policy and action of the water authorities and the government. As electricity connection is essential for water supply in Karail, if there is any change in electricity charges at the national level of government, the water charges also simultaneously changed everywhere. This fact was discussed in a focus group discussion (FGD 4) and it was observed that the informal water providers argued for water charge increases in summer. On the other hand, the informal consumers and other participants in the discussion claim that the changes in water charge were never proportionate to the changes in electricity charge at the national level.

One of the key informants shared that the changes in water charge depend on successful informal negotiation between informal providers, local politicians and DWASA officials (Interview 36). He believed that if the informal water providers are disconnected from the local political leaders, there is a huge chance of raids by DWASA authorities, accompanied by the police, to investigate illegal connections in Banani Lake. Therefore, the connection of informal water lines is associated with connections among local politicians, DWASA officials and informal providers (Please see section 5.5 for detail explanation). He further pointed out that another factor influencing changes in water charges is the ‘nature of the government’. The informal providers always like to see a political government in power rather than a caretaker government. During the last caretaker government period (2007-2008), the local politicians and providers were unable to make informal negotiations with DWASA officials. He also claimed that the DWASA officials also become very strict on the rules and regulations in the caretaker period. As a result, the informal providers experienced frequent raids against their illegal water connections with DWASA mains, which caused a scarcity of water and an increase in water charges (Mahmud, 2014). Figure 5.16 shows an example of a DWASA raid to cut off informal illegal water connections to Karail.
5.4 Informal water providers

The identification of informal water providers and the investigation of their activities in the community, and their relation with other local stakeholders, were crucial parts of the fieldwork. It was observed that the most obvious factors that help informal water providers to be successful were their socioeconomic conditions and political (party politics) contacts.

I came across seven informal water providers in face to face interviews and two focus group discussions during the fieldwork. All of them were found to be well-known to all of the residents in Karail. To experiment with their familiarity in the community, I asked water consumers ‘what do you know about Mr. X (an informal water provider)’. For an example, their first response was about their (providers) attachment with business in Karail, followed by how many houses and shops they own (economic condition). When I asked them to tell me something more, they added how long Mr. X had been living here (duration of residence) and to what extent he is helpful to the community (social works). It indicates that people are reluctant to mention others’ political involvement unless you ask them about politics directly. However, it was evident that all of the informal water providers are very familiar in the community, based on their attachment to informal business and house ownership (socioeconomic
conditions) rather than their political contact, though they were found to be highly politically involved.

To know about the informal water providers further, I had to make prior appointments with them, which was not required in the case of the water consumers. The informal water providers are very busy in their daily life in Karail. They also do not spend their whole work-day at one place. However, in face to face interviews with the informal water providers, almost all of them emphasised the issue of financial solvency to run a business. They believed that they needed to invest at least BDT 1.5 million to put in place elementary infrastructure for water supply (pipelines) to households or vending businesses. In addition, there are huge running costs maintaining water supply to meet the needs of the consumers. One of them summarised this as, ‘without having a strong base of capital it is hard to continue a water business in Karail’ (Interview 26). The focus group discussion (FGD 2) also suggests that informal water providers need to be socially accepted by the consumers. Trust and friendly behaviour are prerequisites for a successful water provider. One of them shared that “a regular visit to the consumers’ households and keeping in touch with them might be conducive” (Interview 27). This indicates that personal skills and aptitudes of the water providers are important to maintain economic solvency. In the focus group discussion with informal water providers (FGD 2), nobody directly pointed to the requirement of political involvement (party politics); rather they avoided the topic of the impact of party politics and informal negotiation with DWASA officials.

The issue of party politics and political attachment of informal water providers came up in an interview with one of the key informants (Interview 36). The key informant explained that the political involvement is a first and foremost requirement for informal water business. Money and friendly behaviour towards the consumers alone are not sufficient to survive as an informal businessman, although they are necessary. Subsequently, it was found in the individual interviews with informal water providers and consumers that the ownership of informal water business in Karail needs informal verbal permission from the local ruling party leaders and negotiation with DWASA officials. To confirm this claim of political inevitability for informal water business in Karail, I asked several informal water consumers about the political involvement of their providers. Almost all of them accepted that the water providers are inclined
towards the ruling party (Bangladesh Awami League) and many of them have top leadership positions in Karail as well. Only one of the informal water providers was found to be a follower of the Bangladesh Nationalist Party (the largest opposition party).

After learning about this fact, I quizzed that particular water provider in the interview and asked ‘how she manages her business while many argue that political contact with the ruling party is inevitable’ (Interview 27). She did not reject the argument. She accepted that party politics is important to run a business; otherwise there are various factors that may affect the business. As she described, the number of informal water consumers using her pump was not that large in comparison to others. The number was much higher when her party was in power and they had a strong network with other local influential politicians and DWASA officials. She further added that she was uncertain about the future of her business because anytime anybody from the ruling party in Karail may create problems for her. She felt it was ‘blessing of Allah (The God)’ that nobody had yet harmed her business that much. She is still surviving, even though with only small profit from the water supply business.

The above discussion indicates that informal water business in Karail is driven by a small group of people who are economically solvent, socially acceptable and politically powerful. The political power of the informal water providers mostly runs along the lines of ruling party leadership. In summary, the residents who have economic solvency, being owners of several houses and shops and who have been living for a long time in Karail, have social acceptability for their personal skills and aptitudes and political involvement to negotiate with local politicians and government officials, and are capable of doing informal water business in Karail. The following section further discusses the factors affecting, and strategies employed in, negotiations in the process of informal water supply.

5.5 Factors affecting informal water supply in Karail

5.5.1 Locational factors

During the fieldwork, I visited a few other slums and squatters located at the fringe of Dhaka city to figure out the basic differences between the slums in the city centre (Karail) and the slums at the fringe. After observing their socioeconomic and
environmental conditions, it appeared to me that Karail is very different from the slums at the fringe, and certainly it has comparatively better access to urban facilities and services. It is actually the locational advantages of Karail that offer different kinds of social, economic, and political opportunities to the residents. This implies that ‘where Karail is located’ matters in understanding its overall situation and survivability in the city.

Karail is located almost in the middle of Dhaka city and is surrounded by three upper-class residential areas i.e. Banani, Mohakhali, and Gulshan 1. Moreover, it is situated on the bank of the Banani Lake, which helps them in conducting different informal and illegal activities, such as connecting pipelines with the DWASA water-mains. The locational advantages of Karail include:

(i) It is easily accessible. One DSK official admits that easy access by any kind of transport to Karail encourages many NGOs to select Karail in their projects (Interview 32).

(ii) The area of Karail is not enough to sustainably habitat more than 100,000 people, but it attracts the poor for its locational advantages. Almost all of the water consumers admit that they can travel to and from work-places in a short time without spending a lot for travel. One key informant also notes that the location and large unemployed population in Karail enables local political leaders to quickly and cheaply collect people for political movements and meetings in Dhaka (Interview 36). This certainly makes the residents valuable and important for political purposes. In return, the politicians provide all possible informal supports for their livelihood, including informal water supply.

(iii) The location of Karail is also important in limiting the threat of eviction from the government. Eviction processes were halted or cancelled on a number of occasions because of the collective pressure from the residents and civil society organizations. During the fieldwork, I had an opportunity to observe an eviction event in Karail. There was no formal announcement or notice to the residents to leave Karail before eviction. But somehow the residents managed to learn that the authorities were coming with police and bulldozers to demolish the slum on a particular day. As the informant
described (Interview 36), they made all the necessary preparations to stop the eviction. Their preparations included a stay-order from the court, on-the-spot protests in different parts of Karail, meetings with civil society organizations and media-activists. I observed several newspaper and television journalists were waiting to observe and report on demolition and counter-protests from the residents. The informant further claimed that all the preparation was only possible because of the locational advantages of Karail, which were absent in many already demolished slums in Dhaka. The failure by the eviction authority, and the residents’ strength of collective action, may offer some assurance of the permanency of Karail for risk-free investment in informal water business.

(iv) Informal or illegal connection to the DWASA water-mains has been possible only because they are available on all sides of Karail. Informal verbal permission or consent from the local politicians and DWASA field inspectors is enough for the providers to use DWASA water for an informal water supply.

The discussion above explains how the locational or spatial advantages of Karail help the informal water business to be engaged and get access to an informal water supply. Besides its locational advantages, the local political environment and accessibility to DWASA officials also determine the success of the informal water businesses.

5.5.2 Political factors

Even though Karail does not have any formal political entity in the administration, this community is not detached from local party politics. All of the major political parties of Bangladesh have party (branch) offices in Karail. The party offices are locally known as clubs. One informant described that “the club of ruling party is the main controlling centre or can be termed as ‘political power-house’ in Karail” (Interview 36). Nonetheless, he also accepts that the clubs of other parties are very active as well. He further added that the former President H. M. Ershad (now President of Bangladesh Jatiyo Party) and Dr. Kamal Hossain (President of Gonoforum) are very popular in the community, particularly with the older residents of Karail. The reason is that Mr. Ershad allowed them to live in Karail without eviction threats from 1981 to 1990 when
he was the President of Bangladesh. He offered considerable sympathy to the residents of Karail at that time and has been continuing to do so until now. On the other hand, they like Dr. Kamal for his legal advice and support for the slum dwellers on each and every occasion of eviction threats from the government. Notwithstanding the above facts, the Bangladesh Awami League (ruling party now) and Bangladesh Nationalist Party (former ruling party) have plenty of supporters in Karail, particularly among the newcomers and the renters.

Another informant commented that Karail is a ‘political hotspot’ (Interview 35). As he explained, the residents are very smart and quick to take a decision regarding ‘whom to support’. There is considerable political division, as well as considerable unity. In response to the question ‘why party-politics is important to you or in Karail’, an informal water provider said (with a smile):

“To be honest, I do politics because of my business and livelihood in Karail. Now people know me because I have a political identity. I am sure if I stop doing politics, I may lose my business at any time” (Interview 26).

A similar response was also recorded in the focus group discussion (FGD 2) as some participants accepted that political involvement, particularly with the ruling party, might be helpful to sustain their informal business. An informal provider raised the following important point; “Karail is also a target point of the political leaders because more than 20,000 voters38 live here” (Interview 29). He further explained that despite the presence of political divisions in Karail, a majority of them voted based on a collective decision of the voters. They normally come to a final decision before the day of election and vote for somebody who would protect Karail from eviction and help to get access to services. The provider also believed that the candidate they support normally wins in the election.

This discussion demonstrates the situated-political strength of Karail that helps informal water businesses to survive. In addition, the political involvement of the residents in Karail seems very materialistic, rather than being due to any ideological

38 A Voter refers to a person has got a National Identity Card of Bangladesh. A voter needs to produce this card when casting a vote.
belief in a party. The following section further discusses the dynamics of the interdependency of various stakeholders, particularly focusing on ‘how the informal water providers negotiate with other stakeholders’.

5.5.3 Stakeholders’ relational dynamics

As discussed in section 5.5.2, the importance of political contact for the informal provision of water in Karail is now a blatant reality of the poor, including the informal water providers and consumers. At the same time, the political use of Karail by the local and central leaders of Dhaka, in the guise of being concerned about the scarcity of water, is quite evident. As it appears, the water providers inside Karail, and the political leaders and government officials outside Karail, are sociopolitically embedded in a ‘symbiotic relation’ that exemplifies a different kind of patron-client relation in an informal set up of negotiations. This section demonstrates this relation as a process of informal material relationalism and tries to explore the informal use of formal (DWASA) water by the water providers in Karail.

As can be seen in Figure 5.17, there are four major groups of stakeholders who are typically involved in the informal water supply system in Karail. They are the political leaders (both ruling and opposition parties); the government officials (DWASA officials and field inspectors); the informal water providers; and the informal water consumers. The water providers and the consumers in Karail are physically visible stakeholders or clients of informal water services, while the political leaders and government officials act as major patrons from behind the scenes. Figure 5.17 demonstrates the strengths of relation and the dynamics of negotiation among the stakeholders. This implies that all stakeholders in the water supply system may not act equally, even though they are interrelated and dependent on each other in the process. The following paragraphs discuss this interdependency based on the findings from the interviews and the focus group discussions.

Relation between providers and political leaders

Even though the informal providers don’t directly accept the necessity of party-politics for their businesses, their political leadership roles in Karail, and the perceptions of water consumers in this regard, indicate that political contact is one of the major factors that help to run informal water businesses. It was also evident that the ruling party
leaders dominate and hold power over almost all the informal businesses, including water. This domination or control has been possible because of support from the local ruling party leaders living around the Karail area. For the informal water providers, it is not hard to find a channel for negotiating with the local influential ruling party leaders. Rather, the leaders allow the powerful residents of Karail to join in their party and run informal businesses. As discussed in the previous section, the main reason why politicians are interested in Karail is because it is a ‘vote-bank’ and provides manpower for political processions. Both ruling and opposition party leaders, in fact, act as patrons of every opportunity within their reach. The informal providers, on the other hand, receive support from the leaders as clients of services, in exchange for loyalty to the political party.

Contradictory opinions were expressed by the informal water consumers and the local political leaders in responding to the question ‘why the political leaders help the informal water business in Karail’. Most of the informal consumers state that the intention of the political leaders is nothing but to control Karail to gain personal benefits, such as votes, extra income from the informal business and political labour. On the contrary, the local politicians believe that it is their duty to work for the poor (Interview 45, 46). The politicians admit that water is a basic human right of the poor and they (the politicians) help to run the informal water supply in Karail as a ‘public interest’. One ruling party leader stated:
“Water is a basic demand of the poor. Given the government is unable to provide formal water to the poor; the informal water supply is not a bad thing at all. I know there are people making money doing informal business in Karail, but what else can they do?” (Interview 46).

The leader denied any personal interests in the informal water business. Rather he believes that sympathy or solidarity with the poor in Karail is a part of his social work. A formal Ward Councilor of the Karail locality partially accepts the importance of ‘vote banks’ of Karail. As he stated:

“Karail is a different kind of slum in Dhaka because of its large population and social harmony among the residents. We hardly see any negative news expressed about Karail. That is why all of the local politicians including me offer sympathy to the residents of Karail. I believe a majority of them supported me in the last election and I was elected” (Interview 45).

This statement indicates how local political leaders offer patronage to the informal water providers. In addition, it implies that the patronage is not free of cost. Rather it demands political loyalty and support from the clients (both water providers and consumers) in Karail. Nonetheless, easy access to the dominating poor (informal providers) of Karail creates competition among the local politicians. One informal water provider explained:

“Previously, we could hardly come into contact with the local political leaders, let alone a Member of Parliament or Ministers, even local ward Councilors or the City Mayor were not approachable. Now, it is very normal for the local politicians to frequently visit Karail and inquire into our demands” (Interview 28).

Relation between informal providers and government officials

Figure 5.17 further indicates that the informal water providers also have a strong relation with DWASA officials, including field-level inspectors. One of the informants explained: “unofficial payment to DWASA officials is a mandatory criterion to run an informal water business” (Interview 36). Even though all of the informal water providers in a focus group discussion (FGD 2) denied the issue of unofficial payments,
it appeared to be a reality in another focus group discussion (FGD 4) and individual interviews with informal water providers. Many of them argue, it is not only the informal providers who initiate the informal unofficial negotiation for illegal water connection to the DWASA water-main, but both of the stakeholders come forward and make a verbal contract of unofficial payment in exchange for free water connection without threat of police-raids or inspections. The amount of unofficial payment is not fixed in all cases; rather it depends on their mutual reliable relation and the political identity of the informal water providers. One informant claimed that the amount might be low, if the water provider is a politically influential person in the community (Interview 35). Therefore, the field inspector of DWASA needs to consider the political identity of the informal providers in dealing with illegal negotiations for water supply. On the other hand, the informal water providers try to use their political affiliation with the ruling party and familiarity with local veteran leaders. It indicates that both of the stakeholders play this illegal game in a politically made ground of informality. This situated political informality is not based on idealistic belief in a party, but for materialistic benefits from the informal water business in exchange for votes and loyalty to the party.

**Relations between informal providers and consumers**

The informal provision of water in Karail is also a product of mutual understanding between the consumers and the informal providers. Even though many believe that the informal water business in Karail is illegally driven by a dominating group of local leaders, the water consumers consider it very positive and mutually beneficial. It appears that the informal provision of water is not only a business enterprise but also provides a social space for negotiation between the submissive water consumers and the dominating water providers in Karail.

To the consumers, the informal water providers are the main life-boat for their survival in Karail. During interviewing, an informal water consumer recalled the previous hardship caused by water scarcity in Karail (Interview 3). He explained how water scarcity affected their daily livelihoods and income earning opportunities. Considering those days of misery and hardships, most of the water consumers regard informal water
providers as the ‘hrithpindo of Karail (heart of Karail)’. For example, one informal consumer said, “they have given us a new life in Karail” (Interview 16).

In replying to the question ‘are you happy with this informal water service?’ almost all of the consumers responded with a positive answer. One of them stated, “I am very happy with this service. Though the water charge is higher than the DSK (formal) water, we like to continue using informal water because of their regular supervision and management of the services with the providers and good relation with them” (Interview 12). Another one shared his views:

“I knew very few of our neighbours when I started living in Karail. I felt socially insecure in the first few days, but the insecurity disappeared when I got water connection to our home. The provider came almost every day to our home and inquired whether we have any problems in living here. After that we never felt helpless as the provider paid attention to our needs, as we might have expected from our elder brother or parents” (Interview 16).

This discussion indicates that the consumer poor in Karail consider informal water provision as a way of being connected with the community, particularly with those who are in the top social tier and arguably control Karail and its informal businesses. In this regard, one of the informants explained that both the consumer (submissive) poor and the provider (dominating) poor are very strategic in their daily lives. It appears that the strategy of this type of informal social relations surrounding the connection of informal water is purposively produced by the concerned stakeholders. One informal provider explained:

“We are very much concerned about the benefits for the consumers. Like other businesses, if we lose our consumers the business will be closed in no time. Moreover, we do not feel the consumers as only our customers, but we behave with them as our neighbours and people of the same community, as I know the pain of poverty” (Interview 29).

Relation among the water providers

Almost the same congenial relationship was also found among the informal water providers. Both of the informants shared the view that there are hardly any conflicts
between the providers, even though the business is very competitive in Karail (Interview 35, 36). This is also very much strategically and purposefully controlled for the benefit of informal business. Despite the informal providers being sociopolitically unequal, they always try to avoid conflict with their rivals and any formal intervention by the law enforcing agencies. There are no written rules and regulations for informal water supply in Karail, but all of them keep silent when there is any misunderstanding among them and they themselves try to solve the problems quickly. In general, as discussed earlier in section 5.5.2, major social and political problems are discussed in the ruling party (club) office, and these are solved based on the decisions made by the top level ruling party leaders in the house.

5.6 Challenges of informal water supply

The previous section discussed the factors that enhance and help informal water provision in Karail. This section, on the other hand, analyses the challenges of the informal water supply system based on interviews and focus group discussions. An emphasis was given to the constraints on informal water provision from the providers’ perspective. The focus group discussion (FGD 2) and individual interviews with informal providers suggest that there are four major constraints that impede informal water supply in Karail. The constraints are:

(i) Water infrastructure and sources of water;
(ii) Competition among the providers;
(iii) The continuous threat of inspections; and
(iv) Financial problems.

The water providers rated the issue of infrastructure and sources of water as the top of the list of constraints on the informal water supply. One provider in an interview explained:

“As there is no formal permission from DWASA to commercially supply water in Karail, we do not invest the maximum amount possible for infrastructural development. Everybody will agree on the issue that anytime our business can be stopped by the government. In addition, DSK and DWASA have already started supplying water to Karail, which has also increased the risk to our business” (Interview 28).
In the focus group discussion (FGD 2), all of the participants accepted the limitations of pipe line connections and the quality of water, as they frequently face complaints regarding the smell of water and timing of the water supply. One in the group discussion explained, “We want to invest further for infrastructural improvement, but the condition is that we need formal permission from the DWASA”.

One informant also confirmed that the temporariness of the water supply, and even that of Karail itself, is the main reason behind the poorly developed infrastructural (pipe-line connections) to the supply water (Interview 36). As they collect DWASA water from Mohakhali and Gulshan 1 areas through Banani Lake using plastic pipelines, the water becomes polluted if there are leakages in the pipes. He further added that water may also be polluted when the pipelines are left open on the gutters beside the roads in Karail (see section 5.3.1). However, going back to the issue of temporariness of water provision, he explained:

“Nobody will take the risk of bankruptcy by investing a lot for permanent water infrastructure unless there is a formal recognition. Moreover, there is the issue of politics. The current informal providers are well aware about the power transformation in the government. If this government steps down and an opposition party comes to power, all of the owners of informal businesses here in Karail will be changed. As it was previously observed in a similar power transformation, there were changes of ownership of the informal businesses. The providers will never go for the long term planning of development, since there is a risk”.

This discussion indicates that the temporariness of the informal provision of water is also linked with governmental power relations, particularly when the ruling political party is changed after a new election. The recent informal providers have been enjoying ownership of informal businesses since 2009, after the general national election in 2008. Another group of providers enjoyed their ownership when a different party ruled from 2001 to 2008. Despite that fact, the ownership of informal water provision is not a free and open choice for the ruling party followers and leaders in Karail. For an informal water provider:
“There is huge competition among the informal water providers, since the consumers switch to another provider if the current one is not satisfactory. It does not make conflict among us, but it matters to the business” (Interview 26).

The focus group discussion (FGD 2) also suggests that the providers always stay tense about inspections by the DWASA. They feel it is not easy to maintain good relations with all DWASA officials. One of them stated, “if there is a new inspector or top official transferred to our zone, we need to re-establish our relation and network; otherwise that may result in a sudden inspection to destroy illegal pipeline connections and water pumps” (FGD 2). This discussion indicates that they accepted the necessity of good relations with DWASA officials for informal water businesses; although they denied the claim that unofficial payments were being made.

As the fourth constraint on the informal water supply, they mentioned the issue of running costs and water charges. In the focus group discussion (FGD 2), all of the informal providers claimed that the informal water business is not as profitable as people may think, as it requires a huge investment to run smoothly. As they reported, the running costs include electricity bills, the maintenance of pipelines and the operator’s salary. One of the informants explained:

“It is not a business of one provider and several consumers. Rather it embraces some other invisible actors who are continuously taking care of the supply lines at the source, as well as at delivery points. They need to make sure all of them are working as a group with trust and efficiency” (Interview 36).

However, this discussion suggests that the informal water supply in Karail is not free from different local challenges. For smooth running of the informal water supply, various stakeholders need to enjoy considerable understanding of each other, whether as part of the patron-client relationship, or part of their social works.

5.7 Conclusions

This chapter has demonstrated that informal water provision in Karail has been a revolutionary idea of the poor. The case study has illustrated the modes of informal water services and the factors that have helped this informality to be sustained in Karail. The first factor is the location of Karail in Dhaka, and the availability of transport and communication facilities that protect Karail from eviction threats. ‘Vote
banks’ of Karail were found to be an important factor that entangles the residents with local veteran political leaders. In addition, the consumer-provider relationship is exceptional, and transcends beyond the merely commercial relations among them. The chapter has explored how the locational factors of Karail and the socio-economic and political relations among the stakeholders have helped it to survive informality. Besides these informal stimuli affecting the water supply, it has also explored the challenges to, and constraints on, the informal water supply from the providers’ perspectives. The challenges include the temporariness of the water supply, competition among the providers, continuous threats of inspection and financial problems. Broadly, the chapter examined how the provision of water in Karail persists through informally embedded relationalism among the stakeholders. The following chapters describe how this local informal embeddedness of informal practices (water supply) matters for the success of formal water provision in Karail.
CHAPTER SIX

FORMAL WATER SUPPLY THROUGH COMMUNITY PARTICIPATION

6.1 Introduction

Chapters Six and Seven address the first and third aims of the research: to analyze how participatory approaches of water governance are enacted and challenged in the context of formal water supply to the urban poor. As outlined in Chapter Two, a key aspect of participatory water governance is community engagement with the formal authorities in the process of maintaining the water supply. The roles of national and local governments in this regard are also important to understanding the existing practices and challenges of water governance. Using findings from the interviews and the focus group discussions with water consumers of Karail, DSK and DWASA staff, academic researchers and local politicians, these chapters analyse the extent to which formal water governance is contested or supported by the situated informalities of the urban poor in Karail. Chapter Seven focuses on the processes and difficulties of community participation. Chapter Eight then examines the roles of the central and local governments and the level of the decentralization process with regard to formal water supply in Karail.

It is argued that community participation for the formal water supply in Karail is largely affected by situated informalities, which in many ways challenge the governance processes and mechanisms. First, the chapter describes the background and objectives of the Dhaka Water Supply Sector Development Project (DWSSDP) through which formal water supply was commenced in Karail. The chapter then introduces the DSK Model of water supply to the urban poor. Subsequently, the formal water supply system is examined by focusing on water management by the DSK, and the difficulties of functioning as a community-based organization (CBO). The chapter concludes with a discussion on the strengths and limitations of community participation under the DSK Model.
6.2 Dhaka Water Supply Sector Development Project (DWSSDP\textsuperscript{39})

6.2.1 Background and objectives of the project

The Dhaka Water Supply and Sewerage Authority (DWASA) is a public organization responsible for the supply of potable water and sanitation to the dwellers of Dhaka city. The DWASA faces a range of difficulties in maintaining a satisfactory level of water supply. The major difficulties are: a rapidly growing water demand; an age-old water distribution network; leakages in the network; poor water quality and an inadequate network to cope with future demand. To address these issues, the Government of Bangladesh (GOB) started a partnership program (DWSSDP) on 10 December 2007 with the Asian Development Bank (ADB) to assist DWASA for improvement of water supply services in the Dhaka Metropolitan Area (ADB, 2011). ADB sanctioned the program loan of US$50 million, the project loan of US$150 million and the technical assistance grant of US$2.5 million. The project started in January 2008 and the date of completion was December 2013.

The program was designed to provide support to the DWASA in contributing to the national target through developing institutional capacity and the infrastructure in Dhaka. The program was also prepared in accordance with the National Poverty Reduction Strategy 2005 and the Sector Development Program-Water and Sanitation Sector in Bangladesh (SDP-WSSB) 2006. However, the objectives of the program included the sustainable provision and operation of improved urban water supply services through the rehabilitation and strengthening of the water supply system in the project area, and supporting the GOB in achieving necessary reforms in the water supply sector, such as improvement in the management and operation of urban water supply institutions (ADB 2011). The wider objective of the project included socioeconomic development and public health improvement in Metropolitan Dhaka. In addition to these objectives, the expected outcomes of the project included building the capacity of the DWASA to optimise its system and provide improved services to the urban dwellers of Dhaka (including the urban poor) by the year 2025. Outcomes expected of the project included:

\footnote{\textsuperscript{39} http://www.adb.org/projects/39405-013/main}
(i) Strengthened institutional and managerial structure and capacity for the governance of DWASA;
(ii) Improved financial and operational management capacity of DWASA and trained staff and resources for DWASA to adequately operate and maintain the system;
(iii) An enhanced policy framework for improving the physical condition of the water supply system;
(iv) A rehabilitated and strengthened distribution network; and
(v) An improved water quality and monitoring system.

To achieve these objectives, particularly for the water supply to the urban poor living in the slums, the DWASA worked with the DSK as a partner organization. Initially, DWASA was reluctant to concern itself with formal water supply to the urban poor, even though they subsequently agreed to construct pumps and water supply-lines in the slums. Basically, the DSK Model convinced the DWASA to accept the proposal of water supply to the urban poor in the slums. The DWASA started a separate program entitled ‘Low Income Community (LIC) Program’ to address the needs and demands of the low income communities in Dhaka city and to co-operate with NGO activities, including with the DSK. The DSK Model is explained in the following section.

6.2.2 NGO in partnership for water supply: DSK Model

The DSK Model argues that the urban poor have the ability to manage and pay for formal water supply if a non-governmental organization guides them in the right direction (Akbar et al. 2007; Hanchett et al. 2003; Matin 1999). Figure 6.1 demonstrates the interaction among the actors involved in the DSK Model and shows the potential outcomes. The DSK plays a pivotal role with international donor agencies, the DWASA, local governments and the informal communities. Figure 6.2 shows activities in different steps under the DSK Model. The process starts with initial dialogue with the informal communities to understand their demands and priorities regarding the supply of water and their willingness to pay. Collecting the initial

40 DSK is a non-governmental organization in Dhaka established in 1988. Initially, it focused on environmental health services for the informal settlements in Dhaka city. Since 1992, it has engaged with community-based water supply and sanitation for the poor (http://www.dskbangladesh.org/).
information from the communities, the DSK prepares a proposal, as the second step, and submits this to the donor agencies. The third step starts with detailed planning and system design, which includes a baseline survey of existing practices, site selection and design of the water points. In the implementation level at the fourth step, the DSK forms CBOs and submits an application for permission of a water supply from the public water provider (DWASA) and the local government (DCC).

Figure 6.1: DSK Model—actors and mechanisms
(Modified after Matin, 1999; and Akbar, et al., 2007)

The final step includes the management and monitoring of water-points by the communities and the DSK as well (Figure 6.2). The responsibilities of the CBO include day-to-day operation of the water-points, regular revenue (water charge) collection, repayment of the loan to the DSK, and decision-making on the use of surplus revenue from the site. On the other hand, the DSK monitors revenue collection by field workers, payment to the DWASA, and social disputes. It also monitors cost-recovery and transfers responsibilities to the community. In addition, the DSK trains
CBO members in the better operation and maintenance of water-points until the capital cost-recovery is complete (Akbar et al. 2007).

**Figure 6.2 The steps and activities in the DSK Model**
(Modified after Akbar et al. 2007)

During the inception of the project in Dhaka under this model, the DSK initially installed hand pumps as the sources of water. But unfortunately the hand pumps were inoperable, particularly in the dry season when the underground water level lowered. As a result, a more reliable source of water was sought so that the communities would have access to water all year. It was then possible to convince the DWASA to construct a piped water connection through a series of negotiations with bureaucratic and political actors of the central government (Interview 31, 35, 36). For the infrastructural development, the DSK initially constructed one water-point each for several slum communities in Dhaka. The water-point was, quite literally, owned and managed by the communities themselves (Akbar et al. 2007). However, the DSK subsequently extended their service coverage with the help of this participatory approach with the DWASA in several informal settlements, including Karail.
6.3 Formal water supply in Karail: A participatory approach

6.3.1 Water infrastructure and meters

Karail slum was a first priority to receive a formal water supply, because the DSK was already running other health and sanitation projects there. The DSK had already trained efficient community-based leaders and activists to work for water supply in Karail. Moreover, as the largest slum of Dhaka with long-persisting water scarcity, Karail was a reasonable choice. The locational suitability of Karail also gave much impetus for its priority in the selection process (Interview 31).

Despite this, the first difficulty of the water supply project in Karail was establishing the source of the water. The DWASA primarily wanted to supply water through the water-mains of the Banani Area\(^\text{41}\), but that was not possible because of local resistance. First, the DSK tried to convince the DWASA that for a successful operation of the water supply, they required a separate pump in Karail instead of normal connections to Banani water-mains. Second, the community leaders and senior residents of Karail also concurred with DSK’s advice, and said that they would not take a single meter until they acquired a separate water pump reserved only for the Karail slum. Lastly, the residents of the Banani area strongly protested against the formal water connections from their water-mains to Karail. They suspected that the formal connections would further encourage informal water business in Karail, which may cause further water scarcity in the Banani area. However, these local resistances were resolved through numerous meetings and negotiations with relevant stakeholders (Interview 31, 35).

Finally the DWASA reached a decision to provide a separate deep tubewell water pump in Karail. Therefore, the source of formal water in Karail was underground water through deep tubewells (Figures 6.3 and 6.4).

In 2010, the DWASA started construction of a pipe-line network in Karail. However, the residents had to wait until March 2013 for the completion of the deep tubewell installation and water supply. In the first phase, they started with 150 water-meters (Interview 32). As can be seen in Table 6.1, there are now 581 water-meters already installed in Karail. More than 30,000 people from approximately 7,000 households are now under the service of a formal water supply. The statistics in Table 6.1 also suggest

\[^{41}\text{Banani is a large developed residential area which is located in the north-western side of Karail.}\]
that there are at least 12 households dependent on every 1 water-meter/point, and approximately 100 people are served for every 2 water-points. Despite this successful intervention, only a small portion (18%) of the residents is now served by formal water services. More than 72% of the residents are still without a formal water supply.

![Figure 6.3: Location of DWASA water pump in Karail](image)

Source: Author-Fieldwork 2014

**Table 6.1: Descriptive statistics of formal water supply in Karail**

<table>
<thead>
<tr>
<th>Items</th>
<th>Unit 1</th>
<th>Unit 2</th>
<th>Total in Karail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of formal water meters/points</td>
<td>149</td>
<td>432</td>
<td>581</td>
</tr>
<tr>
<td>Number of Households with access</td>
<td>1,788</td>
<td>5,184</td>
<td>6,972</td>
</tr>
<tr>
<td>Number of people who have access</td>
<td>8,046</td>
<td>23,328</td>
<td>31,374</td>
</tr>
<tr>
<td>Household-Meter ratio</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Meter per 100 people</td>
<td>1.85</td>
<td>1.85</td>
<td>2</td>
</tr>
<tr>
<td>Households without meters</td>
<td>4,562</td>
<td>13,946</td>
<td>18,508</td>
</tr>
<tr>
<td>People without access to formal water</td>
<td>20,529</td>
<td>62,757</td>
<td>83,286</td>
</tr>
<tr>
<td>% people without access</td>
<td>71.84</td>
<td>72.90</td>
<td>72.64</td>
</tr>
</tbody>
</table>

Source: Author-Fieldwork 2014; collected from DSK office, Mohakhali, Dhaka

Figure 6.5 shows a visual example of water connection from the main water-pump to consumer households. Water consumers are classified into two categories. One
category is the meter-holding DWASA-DSK registered households, and the other category is associated consumer households. Meter-holder households are those who have water-lines with meters and who are allowed to serve around 12 allocated households. The meter-holder consumers are responsible for collecting water bills from the individual associated households and pay the DWASA through the DSK. Generally, the meter-holder consumers are the owners of the houses and serve their associated tenant households. Most of the associated consumer households pay their water bills with their monthly house rental.

Figure 6.4: DWASA water pump in Karail
Source: Author-Fieldwork 2014
6.3.2 Who can claim a meter?

Generally, the house-owners\(^{42}\) in Karail can apply for a water meter and connection. The tenant consumers are unable to apply for a meter as they do not own any land to install a water-meter. This indicates that the domestic water connection rights only reach up to the house-owners who are permanently living in Karail, certainly have economic solvency to pay the meter security charge, and have enough space for water-meter installation and construction of a water reservoir. However, the house-owners must be a member of the CBO and must submit a demand letter for the water-meter. As the Secretary of the CBO said, the applicants must pay BDT 13,824 for having a formal water supply to the households/CBO unit (at least 12 consumers) (Interview 35). The payment includes BDT 500 as a connection fee, BDT 8,324 for meter installation and BDT 5,000 for meter security. These amounts actually go to the CBO account and then the CBO takes the necessary initiatives for DWASA approval and infrastructural activities. A large part of the expenses is construction of a ground water tank/reservoir with hand-tubewells and pipe-line connections to the consumers’ households. Previously, the DSK provided BDT 65,000-70,000 in finance for each of the CBO units. One consumer shared that he had to pay BDT 8,000 for water reservoir construction only, and the rest of the amount was paid by the DSK (Interview 1).

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\(^{42}\) House ownership in Karail refers to the informal occupation or possession of the houses by the owners. There is no legal right or entitlement of the possession to the owners but that is recognized in the community.
The above discussion leads to the question ‘who gets priority in getting a formal water meter’. Another important question is, who has access to information about the services offered by the NGOs, donors and even by the government? One water consumer said that he was lucky to receive a donation for reservoir construction in the beginning of the project (Interview 1), because there were few who got this help from the DSK, WaterAid or other NGOs (Interview 35). The consumer respondent further added that “having good relations with NGO activists in Karail is a useful way to get information about services in advance”. He said “Mr. X suggested that I pay the security and installation charges urgently to get priority in the list of water consumers. I did so accordingly and received financial help for the construction of a reservoir and a tubewell” (Interview 1). In addition, he had to make contact with his neighbours to organise a group of 12 households to be served from his water-point/water-meter. At that time, he had close contact only with six tenant households as owner of the houses. He had to convince five other households to make an associated group for submitting a demand letter for one water meter. This indicates that maintaining a good community relationship with community leaders, as well as with one’s nearest neighbours, is a mandatory criterion to get priority for the water service, even though a good relationship alone may not always guarantee access to donations and services (Interview 2, 24).

However, it is clear from the discussion that the requirements for claiming a formal water meter include house ownership, economic solvency, availability of space at home for meter installation, and access to information about the services being offered.

6.3.3 Payment and bill collection systems

Introducing a new ‘Progressive Tariff System’ with the DWASA in a dialogue on “Progressive water tariff: potentials and challenges for DWASA” on 31 March, 2013, the Managing Director of the DWASA claimed that the water tariff of the DWASA (for the residential connections) was BDT 6.99 per 1,000 liters, which is one of the lowest rates in the world (BDNews24 2013). This rate is applicable to all of the

43 The ‘Progressive Tariff System’ includes the principle of ‘the more you use the more you pay’. The objective of switching from a flat system to the new progressive system was to reduce misuse of water and make the tariff system more socially equitable, considering the socioeconomic diversities of the residents in Dhaka (Financial Express 2013).
consumers including the residents of Karail. Despite that fact, the associated tenant consumers under a meter-holder household are deprived of paying water tariff at the prescribed rate set by the DWASA. Figure 6.6 shows the water bill collection system in Karail. In general, water bills for the tenant households are fixed at the beginning of tenancy by the house owners. The tenants pay the whole package of one month’s house rent and other services i.e. water, electricity and gas. Therefore, there is no separate or fixed water charge for the tenants, and even that does not follow the progressive tariff system of the DWASA. In many cases, the tenants do not even know exactly how much they are paying for water (Interviews 2, 7, 8).

![Figure 6.6: Water bill collection system](image)

There are water bill collectors recruited by the CBO. The Secretary of the CBO said that they have four water bill collectors to whom they pay a salary of BDT 10,000 per month each (Interview 35). They collect water bills from the meter-holder households and make payments to corresponding CBO accounts (Figure 6.6) for the DWASA. This payment process is regularly supervised by the Treasurer and Secretary of the CBO. The Secretary also said, “the meter-holders are very regular in paying their bills. We hardly find anyone defaulting from paying their water charges”. One meter-holder also explained that “regular payment is not a problem to us, as we are getting water bills with the monthly house rental from the tenants” (Interview 7). Despite these statements, there are punishment systems for the defaulters who are unable to pay water bills in time. According to the Water Supply and Sewerage Authority Act (2011), the authority has the right to disconnect water with ten days’ notice for disobeying rules and regulations. However, no case has been filed against water consumers of Karail so far.
Community participation in the participatory approach to governance

6.4.1 Process of CBO formation

Community participation in providing and receiving urban services is an inevitable condition of public-private partnership. The importance of community building in the partnership approach to service provision is now largely accepted by the service providers such as the government, donors and NGOs (Hossain, 2012). The consumers or service receivers, on the other end, also recognise the importance of collective community actions for receiving various services. A long history of DSK initiatives in Karail evidently proves their successful operation of consumer community activities through various projects. For the successful operation of their projects, they trained community leaders and formed strong community organizations to manage all projects, including the DSK-DWASA water project in Karail.

The DSK previously divided Karail into 16 clusters of community-based organizations (CBOs). These clusters were subsequently reshuffled and reconstructed into five general CBO committees. A central CBO committee was also formed to manage and co-ordinate with all CBOs. Each CBO consisted of 15 members, who were basically selected or elected for one year. Both males and females were welcome in the committees. The first step in the process of inviting residents was to pick up a suitable leader, and then ‘snowball’ to recruit others. Apparently, the leaders were self-appointed in their leadership roles and were interested to work voluntarily as the social workers. A DSK official explained that ‘acceptance as a leader depends on his/her leadership capacity in the community’ (Interview 31). The central CBO committee consisted of the more capable leaders in the community based on their educational status, social acceptance and ability to deliver speeches in mass gatherings (Interview 32). The general CBO leaders played their roles mostly inside Karail, while the central CBO leaders were responsible for managing the organizations and negotiating with other external partners. Therefore, the central CBO leaders were actual power holders and decision makers in the community. However, the DSK official further added that ‘in the beginning, women were not much interested to be engaged in community leadership’ (Interview 31). Now, both males and females are highly and equally pro-actively involved in community leadership, which resulted in a big CBO election in 2013 for the executive committee of Karail.
A CBO leader argued that “the election was necessary to neutralise and decentralise power from the same power-holder group of people year after year” (Interview 34). Although, another CBO leader disagreed with this statement in a focus group discussion and said that “the power of decision-making is now also with the same group of people. There is no remarkable change in the exercise of power. It is merely the person in the position is changed” (FGD 4). However, this indicates that a formal CBO election was necessary to resolve chaotic power exercise among the leaders. In addition, the CBO election in 2013 further hints that there was substantial improvement of leadership capacity and a growing awareness of the urban poor in Karail.

While it was previously possible to form CBOs through consensual agreement by the general members of the organization, the recent experience (CBO election) of ballot-paper votes suggests a new horizon for the politics of leadership, empowerment and community awareness. The last election was a major landmark arrangement in the history of Karail. As one community leader said, “it was more competitive and festive than the national or local government election” (Interview 36). Several governmental and non-governmental officials of the DWASA and the DSK, local political leaders and journalists were present to monitor the election. Police patrols were also active to resolve any unexpected clashes between candidates and their followers.

The candidates fought for five major categories of CBO executives in the election. The executive positions were (i) President, (ii) General Secretary, (iii) Treasurer, (iv) Publicity Secretary and (v) Organizing Secretary. A formal election commission under the supervision of the DSK conducted the whole election process. A DSK official admitted that the election was very difficult to conduct since there was an indubitable chance of clashes between candidates. The hardest part was the declaration of election results. One community leader shared that, “there were candidates who tried to cancel the election when they reckoned their defeat in advance” (Interview 36). Actually, the well-known veteran political (party) leaders and comparatively wealthy candidates were defeated. This might be the reason why almost everybody suspected a possible clash during the declaration of the election results.
6.4.2 CBO activities

There are four major activities of the CBO executives for water governance in Karail. These activities include:

(i) Water bill collection and payment;
(ii) Providing new connections;
(iii) Regular and emergency meeting arrangement; and
(iv) Monitoring and negotiations.

The regular collection and payment of the water bills was the first and foremost strategic objective of the water project in Karail. The DWASA was convinced by the argument of the possibilities of regular water bill collection and payment by means of community organizations. Assurance of regular payment by the DSK was also a key factor to convince the DWASA of this formal arrangement for water supply in Karail. However, this is why both the DSK and the CBO are absolutely focused on the payment of water-bills on time. A similar understanding is also evident from a statement by a meter-holder consumer. She explained:

“We all completely agreed with the condition of regular bill payment to DSK collectors. We also understand that if we want free water, the DWASA will stop the water service to Karail. That is why my first job, at the beginning of each month, is to pay water bills. In some instances, my tenants take time to pay their bills with house-rentals. In that situation, I pay myself and make up it later” (Interview 14).

This evidence indicates an efficient collective understanding of the necessity of water supply on behalf of the urban poor as well as the DSK as an intermediary organization. The CBO achieves a good result in water bill collection, which the DWASA had found so difficult and was most suspicious about. This is also a good example of the DSK functioning as the mediator civil society organization in dealing with explicitly difficult activities for the government authorities, such as the DWASA.
The second major duty of the CBO is to offer and manage new connections and donations\(^{44}\) for the residents. This includes both the easiest and toughest aspects of those activities. The easiest task is to find a capable new water consumer from the community who is ready to pay all fees and charges, since more than 72% of the residents are still not connected to the formal water supply. On the contrary, the toughest task for the CBO is to finalise a priority list of new consumer applicants, since the permission to begin new collections is limited and donations for infrastructural construction are offered without a fixed schedule. In a Focus Group Discussion, one CBO leader admitted this problem and explained:

“This is one of the areas which is very difficult to handle and finalise, since the number of approvals for water connections is limited. It is very hard to convince the applicants about this limitation. Sometimes, executive members of our committee request that names of particular applicants be included in the priority list, violating the serial of the application forms. In a situation like this, we need to spend a longer time to settle and finalise the list of the new water consumers” (FGD 4).

A water consumer also argued that the CBO executives get a chance to show their power in selecting new consumers. She explained:

“Only a few of us get donations from the DSK. It depends on the leaders of the CBO and the DSK. Most of us are unable to get any information about when donations will be given and when we have to apply. Those who were informed of this by CBO leaders got water meters in the beginning. We did not get any information before. Actually, nobody told us about the possibility of donation” (Interview 24).

However, in the discussion (FGD 4), I put this issue to a CBO leader asking for a comment. He did not completely dismiss the argument. He focused on the limitations of donations and approvals by the DWASA and the installation of pumps in Karail. As he explained, “One deep tubewell is not enough to serve all the residents of Karail. If we allow all to have a legal connection then nobody will get a sufficient water supply”.

\(^{44}\) Donation refers to the financial support by the national and international NGOs for constructing water tanks/reservoirs and hand tubewells.
He also informed all of the participants that they are trying to convince the DWASA for another pump to be installed in Karail so that a majority of the residents can be served. But he was not confident enough to ensure that the installation of a new pump would be possible in the near future, because of the huge cost of the pump and the availability of land for installation. However, this conversation reveals much about the roles and responsibilities of the CBO with regard to the processing of new water connections. It also indicates the limitations of water sources to provide all residents in Karail.

Another major responsibility of CBO executives is to organise regular and emergency meetings. After being introduced to the General Secretary and President of the CBO, I had opportunities to observe their general and emergency meetings. It seems that CBO meetings are almost a daily activity for the executives. Every now and then they need to discuss different kinds of problems and complaints. General meetings are normally arranged informing all of the Advisers, Executives and Members of the committee. The General Secretary of the committee plays a vital role in formally informing all of the relevant members to attend in time.

There are provisions for emergency meetings as well. It was surprising to learn that they had to arrange emergency meetings frequently on various unexpected events. I had an opportunity to audit both the general and emergency meetings and it was realised that the emergency meetings are more participatory in a sense, since the maximum of committee members are present, in comparison to a general meeting. It was also noticed that the agendas of an emergency meeting do not include only the water issues but also other community issues such as eviction threats, conflict among the residents etc. It appears that the CBO office in Karail also serves as the center for discussion and resolution of other social problems.

The final major task of the CBO is monitoring and negotiations. There are four major areas to be monitored by the CBO.

Firstly, monitoring monthly bill collection and payment is a mandatory duty of the CBO executives. The President regularly updates the Collection and Payment Log Book and informs the committee of the latest balance and shortfalls in a general meeting. The maintenance of water leakage is the second major responsibility of the
CBO. Leakage and low pressure of water are regular complaints made by the consumers. In a situation like this, CBO executives and bill collectors visit the concerned water reservoir and take necessary initiatives to find the reasons for water leakage and low pressure. If necessary, they ask a mechanic to repair or fix the problems as quickly as possible. The third major monitoring job is maintenance of the water-pump. For instance, the General Secretary of the CBO shared:

“The pump stopped working on several occasions. Almost all of the consumers came to my home to file a complaint and to know the reason for ‘no supply’. I told them to allow some time to fix the pump since it is a big defect. I had to immediately look for the mechanic and work overnight to fix the pump” (Interview 35).

The final major monitoring responsibility of the CBO executives is to control illegal water connections from the water-mains in Karail. In a focus group discussion (FGD 4), the CBO executives admitted this additional and unexpected responsibility. That is why they need to be very vigilant and operate like a ‘spy’ to identify illegal connections and their culprits. Thus, besides monitoring, a continuous process of negotiation with the concerned actors to resolve all unexpected problems is inevitable.

Figure 6.7: Negotiations as a part of CBO activities

Figure 6.7 shows the types of actors involved in the process of negotiations. Negotiation refers to discussion among and between CBO executives, water consumers, donor organizations and informal water providers for resolving all the unexpected problems of water supply. As shown in Figure 6.7, there are two categories of actors in the process of negotiation. They are (i) Internal Actors and (ii) External Actors. CBO executives internally negotiate with each other to smoothly run the water system. In addition, they also internally negotiate with the water consumers to convince them about the limitations and shortfalls of the water supply. The water consumers have nothing to do with external actors, such as donors and informal water suppliers. The CBO executives function as a mediator and are responsible for
consulting with the DSK authority or donor organizations (such as WaterAid) and informal water suppliers in Karail, if necessary. The water consumers and CBO executives have little or no chance to negotiate with the DWASA. In general, the DSK functions as a mediator between the CBO and the DWASA. The DSK authority also helps to negotiate with the informal water providers in Karail. In the beginning of the water project, the DSK had to organise several meetings with the informal water providers in Karail to inform them of the objectives of the water project, and convince them there would be ‘no harm from the project to their informal water business and livelihood’. The DSK authority also sometimes remains strategically silent in order to resolve conflicts between CBO executives and water consumers.

I had a chance to observe a very chaotic emergency meeting between the CBO committee and water consumers. The agenda of the discussion was ‘disrupted water connection for three days’. The CBO office was extremely crowded and it was hard to control the momentum of the discussions with complaints and counter-complaints. A DSK official was also present in the meeting. He was not supposed to be present in the meeting, but the CBO top executives requested him to join in the meeting. The meeting took more than three hours. The strategy was first to listen to the consumers. However, it went out of control when three or four people started to shout their speeches. In a situation like this, the President and Secretary looked helpless and gave the floor to one of the CBO Advisors. The advisor successfully settled down all of the ‘unleashed’ participants and brought the meeting to order. It happened more than five times in the meeting. As an observer, I was trying to understand the problems of water supply as reported by the consumers, the mechanisms for operating the meeting and the power relations among the participants. In this extreme situation, the CBO executives and the DSK officer were completely speechless. One of the executives also advised me to leave the meeting if I felt uncomfortable. As I had experienced that type of chaotic meeting before, I did not feel uncomfortable and insecure. I stayed and observed the whole meeting.

Finally, the consumer participants in the meeting were convinced of the need to be silent and to listen to the directions from DSK officials and CBO executives. The officer informed them about the difficulties for the project if the consumers kept arguing against each other without giving the CBO a chance to work for them. After the meeting, I had an opportunity to ask the DSK official about the directions of the
DSK Model in this situation. The question was ‘how does the DSK model help to negotiate in such a situation you have just experienced?’ He replied:

“The urban poor are very tactical. As an outsider, it is not possible to convince them to calm down once they are on fire. We have experienced many bad instances like this and even worse than this. In this situation, we leave the problems of the poor to be discussed and solved by the poor themselves. This misunderstanding will be hopefully resolved as it was before and they will do it themselves” (Interview 32).

This example shows how the actors concerned with water supply negotiate with each other, and in particular how CBO executives perform their roles and responsibilities. In addition, this chaotic meeting and the performance of a CBO adviser hint at some of the informal mechanisms of power relations already in place in operating the formal water supply system. This may be one of the obvious situated informalities of the poor or slum community which hampers the CBO’s activities and more broadly, the formal water governance. The following section sheds light on these situated informal complexities and discusses the difficulties of operating a CBO.

6.4.3 Difficulties of operating the CBO in Karail

From the individual interviews and focus group discussions, it was possible to discern five major difficulties in operating the CBO. The difficulties are:

(i) group politics;
(ii) convincing water consumers;
(iii) illegal water connections;
(iv) pressure from the informal water providers; and
(v) intervention of local party-politics.

The following paragraphs discuss these difficulties in detail.

The water consumers and CBO executives were extremely motivated by group politics. One water consumer admitted that group politics has been more explicit since the last election of the CBO. During the election campaign, supporters/voters of a particular candidate were identifiable and well-marked. Accordingly, the candidates and the consumer-voters have been continuing group politics and acting/reacting to
benefit their own groups when it is necessary. This type of group politics or internal power clash is visible in two ways. One is among the winners, and the other is between winners and defeated opponents in the election.

There is no doubt that the latest election in 2013 of the CBO committee was free and fair, but the outcome of this democratic process is partly debatable. The reasons are: (i) the election of CBO leaders by popular votes may not provide capable and efficient candidates and (ii) the most politically powerful candidates were defeated, though they have strong active (political) supporters in the community and control over other socioeconomic opportunities. One respondent in an interview said “most of the economically and politically powerful candidates were defeated in the election, but they are now in the CBO committee as advisers. These are the people who actually play their game and try to control the committee” (Interview 36). He further stated that these powerful candidates first plotted mechanisms to dismantle the election process, and then declined to accept the winners as their leaders. Subsequently, the DSK re-designed the CBO leadership structure to create new positions for advisers. Then most of the defeated powerful candidates were invited to join in the committee as advisers. This may be another informal characteristic of the poor in Karail, where a formal democratic election process may not be effective to elect efficient candidates to handle the CBO committee and the water supply system. This also suggests that formality may not be perfectly applicable in an informal set up, while there are provisions for informal services driven by economically and politically powerful residents in the slums.

These advisory positions also create misunderstandings and power clashes among the winners in the election. One existing CBO executive explained (with sorrow) that “the election was not necessary at all, since the defeated candidates are in the committee and controlling our activities. In addition, one of the tragic things is: some of us are allowing them to control everything which is pushing us out of our duties and responsibilities” (Interview 35). When I learned about this type of internal power clash based on group politics, I raised this issue in a focus group discussion (FGD 4) where both the CBO executives and the water consumers were present. All participants believed that there was no alternative but to accept them in the committee because of their strong political and economic power in Karail. One of the executives also
explained, “it is not true that only a few of us have strong contact with the powerful advisers, but all of us maintain strong contact with the powerful too” (FGD 4). This indicates that all of the executives in the CBO committee are rooted deeply in the power relations within the community, which are fragmented and grouped based on party-politics.

In interviewing the President of the CBO, I raised this issue to clarify the claims of other executive members. She argued:

“There are some executives who come as a group to a meeting to undermine our reputations. They never accept our leadership, though I have made enormous contributions to Karail in bringing us all to this level. A few of them come as a group with a pre-conceived decision and try to pass in the meeting without any discussions. In a situation like this, it is very difficult to run the CBO” (Interview 34).

She did not reject the claim about power clashes, but she did ignore the question by blaming her colleagues. This was also observed a similar situation in a general meeting of the CBO.

However, convincing water consumers is another complexity for the CBO executives. It is not the general water consumers who need convincing, but those who are much more vocal, politically active and patronised by the powerful in Karail. One of the community leaders said:

“The general water consumers sometimes come to know about the situation when there is a problem of water supply. But, there are some typical consumers who intentionally and repeatedly complain, saying there are disrupted water connections, and they pressurise us to discuss the issue in an emergency meeting” (Interview 35).

In response to the question “what do you do in this situation?”, he explained that the CBO committee does not want to take up all the matters in a general meeting. They try to convince the consumers individually, or suggest to them that they go to the CBO office to see the top leaders in the committee. The President of CBO also shared that “it is not a big problem, though sometimes it becomes very big; what we do is try to convince them individually, by explaining the scope of solutions and the highest
possibility of services. Many of them understand our situation, and certainly, there are a few who are not happy with us. Yeah, it is true that we cannot make everybody happy while water supplies are still limited” (Interview 34).

The limited supply of water is not only a result of there being only one water-pump, and only partial coverage of water connection to the residents. There are also illegal water connections with the formal water-mains in Karail which cause a lower pressure of water and even ‘no supply’. This is the third difficulty of CBO operation in Karail. One consumer in a focus group discussion said “a few of us have got more than one connection which is clearly a violation of the rules and regulations” (FGD 1). He also mentioned several names of the multi-meters recipients in the discussion, and claimed that nobody is there to control this violation. This indicates weaknesses of the CBO in terms of accountability to the stakeholders, as well as difficulties of CBO activities in Karail.

Informal water providers in Karail never directly protest against formal water supply. Nonetheless, they are certainly not well-wishers of the formal water project, the Secretary of the CBO said. He explained “from the very beginning of the project, the informal water providers were not co-operative and they tried to convince everybody that water is a settled issue in Karail, as they (the informal providers) are supplying enough water. They suggested that the CBO demand other services, including land entitlement, to get rid of eviction threats” (Interview 35). This type of non-co-operation is also one kind of threat to the future of the formal water supply in Karail, as one respondent explained:

“They are never violent against the project as they correctly envisage the limits of their power. They also understand that going against governmental activities may generate other problems in their lives. They are doing everything to the limit, in secret, being silent, which is certainly going against the DSK water supply rules” (Interview 36).

In interviewing one water consumer, I came to know that some of the informal water providers are involved in stealing water from the formal water-mains. Their intention is to get one formal connection and informally sell water to others. He explained that this is one of the informal strategies of demand-making, to compel the CBO executives
to give them formal water-meters. He further explained that previously these types of illegal connectors got priority in getting water meters from the CBO executives. This may encourage other informal providers to continue to steal water from the water-mains. Later, I raised this issue of the informal/illegal strategies of demand-making in a focus group discussion (FGD 4). The participant CBO executives also admitted this difficulty of priority listing for the new connections. One of them explained:

“‘There is no rule that the informal water providers in Karail will get a priority in the distribution process of water-meters. But, we had to reconcile with the informal procedures since the people of Karail have been accustomed to these types of informal activities for a long time. I have personally talked to them and requested that they not make any disturbance to our activities. But, their response is ‘give us water-meters and then we will not do anything harmful’. That is why we have sometimes considered them in the list, to reduce the illegal use of water’ (FGD 4).

One water consumer differed with this argument of the CBO executive. He pointed out that there are some hidden agendas between the illegal connectors and the CBO executives. As he explained: “If the CBO could have been stronger against them, water-stealing would never be possible. We suspect the CBO has some connections with them in this regard” (FGD 4). Reaching this situation of direct allegations against each other, I had to change the topic of discussion in the focus group.

Subsequently, I raised this issue with a consumer and the CBO Secretary during their individual interviews. The consumer said:

“This is completely because of the weakness of the CBO committee. Several illegal connectors have been detected, but they are yet to be punished. The CBO can only warn and advise them about the possibility of punishment for taking water in an illegal way. It would have never been possible if a single one of them was punished. On the contrary, a few of them were given water-meters out of turn” (Interview 7).

The Secretary of the CBO partially accepted this criticism and tried to explain the reasons behind this informal strategy regarding the water supply system. As he explained:
“There were several informal water providers who did not enlist in the priority list. We expected their inclusion but they did not pay the instalment charge and fees. Subsequently, when formal water supply was started, they realised their mistakes and asked for formal water-meters. As we know that these are the people who will take water in any way possible, we had to take some informal steps to give them water-meters, subject to the permission of the DSK” (Interview 35).

However, the conversation suggests that ‘informality in meter distribution’ was also a strategy to neutralise any possible pressure from the informal water providers, since ‘more inclusion of informal water providers means a reduced loss of formal water tariffs’ by the DWASA. Moreover, this pressure group of informal water providers has considerably strong approval from, as well as control over, sociopolitical relations in Karail. It might be interesting to know ‘who are the particular informal water providers who dare to make an illegal connection to water-mains’ and ‘whether there is any intervention from local party-politics’. The following paragraphs discuss this last major difficulty of operating a CBO.

**Intervention of local party-politics** is an important difficulty that is also related to illegal informal water connections. Involvement of the residents with local political parties is quite obvious in Karail. During the whole period of the fieldwork, I had come across different categories of the residents (such as owners of houses, informal water providers, NGO leaders, general water consumers etc.) and tried to learn their cognitive and behavioural involvement in party politics. It was very difficult to figure out someone’s political relation to a particular party in one meeting. This is because the slum residents never directly talk about their party involvement, although almost all of them have relations with local parties45. I was first trying to understand the relation between party involvement and access to the formal water supply, particularly looking at who are in the priority list to get water-meters and whether political involvement has any relation with access to formal water-meters. I found that access to formal water-meters depends partly upon the socio-political relations, particularly

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45 Perhaps this was the reason why the questionnaire survey with the water consumers found a minimal participation in party-politics by the consumers (Chapter Four).
ruling party involvement and enjoying social networks with CBO leaders. For example, illegal water connection with the formal water-mains was possible only because ruling party leaders or supporters in the community were formal water consumers, and at the same time, suppliers of informal water. One community leader explained:

“There are two ways to figure out who is making leakages to water-mains. First, the expert leakers/connectors make leaks in the bottom-side of the pipes, so that water can be supplied even at low-pressure. Most of the previous cases of leakages were found in the bottom-side. This indicates that the connectors are very skilled, and obviously they are the informal water providers. And secondly, these water providers have strong connections with ruling party politics that give them much power to do misdeeds. I am very sure that without political linkage with the ruling party and with CBO leaders, nobody would be brave enough to leak a pipe” (Interview 36).

He further shared that “it is well known to everybody exactly who is behind these illegal water connections. But, nothing will happen as they are also in the same line of party involvement with the CBO committee” (Interview 36). This indicates that both the CBO committee and the illegal water connectors might be followers of the ruling party, which impedes the CBO from taking legal action against the illegal connectors. On raising this question to the Secretary of the CBO, he responded:

“Despite what we know about the illegal connections and leakers, we show considerable tolerance to everybody for the benefit of Karail. We recognise that the informal water providers make tremendous contributions to the water supply in Karail. The reason is we suffered a lot due to water scarcity in Karail in the past. These informal water providers basically gave life to the people of Karail and are still giving. We want to solve this problem based on mutual understanding without pursuing any legal action. And I do believe the situation is gradually improving” (Interview 35).

However, these local informal factors actually impede the smooth operation of community activities in Karail. The following section further analyses these impacts and challenges to participatory approaches.
6.5 Community participation in practices and challenges

This section synthesises overall findings of previous sections and analyses the impacts of situated informalities of the poor that basically challenge the success of community participation, in particular with regard to participatory water governance in general. In practice, the community participation for water services in Karail is not only aimed at getting water from a legal source, but also getting involvement with the formalities that may partially recognise the formal entitlement or identity of the poor in Karail. As it was observed during the fieldwork, community engagement is a deliberate strategy of the poor to be connected with formal institutions such as the DWASA. In this regard, the CBO President said:

“In the beginning, NGO activities were neglected and regarded with suspicion. We thought that they will only make money in the name of our poverty and the scarcity of our water. But nowadays, NGO activities are much trusted by almost all of the residents in Karail. Particularly their community building program has been very fruitful. Now we are more united and supportive of each other. We also feel that we have now legal identity after being a member of an NGO” (Interview 34).

Despite the fact that the scarcity of water problem had mostly been solved by the informal water providers in Karail, all of the residents are now completely in favour of DSK and DWASA intervention for water in Karail, to acquire and benefit from their formal attachment to the governmental organizations. Along the same line, the Secretary of the CBO explained:

“Our names are now enlisted as the formal recipients of DWASA water. We have already invested money for water connections and we have legal paper documents. We believe that our existence in Karail is no longer free and illegal. Now, we can argue against the threat of eviction because of our formal attachment to governmental organizations” (Interview 35).
It seems that this logic was absolutely true when I visited a slum named Shattola Basti in Mohakhali, Dhaka with the CBO Secretary (DSK) and the President of NDBUS\(^{46}\). It was just an informal visit with them in the beginning of my fieldwork, with an aim to understand the urban poor in Karail and compare their livelihoods and service provisions with other slums of Dhaka. They were invited into the slum as experts of community leadership by a community based organization in Shattola Basti. The topic of discussion was ‘how to construct a committee for formal water supply and to what extent they will be able to support negotiation with the DSK and the DWASA in this regard’. I was eagerly listening to their discussion to understand the reasons behind their demands for formal water connections, while they already had (in Shattola Basti) a sufficient informal water supply. I realised that the overall intention was to get involvement with DWASA water services so that their slum could be protected from future eviction threats. Therefore, community engagement by the urban poor is not only to ensure services, but also to ensure their formal identity and their legal entitlement with the government to secure existence in the slums.

This might be the most positive outcome or strength of the community participation approach of the DSK Model in Karail. Community building and togetherness of the residents have converted a ‘slum of despair’ into a ‘slum of hope’ (Stokes 1990). This also makes the slum-poor more capable and self-dependent, rather than living with the anxiety of temporariness and illegal identity. The case of the community approach to water supply in Karail also proves that the illegal use of services such as water can be reduced by the help of NGO intervention. At least 18% of the households in Karail now pay a water tariff to the DWASA. Previously, nobody paid the DWASA for their water use, although the residents were using water which was also connected with DWASA water-mains.

The Managing Director of the DWASA, Engineer Taskim A. Khan, pointed out in a television program\(^{47}\) that there were three positive sides to the formal legal water supply. Firstly, the DWASA eventually gets 100% of the water revenue from the poor.

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\(^{46}\) NDBUS refers to Nagar Dariddro Bostibashir Unnoyon Shangstha (Development Organization of Urban Poor Slum Dwellers)

\(^{47}\) The program ‘Purpapor’ on Channel 24 discussed ‘Bastibashir Jonno Nirapod Pani (Safe Water for the Slum Dwellers). It was telecast on 20-09-2014.
He believes that poor people never hesitate to pay water bills, but the rich people in Dhaka try to steal water. Secondly, the urban poor were used to waste water when they acquired water from illegal sources. As they pay for the legal water now, they normally use water with care, which has remarkably reduced water misuse and wastage. The third benefit is that now the poor, particularly the women, have more time to nurture their children or participate in economic activities. When there was no legal water supply they had to spend many hours collecting water for daily use.

This conversation indicates the level of commitment and trust shown towards the slum dwellers by the DWASA. It also proves that the community approach under the DSK Model was successful in establishing a strong relation between the residents of Karail and the DWASA, whether that relation is direct or indirect. Despite these facts, as discussed in previous sections, the proper functioning of the CBO is still found to be challenging as a result of various locally situated informalities.

Unequal access to CBO leadership is perhaps one of the biggest challenges to the formal water supply system. The poorest of the poor in Karail have limited opportunities to be included in the CBO and in the list of meter-holders as well. As has been observed, only the owners of the houses have the opportunity to apply for water-meters and sufficient space for water-storage construction. In addition, the CBO election has been a complex democratic process which needed large sums of money for contesting the posting of executives. In general, the comparatively poorest of the poor in Karail have no way to stand in the contest, since they are temporary tenant residents only. Informal group politics is also an important factor impairing the equal access to community leadership. It was observed that there are two crucial factors affecting successful group politics. The first factor is economic strength, based on the informal ownership of houses and businesses, and the second factor is regional identity.

Despite Karail being divided into two units, there are several regional divisions among the residents based on their district of origin. There are some regional district-based informal organizations in Karail, which is a determining factor in group politics. These organizations are based on the original districts of the residents before settling in Karail. One community leader (formal water consumer) said that “the residents who
originated from the Mymensingh, Comilla and Barisal districts are socially more integrated, and have comparatively more control over Karail” (Interview 36). Therefore, the community leadership in Karail is not determined only by leadership capability, but also by the economic strengths and regional identities of the candidates.

As discussed in Section 6.4.3, the present CBO had to include additional advisers, although they were defeated in the election by the popular vote. This indicates that the formal process of CBO formation is affected by the local power relationships and political contact with the ruling party. The powerful in Karail are the social and political elites of the community who have economic and muscle power to intervene into every activity. These are some of the challenges affecting the situated socioeconomic and political embeddedness of the poor that should not be ignored in the formal process of CBO formation through the DSK Model.

6.6 Conclusions

This chapter analysed community participation in formal water governance in Karail. It first briefly discussed the background of formal water provision based on the DSK Model. In particular, it was concerned with how the participatory approach was enacted, and identifying the challenges of sustainable community leadership in the light of local situated informalities. It was found that the DSK Model was successful in bridging a relation between poor communities in Karail and the formal water supplying authority (DWASA). The DWASA was found to be very satisfied with revenue collection from the consumers. As an intermediary organization, the DSK successfully managed to fund and build a water pump in Karail and distribute 581 water meters among the residents (18%). Despite this, it was also observed that community participation has several limitations that challenge the success of participatory water governance.

First, considering Karail as a single homogenous community might be inadvisable, since the majority tenant water consumers could not pay their water bills according to the rate of the DWASA, and they did not even have participation in decision making or the process of CBO formation. It was obvious that the minority of house-owners has access to water-meters and they act as service providers to the majority tenant
water consumers. This indicates discrimination in the community and suggests that hierarchies need to be considered when defining community and providing services.

Second, the chapter also revealed that the formal democratic process of CBO formation is not effective enough while there are locally embedded socioeconomic and political informal power relations. Women (such as the CBO President) who participated or were elected as the CBO executives were not well accepted by other powerful players. The CBO activities were controlled by the ‘interest group’ and a ‘regime of informal group politics’ was evident among the executives. It was also evident that unequal power relations among the CBO executives weaken the scope for collective participation. The last major finding of the chapter concludes that community participation was largely affected by the intervention of party-politics and informal water providers in Karail. The findings also suggest that the formal water governance, like the informal water supply system in Karail, cannot divorce informal power exercise and local politics.

However, the limitations of community participation for water governance in Karail suggest a necessity to activate the leaders who have ‘capacity to provide leadership’ rather than those who have merely the ‘ability to control’. In addition, strong participation by the state authorities is also crucial and inevitable for efficient participatory water governance. Chapter 7 continues to explore the roles of central and local governments in providing water to the residents in Karail.
CHAPTER SEVEN

FORMAL WATER SUPPLY

ROLES AND CHALLENGES OF THE GOVERNMENT

7.1 Introduction

Chapter 6 analysed how the community participation approach to formal water supply to the urban poor was enacted and perceived by the residents in Karail. This chapter analyses the roles of central and local government in supplying water to Karail under the process of partnership with civil society organizations such as the DSK and community based organizations (CBO). Using the responses from the interviews and focus group discussions, this chapter evaluates the roles of the Dhaka Water and Sewerage Authority (DWASA) and Dhaka City Corporation (DCC) with regard to the formal water supply in Karail. Particularly, this chapter investigates whether the central and local governmental authorities completely depend on the DSK and other donor agencies for formal water supply by maintaining government at-a-distance power relations between the DWASA and the DCC, and water consumers. Finally the chapter also highlights the major challenges for the central and local governments of Bangladesh with regard to providing water supply to the urban poor in Karail.

7.2 Explaining the role of government in participatory governance

The consequences of governmental policy-making have a remarkable influence on the informal livelihoods of the slum dwellers, and lead them to direct or indirect contact with governmental agencies and their responsible partner authorities through the participatory approach to governance (Rakodi 2001; Pierre and Peters 2000; Stoker, 1998). The government of Bangladesh has recently taken some initiatives following the paradigm of participatory governance that suggests equity and inclusion for all, including the urban poor, in the city (Quasem 2012; Akbar et al. 2007). Despite the evidence of this type of governmental reform, the government of Bangladesh (both central and local governments) is yet to achieve satisfactory success in dealing with the issue of the formal provision of environmental services in informal settlements based on participatory governance (Bhuiyan 2010).
This section examines governmental competency and effectiveness in regard to the provision of a formal water supply in Karail. It is argued that the competency and effectiveness of the government is affected by government-at-a-distance power relations (Dufty 2008), which is determined by dependency on external experts, bureaucratic complexities and a lack of co-ordination between the local and central governments. The performance of governments in a situation of government-at-a-distance power relations has been analyzed evaluating the roles of the DWASA as a part of central government, and the DCC as a part of local government of Bangladesh.

7.2.1 Creating a participatory space: the role of the DWASA

According to the new prescription for technologies of governance (Dufty 2007), the government has to merely be a partner of development instead of being at the top of the hierarchy of power structure (Rakodi 2001; Pierre and Peters 2000; Rhodes 1996). The logic of this prescription was to enhance performance of governmental agencies in developmental activities by downgrading the power of authority to the same level of other actors such as private organizations and the ultimate stakeholders, the people (Desai, 2002, 1999; Bebbington, 1991). Nonetheless, as Martin and Mathema (2010; p. 248) note, “it is harmful for state agencies to behave as if they have no need of involvement with the community as it is for the community to say that providing those services is their problem”. Along the same line, it is argued that it is harmful for the state agencies to act from a distance for project implementation and management involving local communities through external experts only (Dufty 2007; Rose and Miller 1992).

As discussed in Chapter 6, previously the DWASA was not in a position to allow any private mediators in water supply and revenue collections, although they had to face a huge system loss for irresolvable leakages in water-lines and rampant illegal connections (Rana 2011). Subsequently, the emergence of governance approaches through civil society activism, and their gradual assimilation into the public governance arena, assisted (or forced) the DWASA to recognise some NGOs and CBOs in the operation and management of water supply. This governmental
transformation paved the way for what can be called a ‘participatory space’\textsuperscript{48} (Cornwall, 2002) for water supply, particularly to the urban poor in Dhaka. Recent research also supports this endeavor of the DWASA, since it reduced government revenue losses and illegal informal connections (Habib 2009; Chowdhury 2004). Habib (2009; p. 260) notes that slum communities can play an important role in securing water supplies and help each other to get improved water services at low cost; informal communities can gain access to utilities by being willing to pay; governmental institutions need to make legal changes to respond to community initiatives and demand for services; NGOs can mediate to organise slum dwellers; and participatory community approaches can regularise illegal water connections and help to increase government revenue from supplying water to slums and squatters. However, these were the motivations for the participatory community approach that inspired the DWASA to be supportive of DSK intervention in formal water supply to Karail. In a recent TV Talk show, the DWASA Managing Director also argued that the “DWASA believes that we have to supply water to the urban poor and we have done it. In December 2015, we are hopeful to be able to cover all slums in Dhaka city under a formal water supply system” (Channel24 2014\textsuperscript{49}). This conversation indicates the positionality of the central government in favour of supplying formal water to the urban poor in Dhaka.

7.2.2 Creating a participatory space: the role of the DCC

At this point, it is necessary to briefly outline the decentralization policy in Bangladesh. The Constitution of Bangladesh, enacted in March 1973, affirms the constitutional support for decentralised governance. It states (Ali, 2004; p. 349):

(1) In Article 59, the Constitution specifies that local government in every administrative unit of the republic be entrusted to bodies composed of persons in accordance with law.

(2) In Article 60, the Constitution specifies that for the purpose of giving full effect to the provision of Article 59, Parliament shall by law confer power to the local

\textsuperscript{48} Participatory space refers to opportunities for functioning with the government by the civil society.

\textsuperscript{49} The Managing Director of DWASA was present in a talk show of Channel24 entitled ‘Purbapor’ on the topic of ‘Bastibasir Jonno Nirapod Pani (Safe Water for Slum Dwellers) on 20 September, 2014).
government bodies referred to in the article including power to impose taxes for local purposes, in preparing their budgets and to maintain funds.

In addition to this Constitutional provision, Dhaka City Corporation also has its own rules and regulations regarding water and sanitation services. According to Dhaka City Corporation Ordinance50 (Chapter II):

- Article 86 (1) Subject to any law for the time being in force, the Corporation may provide, or cause to be provided, to the City a supply of wholesome water sufficient for public and private purposes.
- Article 86 (2) The corporation may, and if so required by the Government shall, in the prescribed manner, frame and execute a water-supply scheme for the construction and maintenance of such works for the provision, storage and distribution of water as may be necessary.
- Article 86 (3) Where a piped water-supply is provided, the Corporation may supply water to private and public premises in such manner and on payment of such charges as the by-laws may provide.
- Article 87 (1) All private sources of water supply within the City shall be subject to control, regulation and inspection by the Corporation.
- Article 87 (2) No new well, water-pump or any other source of water for drinking purposes shall be dug, constructed or provided except with the sanction of the Corporation.

These are the Constitutional obligations of the local government under the process of decentralization in Bangladesh. Despite these legislative provisions, the DCC enjoys limited institutional autonomy and opportunities to partner with other development actors (Rahman 2013; Sohag 2013). Whatever the recent development of governmental reform in Bangladesh, however, it is now widely recognised that the process of political decentralization, through enhancing participation of the local municipal representatives and strengthening their capacity, has been a great success in

50 Please browse the link: http://www.dhakacity.org/Page/Links/Home/Type/hotlink/Link/0/Id/1/Subid/27/
many developing (Rojas et al., 2008) and developed countries (Owens and Norregaard, 1991; Smith, 1991).

In a recent article, Rumi Aijaz (2010) states that in some developing countries, including Angola, Burkina Faso, Cambodia, Egypt, Ethiopia, Mongolia, etc., a considerable improvement in areas such as city management, housing, slum upgrading, infrastructure and services, educational facilities, waste management, employment generation and youth empowerment, has been possible due to financial and technical support by donor agencies, such as UN-Habitat, the World Bank and the ADB. Following this path of development, various projects and programs regarding capacity building and empowerment have been undertaken in Bangladesh. Undoubtedly, Dhaka City Corporation, as a literally decentralised local government, has opportunities to be involved in these development initiatives. A number of its municipal functionaries are now already able to provide better services to the residents (Ali 2004).

Nonetheless, there are some fundamental criteria that should be fulfilled by the development agencies, such as local governments, for achieving a sustainable participatory space for development. Rojas (2008, p. 13) argues that “strong local governance requires well-designed rules and incentives that encourage elected officials to satisfy the population’s needs through the efficient management of available resources”. He further points out four crucial rules and incentives, which are:

(i) Those derived from the system of intergovernmental relations that clearly define the responsibilities and resources of each government level;

(ii) Those that originate in the local government structure, which determine the community’s level of participation in decisions, as well as the level of supervision over elected officials;

(iii) Those related to the institutional capacity of local governance to carry out their assigned functions; and

(iv) Those that originate in the financing mechanisms of the activities and investments of local governance.

With the above discussed background of the roles and responsibilities of the governments, the following section explores the challenges of political decentralization in Bangladesh, particularly focusing on the issue of the water supply
project in Karail. The performance of the DCC has been analyzed based on its incompetency and ineffectiveness in dealing with the water project, with a view to unveiling local political informalities of the poor as well as the leaders in and around Karail. Section 7.3 further analyzes intergovernmental relations and the bureaucratic complexities related to the informal poisonous political culture (The Economist 2011) that hampers the process of slum development. The main argument is that the incompetency and ineffectiveness of the local government is purposefully produced by the central government because of local informal political practices.

7.3 Participatory water governance: forms of challenges

Drawing upon governance challenges and partnership approaches, the following sections describe the challenges the DWASA and DCC faced to supply formal water in Karail. As it was observed, the challenges can be categorised into two types: (i) Government-centered challenges and (ii) Government-induced challenges.

7.3.1 Government-centered challenges

A ‘Government-centered challenge’ is defined as the contestation of the government in delivering services under the provision of partnerships with NGOs and CBOs. In the interviews and focus group discussions conducted in this research, two types of government-centered challenges were discovered:

7.3.1.1 Dependence on the external expertise and government-at-a-distance power relation

As discussed in Chapter 6, in the process of formal water supply provision in Karail the role of the DWASA was only to provide a water-pump and formal permission for water-meters for the residents through the DSK and CBO. There is no doubt that the DWASA has taken a positive initiative to work with civil society organizations as a partner or enabler. Nonetheless, the overall co-operation of the DWASA for formal water governance in Karail exhibits a clear dependency on the external experts or partners that indicates a ‘government-at-a-distance’ power relation.

Please see a report on Poisonous Politics in Bangladesh: http://www.economist.com/node/21525897
Figure 7.1 shows the ‘government-at-a-distance’ power relation between the stakeholders of the formal water supply in Karail. The DSK is the central civil society organization which has multi-faceted (both strong and weak) relations with other stakeholders. It performs as the central expert organization in dealing with water supply. A strong relation between the DSK and the DWASA is clearly visible. The DSK is also strongly related with the CBO, which is performing as the prime managerial expert at the local level in Karail. Water consumers have direct relation only with the CBO authority, and they do not have chances to negotiate with the DSK, let alone the DCC and the DWASA. Despite the fact that the CBO is the main managerial authority in Karail, it does not have direct contact with the DWASA or the DCC. However, these relationships among the stakeholders indicate a complete dependency on the DSK by both the water-provider authorities (DWASA and DCC) and the water-consumers (CBOs and general consumers) for formal water governance in Karail.

**Figure 7.1: Relationships between government, experts and water consumers**

It was observed in the fieldwork that the residents of Karail in general define the formal water supply as 'DSK water'. It reveals an intimate relationship between the residents and the DSK. At the same time, it indicates the invisibility of the DWASA in the process of water supply, although they are the main legal authority regarding the source of water. Almost all of the water consumers in interviews and focus group discussions appreciated the DSK for its contribution to the water supply in Karail. They also believe that the formal water supply has only been made possible by the
intervention of the DSK. A water consumer evaluated the DWASA and the DSK and said:

“DSK is the main actor, which is playing a vital role for the water project, even though the DWASA has constructed a pump and pipe-lines. Previously, we tried to negotiate with the DWASA for water but they declined to allow any formal water-meters. We are very happy that the DSK has given us this opportunity to negotiate with the DWASA through the CBO.”

This shows an indirect connection between the CBO and the DWASA mediating through the DSK. On the other hand, the water consumer-tenants have a figuratively-distant and indirect relation with the DWASA through the CBO and the DSK. The formal water consumers only observe the performance of the CBO and the DSK, rather than the DWASA as the main authority of the project. In an interview, a water consumer expressed the following views:

“Still I do not believe the project will be a success, and I have heard that there are many problems. The DSK is providing water, but I am concerned about how long they will be working here. They previously gave us sanitary toilets, but those are not usable anymore. The entire infrastructure is now occupied by the informal water suppliers. Nonetheless it might be possible only if CBO leaders and the DSK actually work for the poor” (Interview 16).

This conversation also indicates that the success of the water project depends on the performance and presence of the DSK rather than the DWASA. Therefore, the recognition of the DSK as an intermediary expert civil society organization under the new paradigm of governance is also determining the performance of the government bodies such as the DWASA. In addition, it represents a strong participation by the civil society organizations for the development of an informal urban community, and comparatively weak and ‘at-a-distance’ participation by the government agencies.

Another weakness or challenge for the DWASA is to depend on donor agencies for their investment for development of informal urban communities. It is evident from the progression of water supply provision to the slums in Dhaka city that the DWASA
agreed to approve water supply lines for the urban poor only when there was a partnership project with international donor agencies. The case of formal water supply in Karail also supports this argument, since the Asian Development Bank and a number of other donor agencies such as WaterAid and UNICEF provided financial assistance for infrastructural development in Karail.

The third major challenge or reason for its dependence is the shortage of human resources to provide the best possible services to the slum dwellers. The present Managing Director of the DWASA has considerable sympathy for the slum dwellers. He initiated a Low Income Community (LIC) department. His initiative is still insufficient to reach to the grassroots slum community level. Most of the respondents want the DWASA to be more inclusive and participatory. They wish to have direct access to the DWASA instead of through the CBO or DSK. In an interview (Interview 33) the Senior Community Officer admitted the limitation of human resources to deal with the huge presence of slum communities in Dhaka city, even though he expects further development of the Community Program and Consumer Relation Department in the near future. In a similar vein, a senior executive of the DSK said “The DWASA is lacking the grassroots community activities that we have had for a long time. In addition, I am afraid the DWASA officials will go to the slum and will work as closely with the slum poor as we normally do” (Interview 31). Responding to the same issue, a community leader of Karail also suspected that “the DWASA will never be successful if they come to supply water directly in the slums, since most of the government officials are corrupt and do not have sympathy for the urban poor” (Interview 36).

It was also the experience that the DWASA engineers related to the water project are not interested in talking about the water supply system for the urban poor. Hence, the urban poor being mostly overlooked by the formal authorities is the fourth and final challenge of the formal water project for the low-income communities in Dhaka. A university teacher said “ignorance of the contribution of the urban poor to the urban formal economy is a big issue. This actually results in the exclusion of urban informal communities from the development projects” (Interview 42). In the case of water supply to Karail, “it is only a tiny part of a big running project in Dhaka. Therefore,
the project authority has few chances to take care of this small issue of Karail”, one of the community leaders noted (Interview 36). He further added:

“For the government officials and most of the rich people in the city, the needs and voices of the urban poor are a kind of burden or noise. So, water supply to the slum is not a big deal while they are busy with many other large projects for the rich people in Dhaka” (Interview 36).

This type of negligence was also evident since the water supply to the households started after almost two years of construction of water-lines by the DWASA, due to the scarcity of reliable water sources and a piece of land to install a water-pump in Karail. In response to the question ‘why it takes too long to start a water supply in Karail’, many of the respondents suspect a deliberate absence of government agencies to deal with the problem. One formal water consumer shared:

“It was nothing but a joke to us that the DWASA was unable to find sources of water for the project. I am very sure that delays in constructing the water-pump were deliberate, and could be because of informal negotiations between the DWASA officials or operators and the informal water providers in Karail” (Interview 13).

Likewise, another formal water consumer said:

“It was a lame excuse by the DWASA that they could not manage water sources for us. We believe that the government authorities have every capacity to work for the people. Actually there could be some other factors that restrained them from initiating formal water supply in Karail. Otherwise, if it was not possible for the government authority, then how come it was possible for the DSK?” (Interview 1).

However, these discussions about the case of the water supply in Karail indicate that the challenges of formal water supply and governance in the informal setting of urban areas might be due to the deliberative ignorance of the informal community, the personal interests of some government officials, and dependence on external experts such as the DSK for managerial and financial support. As the respondents reported, the temporization of water supply to Karail was not because of water scarcity or financial problems of the DWASA; rather it was because of some corrupt government
officials who had informal illegal commitment to the informal water providers in Karail. This might be one of the main reasons why the DWASA has been forced to become dependent on the DSK for non-corrupt management and successful negotiation with informal water providers.

7.3.1.2 Multiple agencies in providing same services

Another government-centered challenge is that the state creates multiple agencies or authorities to provide the same services, including water. It is already known that the DWASA is the prime governmental authority for supplying water to the urban citizens in Dhaka. Besides the DWASA, the DCC is also committed to ensure basic services to the local citizens. As explained in Section 7.2.2, the DCC has the prime authority to permit infrastructural construction within its jurisdiction, including the slums. Therefore, both the central and local government authorities are responsible to provide water to the citizens. However, this kind of provision by multi-agencies in the process of institution-building for better governance becomes problematic. One CBO leader explained:

“We have previously visited both DWASA and DCC offices regarding the water supply in Karail. At that time, the DWASA told us to ‘go to the DCC and demand water as you are all voting for the Mayor and Councilors’. On the contrary, the DCC authorities informed us that there is an insufficient budget for supplying water to the City Corporation. They suggested that it is only possible if the DWASA agrees to construct infrastructure and allow water connections” (Interview 35).

This conversation indicates a lack of co-ordination and co-operation between the DWASA and the DCC and also substantial dependence on central governmental funds by the local government. A university professor also supported this argument and said “despite the DCC having been established a long time ago, it has failed to meet the demand and expectation of the citizens for local governmental reform. Irregular elections and over-politicization of the local government is also a big factor causing a lack of co-operation and co-ordination between relevant authorities.” However, this also leads to ‘government-induced challenges’ which is discussed below.
7.3.2 Government-induced challenges

A government-induced challenge is defined as the contestation created by the government itself. Drawing upon the example of the formal water supply system in Karail, this section tries to point out government-induced challenges using the following questions: how the DCC as a local government authority contributes to the water project, what are the limitations of the DCC in delivering services to the urban poor, and what expectations do the citizens have of the DCC? Particularly, it explains the challenges of local government and the process of decentralization in creating participatory space for delivering water services to the urban poor in Karail.

7.3.2.1 Absence of local government (DCC) in the partnership program

It was discovered during the fieldwork, that the water consumers believe that there is hardly any contribution by the DCC to the formal water supply in Karail. The general secretary of the CBO shared that, “The DCC has nothing to do with this water project. They never come to visit us. I know that they have relations with other projects such as UPPRP\(^{52}\), but not with this particular water project” (Interview 35). Despite this fact, it was found that the DCC has indirect connection with all of the NGO activities as they organise an ‘NGO Co-ordination Meeting’ every three months. In a focus group discussion with DSK officials (FGD 3), the participants informed me that the DSK had to present their progress report on the water project at the co-ordination meeting organised by the DCC, although all other monitoring and evaluating systems remain under the control of the DSK itself, and there is nobody in the partnership process who can monitor other’s activities. It seems that the co-ordination meeting organised by the DCC is nothing but an opportunity for a formal appearance by the development partner to show its activities for approval only. Therefore, it was evident that the DCC has no grassroots level activities to deal particularly with the scarcity of water in Karail through a partnership program.

In a follow up question to the secretary of the CBO, ‘why is the DCC not involved in this project?’ he blamed the donor-dependent project-based development works for the

\(^{52}\) Please see this link:
urban poor community. As it was explained earlier, the DCC works with other partner organizations only when there is a donation from the international agencies (Interview 38; Interview 42). He remarked that the urban poor community is surviving with the best wishes and financial help from the external donors rather than the central and local governments of Bangladesh. He claimed that “the government closes its eyes and turns back its face when it sees the poor”. This argument was also supported by a senior DSK official as he noted “we had little support from the DCC in the beginning of the water project. They advised us to talk to the DWASA and the local people for water supply since the DCC has nothing to do with it” (Interview 31).

Therefore, the central and local government machineries of the Bangladesh Government are yet to respond to the informal communities in Karail using their own funds. The formal development funds are mostly allocated for the rich communities who have formal entitlement in the city (Interview 38; Interview 42). Despite the presence of at least 16,000 voter-residents in Karail (Interview 35; Interview 36), the local government is not responsive to their basic needs. A considerable number of participants report that the irregularity of local government elections is one of the major reasons why the DCC is reluctant to serve informal communities like Karail in Dhaka. This issue is further discussed in the following section.

7.3.2.2 Irregular local government elections

It is a harsh reality in the developing countries that the politicians become sympathetic and feel responsive to the citizens only just before an election and are nowhere to be seen when the election process is over (Interview 36, FGD 4). This is also evident in the case of Dhaka, where the local politicians, including Councilors and the Mayor, become less responsible and accountable to the poor communities compared to the urban mainstreams, when there is no election (Interview 40; FGD 4). In the process of democratic political development of Bangladesh, the country is certainly lagging behind in achieving optimum political development to conduct a free and fair, and regular election at the levels of central and local government.

At the time of my fieldwork in 2014, Dhaka City Corporation was administered by bureaucrat administrators appointed by the ruling government. Despite the Local Government (City Corporation) Act requiring that an election should be held every
five years, there was no election after 2002. The DCC was administered by the previous Mayor and Commissioners until 2011 (though their tenure expired in May 2007\textsuperscript{53}). A new Local Government (City Corporation) Amendment Bill 2011 was passed by the Parliament of Bangladesh on 29 November 2011 to split the DCC into two separate corporations (DNCC\textsuperscript{54} and DSCC\textsuperscript{55}). Soon after the Bill was passed, the government appointed administrators to run these two corporations and requested the Election Commission to arrange the DCC election in 90 days (The Daily Star\textsuperscript{56}). However, the election could only take place much later on 24 April 2015.

The water consumers were asked ‘how often you visit your local DCC office for services and who is the present councilor in your Ward?’ to understand their connection with local government. It was found that most of them never go to the DCC office and even do not know ‘who is the present representative/administrator of their Ward’. However, it was remarkable that many of them knew who was trying to get nominated in the upcoming DCC election. This indicates two things. First, they do not feel the past and existing unelected administrators are interested in or relevant for the urban poor in Karail. And second, they are quite aware and vigilant about the next DCC election, as many of the prospective candidates (mostly from the ruling party) had already started visiting Karail and assuring the people of better services and a zero-threat of eviction for Karail in the future i.e. if they are voted into power.

Irregularly holding local government elections has a connection with the possibilities of better services to the informal community. The poor in Karail have experienced little local government action with regard to water and other services. Nonetheless, they hope to get support from the local governmental in the future. The secretary general of the CBO stated that for the next election they have a plan to nominate a Councilor from Karail. He explained:

“\text{We believe that it will be possible to be successful in the election if we go with a single candidate from Karail. We hope we will do that in the upcoming election. Success in the election will help us avoid going to other political}

\[\text{\textsuperscript{53} Under the previous Local Government (City Corporation) Act 2009, the elected representatives were able to stay in office until new elected representatives were sworn in.}\]
\[\text{\textsuperscript{54} Dhaka North City Corporation}\]
\[\text{\textsuperscript{55} Dhaka South City Corporation}\]
\[\text{\textsuperscript{56} http://archive.thedailystar.net/newDesign/news-details.php?nid=212277}\]
leaders to negotiate with the DCC regarding responsiveness to our needs.”
(Interview 35)

The reason for irregular DCC elections might be deliberative\(^\text{57}\). One formal water consumer argued:

“The present government feels that they have lost their popularity after they were sworn into power in 2009. People also say that the ruling party candidates in DCC elections will certainly be defeated. So, the government might think that it is better to keep away from DCC elections at this moment” (Interview 19).

This indicates an absence of responsibility and accountability of the local government, which is related to the irregular holding of DCC elections. Moreover, the residents in Karail believe that the outsider counselor from the local government does not pay sufficient attention to their needs and demands. The following section discusses incompetent leadership at the local government level and the reasons behind this incompetency.

7.3.2.3 Incompetent leadership at the local government level

An approach adopted in this research of ‘first learn from the ground and then go to the relevant institutions’ was very helpful to understand how the poor residents in Karail perceive the importance and the responsibilities of the local government, particularly the local Ward Councilor. This also helped me to ask appropriate questions to the Councilor regarding his responsibilities to and relations with the informal poor, and how he perceives the inclusion of the urban poor community in the formal provision of services. In the following paragraphs, an analysis of the competency of the representatives is presented. It draws upon two important questions, which are: why the participants perceive local government representatives to be incompetent?, and what are the factors that make them incompetent?

Most of the respondents in Karail believe that the Mayor and the Councilors are not concerned about their responsibilities to the citizens, particularly to the urban poor.

\(^{57}\) The interview takes place before the latest DCC election held on 28 April, 2015. DCC is now divided into two City Corporations which are Dhaka North City Corporation (DNCC) and Dhaka South City Corporation (DSCC). Karail is located in DNCC area.
who are living in the slums such as Karail. One water consumer said “I have been living here for more than ten years, but I have never seen the DCC offer us any services of its own. I have heard that only a small path (made of bricks) was constructed with the help of a local Councilor in Karail” (Interview 23). A community leader explained:

“There is no chance to evaluate the performance of local government while they are doing nothing for the slum dwellers in Karail, except some collaborative activities with NGOs based on external donors’ support. The activities of the local Councilor are limited to proving national identity cards, issuing birth certificates, conducting immunization programs for children and women and so on. There is nothing special they are doing for the improvement or development of the poor in the slum” (Interview 36).

This conversation indicates that the representative of local government is unable to provide services as per the expectations of the dwellers in Karail. In the focus group discussions, I raised the question ‘what are the factors that make local government incompetent?’ They explained, the reasons for the incompetence of the local government representatives/leaders are not their inability and dishonesty, but the local informal political culture which they are embedded in. One participant explained:

“the government considers the urban poor as a burden, not as citizens of Dhaka, even though we have voter identity cards with local addresses. We are just like third class citizens here. The DCC has nothing to give us since we are far behind in the list of priority of services. I do believe that the Government of Bangladesh is capable of serving us, but the reality is that the rich people are getting the lion’s share of all services from the local and the central governments” (FGD 1).

With regard to the reasons of incompetence of a representative at local government, a university professor explained “the Mayor and Councilors of DCC hardly get any time to think about the urban poor and their sufferings” (Interview 39). He further added that a constant volatile political situation in Dhaka city is one of the reasons for the incompetency of leadership in the wake of poor or no co-ordination between the ruling and opposition parties. As a result, a Mayor or a Councilor has to be always busy with organizing political movements, such as strikes (hartal), human-chains (manob
bandhan), press conferences etc. The Councilors at the local level usually take part in the movements to show their political loyalty to the central party leaders.

A participant in the focus group discussion said: “there are some limitations on a local Councilor to work for the citizens if his party-based political identity and the central ruling party are different. In a situation like that a local Councilor does not get any support from the central ministries” (FGD 1). This was found true in the case of the DCC councilor of the Ward where Karail is located. The local Councilor was from the Bangladesh Nationalist Party, while the Bangladesh Awami league (with alliances) was in the central government.

Therefore, the shortcomings in leadership competency are not always due to a lack of skills, honesty of the leaders or even a lack of resources for services, but the continuous political volatility in Dhaka city, which has experienced an undemocratic and informal political culture for a long time. This type of informal political instability, and its direct and indirect impacts, determines the competency of the representatives of the local government.

Having this understanding about the performance of the DCC as a local government authority, I interviewed a former Councilor of the Ward of DCC where Karail was included. The interview focused on three questions, which are:

(i) To what extent does the DCC participate in the water supply project in Karail?

(ii) Do you think that the DCC can satisfy the urban poor as much as the mainstream urban residents in Dhaka? and

(iii) What are the factors that impede the successful operation of the DCC for the improvement of the urban poor?

In the beginning of the interview, he tried to explain broadly the functions of the DCC and its relevant difficulties. He said:

“Our scope of activities is not like other developed countries where local government is very strong and fully autonomous, and can handle distribution of all types of resources and facilities, and have co-ordination and partnership programs with other partner organizations. In the case of Bangladesh, most of
the services are distributed among different departments under different ministries. For example, water and sanitation, gas, electricity, environment etc. have their individual departments governed by the central government authorities. This is a big problem since local government has nothing to do with these facilities, despite the fact that the general public first came to see the local government representatives when they voted for them in the election. But, a Councilor has very limited capacity since almost everything is driven by the central government” (Interview 45).

He further explained in the interview that the local government only works as the fixer of the faults or defects of services, rather than providing new services to the citizens. He said: “if there is any broken-road, local government will fix it; if the street-lights are fused, local government will provide it; but if there is no road and electricity in the locality to begin with, local government is unable to offer those facilities”. Along the same line, he tried to explain the scope of participation in water supply in Karail by the DCC. As it was observed, the local government can only give permission for installation and maintenance of water supply lines along the roads58. But they cannot guarantee the sources of water through the supply lines, because the responsibility of supplying water goes to the DWASA as the central responsible authority under the central government. The Councilor hopelessly admitted that “in this situation, we have nothing to do except forward complaints of the residents to the DWASA”.

As discussed in Chapter Six, there was a delay to the start of the formal water project in Karail due to the lack of dependable sources of water. In the beginning, the DWASA proposed to connect the water network of Karail with the water-mains of the Banani area. The DSK and the residents of Karail were not happy with the proposal as they wanted to get a separate water-pump only for Karail. The residents of Banani were also opposed to sharing water-mains with the residents in Karail. The Councilor accepted that he was also informed about this dilemma of water sources for the project in Karail. He said: “in a situation like that I had to favour both the residents of Karail and Banani. That is why, to my best ability, I suggested to the residents of Karail that they negotiate with the DWASA through the DSK as they are the main authority”.

58 Article 87 (2) of Dhaka City Corporation Ordinance.
This indicates partial participation or non-participation by the DCC in the formal water project in Karail. The Councilor also accepted that the local government is unable to satisfy the expectations of the poor. I asked him the reasons for this unsatisfactory practice by the DCC. He pointed out two major reasons: (i) bureaucratic complexities and (ii) partisan politics.

It appears that the bureaucratic rationality and the popular democracy involved are contradictory, particularly in the case of slum development since the poor do not have formal land ownership. As he explained, the bureaucracy always supports rationality and formality of the services. In the case of water supply for the urban poor, they often ignore the demands of the poor since they (the poor) do not have legal entitlement (Household Number) for their residences in the city. On the contrary, under popular democracy, the political leaders tend to be seen to appease the informal poor community; for example, they usually promise free distribution of water to the poor in the informal settlements in order to win in the upcoming elections, since many of the poor have formal voter identity cards. He further explained:

“I was a DCC Councilor for five years due to the direct votes of the people. I do believe if I bring opportunities and increase quality of life of the people, they will vote for me for another five years. So, it is important to bear in mind people’s needs and priorities. On the contrary, the bureaucrats do not think about the priorities of the people. They are kind of disconnected from the common people.”

This explanation sheds light on the bureaucratic complexities in the governance system, in which the local government is unable to perform their activities as the citizens expect. One participant journalist remarked: “there is no common ground of decision making by the local and central governments. As it seems the central governmental organizations always follow strict rules and regulations set by the Acts or by the donor agencies. On the contrary, the representatives of the local government first value the needs of the common people rather than the formal procedures” (Interview 43). A university professor also argued “there is no proper co-ordination between central government and local government. Bureaucrats always tend to run their organizations according to the aspirations of the central government. They try to
dictate and control every aspect of developmental activities rather than decentralise power and responsibilities to the next tier of the government, such as the DCC in Dhaka” (Interview 39). In a similar way, a planner observed that “the lack of co-ordination between development agencies is a big issue. I do believe if there is a proper co-ordination among the relevant agencies in the local and central governments, performance and accountability of all actors must be satisfactory. At this moment the development system is stuck in a circle of miscommunication and misconduct” (Interview 41).

This conversation partly indicates that co-ordination among the authorities at the central and local government levels has a connection with the competence of the responsible actors. Therefore, a Councilor of the DCC may have minimal liberty to work independently and follow the demands and priorities of the local citizens. However, the Councilor further noted the bureaucratic problems in Dhaka and said the bureaucracy is always loyal to the ruling party. This might be linked to his second point; ‘how partisan politics hamper and undermine success of the local government’.

The Councilor focused on an informal reason for this bureaucratic complexity which is related to partisan political culture in Bangladesh. He argued, “what else can a bureaucrat do in a situation like this? They always work with the fear of transfer and demotion in the background. The threat of transfer actually compels them to be loyal to the directors or ministers or the ruling parties”. A journalist also explained “we are in a situation in Bangladesh where no one can criticise government activities, let alone the government bureaucrats. Each and every organization is now run by the bureaucrats who identify with the ruling party. So, it is not a question of personal competency and accountability of the human resources, but their political loyalty and solidarity with the ruling government (Interview 43). The following section further analyses how informal party politics prevents the successful devolution of power and authority to local government.
7.3.2.4 Politicization of the local government

This section particularly analyses how and why central government has intentionally politicised local government. The process of politicization of the DCC can be identified and analysed in two ways: first, via the political nomination of the candidates for DCC elections and second, via political bias towards the local representatives when deciding resource distribution.

The political power over governance and governmentality depends on who has control over the main streets (rajpath) of Dhaka. It is a common understanding in Bangladesh that whoever has control over political activities in Dhaka city, and sufficient muscle-power, is most likely to win in central elections, or gain a secure atmosphere for ruling without any pressure from the opposition. This may be the reason why every central government tends to be very careful about the DCC election. The threat inherent in a DCC election is that if the central ruling party loses control over the DCC, they will definitely lose control of the rajpath, which may also obstruct smooth ruling of the central government. This has actually produced an electoral culture at the DCC which is informal and deliberative. The recent temporization of the DCC election and governing of the DCC by the bureaucrats (as discussed in section 7.3.2.2) provide valid evidence for this argument. This is one of the major reasons why the central government wants to politicise local government; so that they can find local representatives from the same political bracket.

It is obvious now that you need a party ticket if you want to have candidature in the DCC election. Despite there being candidates in the campaign with big civil society banners (such as Adarsha Dhaka Andolon) in the DCC election, all of them are supported by the political parties. This type of party identity of the representatives also creates political bias against those who are not from the same political bracket or alliance. This was evident in case of the Ward Councilor who was a participant in this research (Interview 45). The Councilor (discussed before) was elected after getting his

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59 Politicization of local government refers to political party involvement in nominating/electing local government representatives.

60 Rajpath in Bangladesh indicates the major streets of Dhaka where most of the party head offices are located. In case of Dhaka, for example, the streets in Motijhil, Purana Paltan and Bangabandhu Avenue indicate rajpath.

political ticket from the Bangladesh Nationalist Party (BNP) that was in opposition after the national election in 2008. If a Councilor is from an opposition party, he/she gets little support from the ruling central government. The first few years of his tenure were very good, when the BNP was in power (2001-2006); but after 2008, when Awami league came to power, he did not receive the same support from the central government because of his different political identity. As discussed in section 7.3.2.2, all of the Councilors from the same party as him, and the Mayor, were ousted from their DCC offices by dint of the new City Corporation Act produced by the ruling Awami league government.

I raised the issue of the politicization and participation of the Ward Councilor, with regard to the water project in Karail, with an official of the DSK, to understand how the DSK perceives the absence or presence of the local government and how this affects the water project (Interview 31). It was discovered that the DSK accepts the importance of local government and wants to work with them as a partner. The Councilor argued that local government bodies, such as the DCC, need more autonomous power, financial solvency and should be free from party-politics. He further explained:

“The formal service provision as written in the Constitutions or Acts is not sufficiently followed by the development agencies during implementation. There is some informal pressure that restrains them from following the formal procedures. For example, in the beginning of the water project in Karail we organised a general meeting and invited the then Ward Councilor and local political leaders of all major parties, including the ruling party in the center. But unfortunately, the ruling party leaders were not happy about the invitation to the Councilor, who was from another party. They directly and indirectly pressured us not to invite others except from their alliances” (Interview 31).

Similarly, in a focus group discussion (FGD 4), one community leader said that they also experienced the same pressure from the local ruling party leaders from inside Karail and from areas outside Karail. The general secretary of the CBO was not completely in agreement with this argument. He said “we do not know who belongs to which party. We want every political party to have some sympathy with us. We are
not here to do politics, but we want to live in peace and harmony. We do not like this kind of political separatism.” However, in the discussion, all participants accepted that the politicization of local government is a reality, even though it has detrimental impacts on their community interests. Moreover, all of them unanimously want the DCC to not be politicised based on party identity.

This discussion demonstrates evidence of political party-interference in the DCC election. It also indicates that the weaker performance of the DCC is not only because of its limitations; rather it is deliberately created by the central ruling government.

7.5 Conclusions

This chapter analysed the roles and challenges of the central and local government authorities in the process of participatory water governance in Karail. The overall findings of the analyses indicated that both the central and local governmental authorities have indirect participation in the formal water project in Karail. In the case of the participation of the DWASA as a central governmental authority, this chapter found that the government performs its roles, but keeps a distance from the water consumers and the local civil society organizations in Karail. Apparently, the water project was completely dependent on the performance of the DSK and the CBO rather than the DWASA and the DCC. Participation by the DCC, as an authority of local government, was even less than the DWASA. The participants in this research admitted the absence of the local government authority in the participatory process, even though the local representative argued for a logical ground for their absence in the formal water project for the urban poor. However, this finding also supports the argument that while the civil society organizations (such as the DSK and the CBO) accomplish a comparatively stronger performance, the state (central and local governments) has become weaker and serves as an enabler only.

The major challenges of participation included both government-centered and government-induced problematics. Dependence on external experts and donations and multiple agencies for similar service distribution were two major government-centered challenges or problematics. On the contrary, there were some problematics created by the government itself, which included the absence of a proper decentralization process, the incompetence of leadership and the politicization of local government.
CHAPTER EIGHT

DISCUSSIONS AND CONCLUSIONS

8.1 Introduction

The thesis aims to examine the processes and challenges of water supply to the urban poor in Dhaka city through the perspective of urban governance and urban informality. As described in Chapters One and Two, the key research objectives were to explore the modes of water supply systems to the urban poor, to examine the processes and challenges of water supply systems and to recommend some policy suggestions for improvement of the water supply in the future. Based on a case study in the Karail slum of Dhaka, this research has investigated two modes of water supply systems (formal and informal water supply) and their relationships with the situated informalities viz. informal sociopolitical and economic engagement of the poor. A pragmatic mixed methods approach to data collection and analysis was adopted. A questionnaire survey was administered to 120 water consumers (of both formal and informal water supplies) mainly to collect quantitative data in relation to demographic information, socioeconomic conditions and access to water in Karail. In addition, participatory observation, interview and focus group discussion methods were used to collect qualitative data with regard to the processes and challenges of water governance from the various participants including water consumers, water providers and civil society members. However, this final chapter highlights the major findings and implications of the thesis. First, it reviews the findings of the empirical chapters. Second, it discusses the theoretical and policy implications. And finally, it points out several potential directions of future research.

8.2 Supplying water to the urban poor: informality and challenges of participatory governance

This section reviews and highlights the empirical findings of Chapters Four to Seven based on the key research questions: how do the urban poor get access to water? And what are the processes and challenges of water supply provisions? The findings of this thesis have recognised the significant impacts of situated informalities on the success
of the water supply provisions in Karail. The following sections further discuss the types and preferences of water supply, and the actors, processes and challenges of water supply provision.

**Types and preferences of water supply**

The thesis has provided a quantitative overview of the residents of Karail slum and their access to different types of water supply (Chapter Four). Specifically it has analysed water preferences of the respondents of two units of Karail with regard to their demographic, socioeconomic and political engagements. Particularly, it was concerned with the extent to which respondents’ demographic characteristics and social, economic and political engagements determine their water preferences. The demographic profile of the residents suggests that unit 1 is more established than unit 2 in terms of duration of residence and availability of informal economic opportunities. The respondents with better economic status (higher income and savings) have been staying in unit 1. It was also found that the residents working outside Karail have less monthly income and savings. In addition, the findings acknowledge considerable social relations, trust and solidarity among the residents in Karail. In general, the social network was found to be very strong and important for migration to Karail. The majority of them (water consumers) does not participate in party-politics, but have almost equal participation in NGO activities.

The study has also analysed differences in water uses and charges between two units in Karail. The average amount of water use and charges was 82 liters/household/day and BDT 232/month respectively. It was reported that the respondents of unit 2 used more water, but pay less than the respondents of unit 1. In terms of internal variations within individual units, the residents of unit 2 are more unique than the residents of unit 1. In addition, it has also analyzed association between water preferences and demographic, economic and sociopolitical variables to understand whether or not these variables have any relation with the access to formal water supply. The remarkable findings include that the demographic characteristics (age, gender, marital status, household size, duration of residence) of the respondents have insignificant relation to water preferences. A higher economic status (income and savings, job location and duration) does not relate to having access to the formal water supply. Participation in
social and political activities has nothing to do with water preferences, although the residents who participated in social movement for water services have significant relation with access to formal water supply. The qualitative findings in Chapter Seven also indicate that information about the future formal facilities to be available in Karail is a major factor in determining whether a resident chooses to access the formal water supply and provides financial support for water-meter installations. The water consumers who generally participate in different social movements organised by NGOs may have better access to information through NGO leaders that may help them to get access to formal water and financial donations.

However, the overall findings of the quantitative analysis in Chapter Four suggest that the respondents of both units have almost equal access to formal and informal water supply. Hence, it can broadly be concluded that despite socioeconomic variations among the residents of unit 1 and unit 2, the formal water supply in Karail is not provided along the line of demographic characteristics and economic and sociopolitical engagements of the residents. The findings also imply that the formal water provision in Karail does not significantly influence the socioeconomic and political livelihood of the poor. One reason might be that only a small portion (18%) of the households has come under the coverage of the formal water service. Even today, a majority of them depend on informal water provision and they believe that the informal network among the residents is inevitable in the slums, not only to get access to informal services, but also for their own survival. Drawing on this finding, the study has further analysed the relationships between water supply systems and the situated informalities in which the poor are socially, economically and politically embedded. Particularly, it has focused on the actors and processes involved in the water supply systems, and how and to what extent the local informal complexities, such as community participation, influence water governance.

Processes and challenges of water supply systems

Besides describing the types and preferences of water supply systems in Karail, this research has further investigated individual types of water supply to explore who are the actors, what are the processes of water supply, and what are the challenges of governing the systems. With reference to the informal water provision in Karail, this research has found that informal water supply was a revolutionary idea of the poor in
a situation of governmental negligence and the absence of a participatory approach. The case study in Chapter Five has illustrated different modes of informal water supply and informal (situated) factors that help this water provision. The factors first include the cartographic location of Karail in Dhaka and available transport and communication facilities that directly or indirectly help residents to be protected from eviction threats. The ‘vote banks’ of Karail were found to be important factors that entangled the residents with local veteran political leaders. In addition, the consumer-provider neighborhood (sociopolitical) relationship or bridging network was exceptional in that it transcended beyond merely commercial relations among them. However, the research has also explored the challenges of, and constraints on, the informal water supply from the providers’ perspective. These challenges include the temporariness of the water supply, competition among the providers, continuous threats of inspection and financial problems.

The processes and challenges of community participation in the formal water supply in Karail were also examined in Chapter Six. That chapter first briefly discussed the background to formal water provision based on the DSK Model. In particular, it was concerned with how the participatory approach to water supply was enacted and what were the challenges of community participation with the presence of local situated informalities. It was found that the DSK Model was successful to form a relationship between the poor communities in Karail and the formal water supplying authority (DWASA). The DWASA was found to be very satisfied with revenue collection from the consumers. Despite this, it was also observed that community participation has several limitations which challenge the success of participatory water governance based on the DSK Model. Particularly, the challenges or difficulties of running community-based organizations were:

(i) group politics;
(ii) convincing water consumers;
(iii) illegal water connections;
(iv) pressure from the informal water providers; and
(v) intervention of local party-politics.

Chapter Seven has analysed the roles and challenges of the central and local government authorities in the process of participatory water governance. The overall
findings argued that both the central and local governmental authorities have indirect participation in the management of the formal water project in Karail. In the case of the participation of the DWASA, as a central governmental authority, the government performs its roles keeping a distance from the water consumers and the local civil society organizations, such as the CBO and the DSK in Karail. It was also argued in the thesis that the water project is completely dependent on the performance of the DSK and the CBO rather than the DWASA and the DCC. The participation of the DCC, as an authority of local government, was found weaker than the DWASA. The current roles of central and local governments also prove that the civil society organizations (such as the DSK and the CBO) put in comparatively stronger performances in the participatory approach, while the state (central and local governments) plays a weaker role, little more than an enabler. However, the major challenges of participation have included both government-centred and government-induced problematics. Dependence on external experts and donations and multiple agencies for similar service distribution were two major government-centred challenges. On the contrary, there were some problematics created by the government itself, which include the absence of a proper decentralization process, the incompetence of leadership and the politicization of local government.

8.3 Theoretical contributions

This section highlights the key findings of the research and relates it to the broader theoretical debates on urban governance and urban informality. The discussion also accentuates the importance of the conceptual framework as outlined in section 2.4, Chapter Two. This section presents the theoretical contributions of the research, followed by policy implications in the context of urban development in Bangladesh and in other developing countries in the world.

This research argued for the consideration of situated informalities in the process of the formalization of basic service provision for the urban poor. Based on this argument, the empirical chapters have examined how water supply systems for the urban poor were implemented and challenged through the perspectives of urban governance and urban informality. Following the conceptual framework, the empirical chapters have come up with several common themes that relate and add to the existing knowledge in the field of urban and development studies. The common themes include the
importance of urban informality, participatory governance as a mode of temporary formalization of urban services, and the relationship between informalities and participatory governance.

**Informality is a response to basic needs and survival**

The presence of informality in the cities of Third World countries is a response to the basic needs and economic engagement of the poor, as a result of their exclusion from the mainstream urban society and formal resource distribution by the government. Many argue that informality is a part of the urban economy that supports the survival of millions of undocumented people in the city. Describing the ‘illegal city’ as an important aspect of urban development in the developing countries, Mitullab and Kibwana (1998, p.191) argue that “the architects of the illegal city seem to be more innovative than the managers and planners of the legal city. They have come up with innovative ‘solutions’ that are able to accommodate and provide services for the majority of the urban residents”. This case study of the informal water supply in Karail has also provided similar evidence of successful informal water entrepreneurship and economic engagement by the informal providers as a response to their water needs, albeit with the presence of favourable spatial, social and political factors.

The other factor of informality in the city is the ‘indirect tolerance of illegality’ by the government. The study has revealed that the DWASA directly and indirectly tolerates illegal water connections to convey their sympathy with the slum dwellers in the name of public interest. This thesis also proved that the sympathy was not spontaneously offered by the DWASA. Rather, the illegal/informal process was shaped by the dominating informal (provider) poor, local (ruling party) political leaders and the DWASA officials for their personal interests, which Hossain (2011) termed as ‘back-screen interest’. This clearly indicates some administrative informality by the DWASA in the name of water scarcity in the slum, which is purposefully tolerated due to the ‘back-screen interest’ and ‘extra-legal’ forces of the local ruling party leaders, who use public utility as a political offer to the urban poor in exchange for their support during elections. The dominating provider-poor of the slum take up this administrative informality, and chance for political involvement with the ruling party, to continue their informal business in the slum as ‘heroic entrepreneurs’. However, the example
of informal water supply in Karail shows a spontaneous self-organised system of water supply by the urban poor, who are arguably different from the notion of ‘development mafia’ (see Ranganathan 2014 and Weinstein 2008) and who do not completely follow the precepts of ‘occupancy urbanism’ (see Benjamin 2008).

This study also clearly identifies the production and existence of a new ‘informal provider’ group who dominate in all socioeconomic and political aspects of a slum community. In his book, *The Other Path*, Hernando De Soto (1989; p. 14) claims that an “informal economy is the people’s spontaneous and creative response to the state’s incapacity to satisfy the basic needs of the impoverished masses”. This research also accepts the emergence of the people’s spontaneous and creative response to informal economy, but differs with the state’s incapacity. As discussed above, the informal water provision in Karail was not a product of the inadequacy of the formal water supply, but rather of the state’s apparent tolerable position for externalities; for example, it benefits the state both for political purposes and as an unofficial income source (Rana 2011). The informal-provider group in the slum certainly demonstrates their informal creativity and heroic performance through successful negotiation with relevant stakeholders. This informality may not be driven “according to any prescribed set of regulations or the law” (Roy 2009; p. 80), but it is sufficiently trusted and appreciated by the informal water consumers, although it partially exemplifies a case of “organised encroachment of the powerful” (Hackenbroch and Hossain 2012) informal water providers.

As analyzed in Chapter Five, the political involvement of the informal water providers with the ruling party, and the mutual understandings among the providers for running their informal water businesses, indicate a case of organised and systematic control by the powerful over service provisions in the slum community. In contrast to Bayat’s (2004) notion of ‘ordinary’, Hackenbroch and Hossain (2012) term this powerful group as the ‘elite’ category among the poor who has control over service provision to meet the needs of the consumer poor in the community. This study similarly argues against the notion of the ‘quiet encroachment of the ordinary’ (Bayat 2004) while the informal water supply system in Karail is completely controlled by the politically
powerful group who are not ‘quiet’, rather ‘strategically organised and visible’ everywhere in the community and to the state as well.

As it is apparent from the social and political behaviour of the informal providers in Karail, the dominating provider-poor utilise their fluid informal identity, since they are above the margin of the poverty line and do not live in the slum, to enjoy illegal informal business with extra-legal legitimization (De Soto 1990) and political and community leadership (Chapter Six). On the contrary, the informal consumer poor in Karail prefer to stay in the community as the ‘passive poor’ (Lewis 1966; Bayat 2004). Their political passivity has been proven, as they are completely dependent on the dominating provider group not only for basic services but also to ‘make ends meet’ (Bayat 2004) and survive in the community (de Wit 1996) through a social and political network (Chapter Six), which perhaps follows a ‘self-sustained circular process’ (see Muanamoha, Maharaj and Preston-Whyte 2010) between the providers and consumers. It was also observed that both of the groups use political involvement and ‘vote-banks’ as ‘weapons of the weak’ (Scott 1985) for demand making, and as ‘catalysts’ for informal negotiations.

Therefore, the informal water supply provision in Karail exemplifies a survival strategy of the poor. Informal illegal attachment to water providers, and supporting them as passive consumers, might be one strategy of ‘everyday resistance’ (see Scott 1985) to survive in the city. It might be a subculture of the poor (Lewis 1959) as a result of the structural constraints and socioeconomic and political realities they face in the informal community (Gilbert and Gugler 1983). Along the same line, Jacano (1975) defines slum ‘as a way of life’ in which the informality of the poor is part and parcel of their livelihood, since it represents the failure of the formal authorities to meet the basic needs of a large section of the urban community. This study also accepts the argument that the urban poor ‘cannot survive individually’ (Lomnitz 1974) while they survive by continuous negotiation with various stakeholders, offering considerable social trust and solidarity to others and being embedded in a fabric of informal socioeconomic and political relationships (Chapters Four and Five). In addition, it is not only the poor people who benefit from illegal or extra-legal provision of water as providers, but there are people in the water supply authority and local
political leaders who take advantage from the situated informalities of the slum community (Chapter Five).

**Participatory governance as a mode of temporary formalization**

The community-based water supply system in Karail has exemplified an instance of the temporary formalization of water supply for the urban poor in Dhaka (Chapters Six and Seven). The temporariness of the service provision, and the dependence on NGOs for water supply, partially denies the formal entitlement of the poor through the inception of the exceptional participatory approach to slum improvement. This exceptional temporary approach is characterised by community involvement in the water governance, dependency on external experts and minimal participation of the governments. In addition, it can be generalised the process of participatory water governance in Karail as a fluid and dynamic systems of governance. The following sections further describe this fluidity and temporariness of water governance based on the research findings.

First, this research has demonstrated the unevenness and inequality in the community participation process through leadership deficiencies. One of the major challenges of community-based activities is political intervention by the dominating ‘interest group’ who tries to control the power structure of CBOs as well as every other formal and informal development activity in the slum community. The inclusion of dominating political leaders in the elected executive committee of the CBO (Chapter Six; Section 6.4) clearly contrasts with the idea of ‘participation as an end’ (where the community or group sets up a process to control its own development), and instead goes along the line of ‘participation as a means’ (to accomplish the aims of a project only) (see Nelson and Wright 1995, p.1; McGee 2002, pp.104-105; Starkloff 1997). The formal democratic election system for nominating CBO leadership is also disputed while many others in the community cannot participate in such leadership. This argument thus questions the simplistic notion of community in the community-based organization that considers community as a homogenous entity where everybody can equally participate and share common interests and priorities (see Cleaver 2001; Mosse 1994; Welbourn 1991; Midgley 1986). The existence of dominating, active,
provider poor and sub-ordinate, passive, consumer poor in the slum thus contends with the existing community formation process under participatory governance.

Second, this case study of formal water provision has also demonstrated the extraordinary dependency on external experts such as NGOs for governance (Chapter Seven). As it was argued in this research, the dependency on the DSK and the CBO exemplifies a case of ‘government at-a-distance’ power relations (Rose and Miller 1992) where the roles of the central and local government in the partnership process become nominal. As Dufty (2007) explains, in a situation of ‘government at-a-distance’ power relations, the central governing institutions and individuals are dependent on the external authorities or experts and also on the “self-government of citizens to effectively govern spaces and individuals who are physically and/or figuratively distant” (p. 41). Dufty (2007, p. 42) further states “these forms of government seek to achieve their political objectives by acting through the freedoms of those they seek to govern”. This research found that the success of the formal water supply in Karail completely depends on the performance of the DSK, rather than a collective initiative of every stakeholder including the DWASA and the DCC. In addition, the DWASA offers freedom of governance to the DSK and the CBO according to a set of institutional and ethical regulations. The DSK as an expert plays a role to translate these regulations to the CBO and suggests the necessary managerial mechanisms for management of the water supply. This indicates a potential ‘enclosure’ (Dufty 2007, p. 43) between the DWASA and the DSK, and the DSK and the CBO; even though the DWASA and the DSK stay at-a-distance from the general (passive) water consumers in the community. This certainly demonstrates an imperfect mechanism of linear relationship among the stakeholders of formal water governance that faces the challenges of dependency on external experts and nominal participation by the government authorities.

And third, as analysed in Chapter Seven, the absence of central and local governments in the process of participatory water governance in Karail clearly contrasts with the case of the ‘dependent relationship with the local government’ in the SIP (Slum Improvement Project) in Bangladesh (see Gafur 2000, p. 276) and shows that the urban poor residents directly or indirectly develop a patron-client relationship with the local
politicians and civil society organizations (NGOs and CBOs) rather than with the governments. This obviously reveals an acceptance of the notion of ‘government at-a-distance’ power relations in the governance mechanisms, since the state and local government become mere enablers of the service distribution process. Their absence or figuratively distance positionality in the governance process encourages the continuation of dependency on the external donor agencies and civil intermediary organizations for technical assistance which is in fact an emergency situation, although a merely temporary solution is provided. The roles of central and local governments from a distance also contradict the ideal of the progress of decentralization that desires implementation of a ‘bottom-up’ approach (Chapter Seven). Apparently, this type of temporary governance for slum improvement encourages the presence of informal service provisions for the back-screen interest of the dominating groups, and a dependent relationship between the urban poor and local (ruling party) politicians.

The overall participatory process in water supply thus appears to be an exceptional formalization process of utility services, which is arguably feasible only for a temporary informal community. This formal temporary initiative, which Hackenbroch (2010) termed as ‘informal formalization’, partially acknowledges the presence of informal communities in the city, while at the same time denies their legal right of access to a public utility which the mainstream urban citizens already have. The following section further discusses the relationships between situated informalities and participatory water governance to understand the impacts of urban political informalities on the success of slum development.

**Relationship between ‘situated informality’ and participatory governance**

Previous discussion of this section has argued the importance of informality to the urban poor community and the challenges of community organization under participatory governance. I now discuss the relationships between situated informalities and participatory governance, including the roles of governments in community-based water governance. As outlined in the conceptual framework (section 2.4, Chapter Two), this research argues that the success of the participatory governance approach depends on the situated informalities in which the urban poor are embedded.
Chapter Five has pointed out that the situated informalities in the community favour the existence of informal water provision. First, the locational specificities of a community matter in order to get access to informal services in the city. The suitable location of Karail, with available illegal accessibility to services from the surroundings, offers easier and cheaper access to service facilities. Second, the social network and solidarity among the informal water providers and water consumers also enhances informal business opportunities. It was found that the passive consumer poor do not only search for services, but also for sociopolitical solidarity from the dominating provider groups for their survival. This is perhaps the invisible strength of the urban poor community, or the ‘profits of poverty’ (Davis 2006; p. 82) that encourage them to tap into informal services as a strategy of collective survival in the city.

And third, political contact by the dominating poor with the ruling party stimulates informal water businesses. It was observed that involvement in party politics by the urban poor is less idealistic, but rather strongly motivated by the possibility of materialistic benefits to meet their basic everyday needs and ensure their existence. This finding concurs with James Scott’s (1970) notion of ‘machine politics’. Scott (1970) regards the instrumental use of politics as a ‘machine’ and argues that the intention of ‘machine politics’ is non-ideological, since it has less interest in political principle but more in securing and holding power and leadership. Similarly, political involvement with the ruling party and CBO formation by the dominating poor reveals the instrumental use of machine (ruling party) politics for material rewards and to maintain status quo in the community. All of these forms of locational, socioeconomic and political situatedness or embeddedness of the poor in the city are temporary and informal in nature, but very strongly interwoven.

Despite the urban poor positively accepting informal water provision, Chapter Six suggests that they also welcomed community-based water provision in Karail. The reason is that the urban poor, particularly the dominating poor, always look for a chance to be involved with formal agencies, such as governmental and non-governmental organizations. Basically, they play a dual role in the community. As a dominating group they want to continue informal businesses, while at the same time
they want to get access to organizational activities to achieve more formal identity and
to control the power structures in the community. The answer to the question, ‘why do
the informal water providers and/or local slum leaders intervene in community based
organizations?’ may lie in the logic of sociopolitical control over every aspect of
development initiatives in the community, with an aim to get rid of the potential burden
or risk to their informal business and leadership. Therefore, the domination by the
leading group of the slum community intentionally jeopardises community-based
leadership, and seeks also to control the formal water provision, as they normally do
for informal provisions including water. This informal power structure and informal
 provision of services certainly impede the operation of community organizations and
indirectly or directly affects participatory governance.

Besides this informal nature of slum leadership, there are problematics of urban
governance related to the roles of governments. In Chapter Seven, I pointed out that
there are two types of problematics of government arising from participating in the
water governance in Karail. It was observed that the problematics were a result of the
situated informalities of the poor as well as the informal political culture in
Bangladesh. First, the informal/illegal identity of the slum poor is a major factor which
directly or indirectly influences the government-centred problematics. It was found
that the formal water project in Karail was not primarily initiated by the central
government of Bangladesh, but was offered through the local non-government
organizations with financial support from the international donor agencies. This
certainly confirms that the informal slum community cannot get attention from the
government organizations unless and until the external non-government organizations
offer financial and managerial help to accomplish projects for the urban poor. Thus,
the government directly or indirectly participates in the slum improvement programs,
but only based on a different condition of partnership approach with external
organizations, which is generally not offered to the mainstream urban citizens. This
indicates that the urban poor are not treated in a manner similar to the way the
mainstream urban citizens are generally treated.

In addition, informal political behaviour of the government itself generates
government-induced problematics that result in limited participation of the
government authorities, incompetent leadership and irregular elections of the local
government. These problematics may not be directly a product of the situated informality of the poor, but characterise a broader perspective of the urban political informalities of Dhaka in which the urban poor are also embedded.

Drawing on these problematics of government and impacts of situated informalities, this research argues that effective participatory governance depends on strong participation of both the governments and civil society organizations (Kokpol 1998; Fox 1996; Putnam 1993). The strong participation of the DSK and comparatively weak participation of the central (DWASA) and local governments (DCC) in the formal water supply project in Karail thus indicates an inefficient temporary solution to the water problem. Stronger participation of all stakeholders and consideration of the impacts of situated informalities are imperative for successful implementation of participatory governance.

Having outlined the main theoretical implications of the research, the study proposes specific theoretical insights into Third World urban studies. The findings of this research have clearly proved that the local contextual complexities matter to the success of participatory water governance. This study thus calls for revisiting the process of community formation and leadership strategies under participatory governance. It indicates that a complete set of pre-determined strategies of participatory development, based on a few ‘best practices’ elsewhere, may not be successful if those are imposed without considering the local situated informalities. Therefore, the question ‘how to formalise the informality/illegality in the slums’ should be accompanied by the questions ‘where are the slums located?’ and ‘what type of sociopolitical opportunities/complexities do they have?’ In addition, the formal-informal dichotomy might be a false division while the formal water system still accepts many informal practices, and this dualistic thinking only serves to benefit the already powerful actors in the informal community.

This research also calls for rethinking of the importance of the informal economy in the context of Third World urbanization (Heinonen 2008). The informal economy in Dhaka city is a way of life for the urban poor. The participatory approach in formalizing basic service provisions for the urban poor is effective on several levels, but that should not ignore the other sociopolitical realities and strategies of urban
informal livelihood in which the poor are entrenched. This research reveals that the urban governance perspective serves us to understand the community participation process, but does not consider the situated informalities of the community, or the limitations of government authorities. On the contrary, the urban informality perspective provides a better understanding of the importance of the informal economy and the nature of informal livelihood, but cannot provide the solution to the problems inherent in urban informalities. Consequently, this study argues that a framework integrating these two perspectives may be more effective to understand the reality of the Third World urbanization and the slum development programs (Laquian, Tewari and Hanley 2007).

8.4 Policy implications

This thesis is a study of a developing megacity with a special focus on (situated) urban informality, which often accentuates the informal mode of urban life that leads to the emergence of both individualistic and communalistic survival mechanisms for the informal residents, and a new paradigm of governance that suggests democracy, participation, rationality and pluralism in the context of worldwide economic and political liberalization. Beyond the theoretical contributions of the thesis, as discussed in section 8.3, this research also recommends specific policies and practical suggestions for sustainable water supply and participatory development for the urban poor. One key finding of the research is related to a general question, why does informality persist in the city? The answer to this question may trigger us to consider the causes and factors that help an informal water supply system to persist, before implementing a formal water supply project in a slum. This thesis found that the location of the urban poor community (slums), political involvement of the dominating urban poor and the opportunity for informal, illegal negotiation with statutory authorities are the major factors that help informal water provision to persist in the slum community (Chapter Five). Therefore, it is evident that understanding the (informal) spatial, economic and sociopolitical embeddedness of the urban poor, that directly and indirectly impedes the formalization of the informal practices, is mandatory for the successful operation and management of utility services (Ahlers et al. 2014; Chowdhury 2005).
There are two important issues regarding this kind of informal embeddedness of the poor. The first issue is the informal economic engagement of the dominating provider poor, while the second issue is the social security of the consumer passive poor. An important implication is that unless and until an alternative income source is offered or found, the informal water providers may not stop their informal-illegal activities in the slum community. On the contrary, given that the consumer poor are sociopolitically dependent on the dominating poor and the community-based organization is not convincingly inclusive, the consumer poor may partially hesitate to accept the formalization of a water supply which offers less sociopolitical security. Thus, this study further suggests that the government, NGOs and donor agencies need to understand ‘who are the actual consumer poor’, ‘who are the dominating poor’ and ‘who defines and prioritises the demands and problems of the community’ before launching a participatory development program in the slum.

This also suggests democratization in decision-making process and the implementation of a ‘bottom-up’ approach in the development process (Sohag 2013; Jaglin, Repussard and Belbeoch 2011; Fraser et al. 2006; Nazem 2001; Devas and Rakodi 1993; Cheema 1986). One way of achieving this might be by strengthening the co-operation of the local government in the process of establishing a community-based water supply program. In addition, the findings of this research also suggest that wider ‘access to information’ is essential, as if information about potential service provisions may equally reach every member of the community. Building up awareness among all of the urban poor may still be important to understand community leadership and responsibility. It should not only be the community leaders, but also the common members of the community, who can sufficiently perceive the mechanisms of leadership and responsibility in community-based organizations.

As discussed in section 8.3, co-ordination between the central government, local government, civil society and urban community is a crucial factor for ensuring positive and effective governance (Rogers and Hall 2003; Batley 1996). The case of the formal water supply in Karail has demonstrated the limitations of co-ordination among the actors/stakeholders. Particularly, the local government is unable to respond to the demands for water and was found to be a passive participant in the process of water governance. Despite this, the DWASA has taken a praiseworthy initiative
regarding the water supply, and the DSK has successfully negotiated with relevant stakeholders, although the formation of community organizations needs further revisiting to make them more inclusive and participatory. Thus, *building an effective communication structure* might be fruitful in this regard. Harphan and Allison (2000) argue in the context of South Africa that ineffective communication structure is a weakness of what is otherwise a positive institutional dimension of governance. This research finds that the limited access to information the urban poor community has enhances their dependency on a few (dominating) community leaders and external stakeholders, such as the CBO and the DSK. The local government and the CBO should take more initiatives to broaden communication among all stakeholders, including the poor, so that everybody can be informed about the prospective community development programs. This might also help to minimise the gap between the dominating and the passive poor in the community. This argument also implies that policy makers should not consider a slum as a unique entity. Rather, a slum should be considered as a habitat of diversified residents with different sociopolitical and economic statuses (Asthana 1995).

This study has also noted that *irregular local government elections* are also a major factor that pushes urban poor communities further away from their local government representatives. In a situation like this, only a select group of urban poor residents, who are involved in ruling party politics, get access to higher levels of local government authorities. It is this same group that also dominates the control of all informal business in the community, including informal water supply. This serves to maintain a heterogeneous social structure in the community, in which a select few can exercise power and the majority of others remain passive or left out. However, regular local government elections are important to get rid of bureaucratic complexity during project implementation. Irregular local government elections, and the disconnection between the urban poor community and the local government representatives over a long period of time, undermine the necessity for and implementation of decentralization, and encourage the central government to be more authoritative. This might be a major reason why a small group of people in this slum community has been motivated to be engaged in ruling-party-politics, with an aim to come into contact with
the government to enjoy extra-legal or illegal benefits, such as running informal water businesses.

The policy makers and government authorities also need to be aware of utility-specific urban informality, such as the informal water supply in Karail, during prescribing and implementing slum improvement programs. As this research has found, informal water supply provision does not only depend on the social and political networks of the residents, but also the location of the slum and the availability of informal sources of water. Therefore, locational specificity according to access to informal sources of utility services should also be considered as an external impact on formal provision in the informal community. In addition, from a holistic and humanistic perspective, focus should be given to the broader urban community including the urban poor, rather than only on particular urban rich enclaves or gated communities during resource distribution (Jinnah 2007; Joseph 2004; Nitti and Sarker 2003). This research further claims that a more inclusive socioeconomic and political urban society should be formed, based on equal access and the right to public utilities, which is perhaps the ultimate goal of developing countries such as Bangladesh (Blowers and Pain 1999).

Therefore, the present approach of ‘participatory governance’ would not be effective for inclusive urban development, until and unless it considers the impacts of locally situated complexities and micro-politics of the urban informal livelihood of the poor. An over-simplified generalization of community and community participation may also lead policies on the wrong track. If the ultimate goal of sustainable inclusive governance is to be achieved, a better understanding of ‘situated informality’ is inevitable. That is why, the urban planners and policy makers should be more tactical to understand the local complexities in community or self-organization processes, informal urbanism and broadly the evolution of contemporary cities (Silva 2016; Marshall 2009). They should also be careful about the ‘one size fits all’ approach of formal governance while the urban complexities are case specific.

8.5 Direction for future research

Several potential research areas have emerged through the completion of this thesis. First, while examining the case of water, I have recognised the informal provision of other services including electricity and gas in Karail. It might be very interesting to
explore how these informal provisions are enacted and maintained without formal permission from the legal authorities of Bangladesh. In addition, examining why the central governmental authorities (such as DESA\textsuperscript{62}, TGTDCL\textsuperscript{63}) and the civil society organizations are not interested in partnership projects for formal electricity and gas supply to the urban poor might also be interesting.

Second, it was also recognised that a comparative analysis of formal and informal service provisions among the other slums in Dhaka would be helpful to understand the heterogeneity of slums, and to provide a holistic understanding of the basic service provisions in the various slums of Dhaka. A GIS-based concentric ring analysis (Greene and Pick 2011) of basic services might be a potential research direction to compare service provisions between slums in the core, middle and periphery of Dhaka city.

The Karail slum has already been a good example of informal urbanization to demonstrate the challenges of urban informal livelihood in the megacities of the developing countries. Over the last several decades, it has developed and expanded to this present form through various social, economic and political contestations. Therefore, the third option for future research might be conducting a longitudinal study of the Karail slum to unveil the growth and contribution of the informal economy and its spatial expansion over time.

Fourth, during the fieldwork in Karail, I came across different region-based associations (such as Greater Mymensingh) among the residents. These associations may make significant contributions to the everyday livelihood of the poor and to the sustainability of Karail. How, when and why the residents feel an association based on regional (former greater district) identities may bring further insight to understanding their social resilience and how they make use of social capital. In addition, it might also be interesting to examine the possible futures of these regional associations in the context of the arrival of new participatory development ideas and the formalization of services through partnerships between CBOs and NGOs. Therefore, understanding the

\textsuperscript{62} DESA - Dhaka Electricity Supply Authority.

\textsuperscript{63} TGTDCL - Titas Gas Transmission & Distribution Company Limited.
intersection of power structures in regional organizations, CBOs and local political parties might be interesting.

The final research direction may fall along the line of migration research. There is scope for research with regard to the topic of ‘disaster, migration and megacity’. It was observed that a large segment of the residents of Karail migrated to Dhaka after experiencing disasters in their original districts. Therefore, future research might explore the reasons behind, and the dynamics and outcomes of migration due to disaster or climate change.

8.6 Final comments

Understanding informality and temporariness of urban informal settlements and their economies are the key issues of participatory urban governance. To extend the community participatory approach further in the informal urban setting requires recognizing the dynamics and everyday tactics of urban livelihood of the informal poor which are locally situated, rather than externally imposed, and not created only due to the lack of formal structural processes, but also through a self-sustained survival mechanism in which they are embedded. While there are informal business opportunities and a ‘temporariness of existence’ in the settlement, the process of formal community-based governance of only a single utility service (water) would be contested by locally situated socioeconomic, political and spatial factors. As this research demonstrates, the people of Karail depend completely on the socioeconomic and political solidarity present in the community, and strategically take decisions for their collective existence and future opportunities. This is perhaps the speciality and particularity of an urban informal (slum) community where people survive using strategies based upon continuous local learning and change, where disruption can come at any moment. Similarly to postcolonial urban studies that acknowledge the need to re-theorise the city (particularly the Third World city) through its spatialities and temporalities (Lombard 2013b; Varley, 2013), this research argues for a better understanding of situated informalities of urban community in the process of making ‘sustainable urban development’ and ‘inclusive cities’ as well as further contributing to the theoretical debates on urban informality and good governance.
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APPENDIX 1

Questionnaire for Survey with the water consumers of Karail, Dhaka

Questionnaire No: _______________________________ Date: _______________________________

Name of Interviewer: ________________________________________________________________

1. Personal Information:

1.1 Name of the Respondents: _______________________________ 1.2 Age: __

1.3 Sex: □ Male    □ Female

1.4 Marital Status: □ Unmarried □ Married □ Widow □ Divorced □ Separated □ Abandoned

1.5 Religion: □ Muslim □ Hindu □ Others

1.6 Education: □ No-schooling □ Class 1-5 □ Class 6-9 □ SSC □ HSC □ Bachelor and Above

1.7 Occupation: _________________________________________________

1.8 Household Size: ________, 1.9 Family Type: □ Single Parent □ Nuclear □ Extended

1.10 Causes to Migration: □ Natural Hazards (floods, cyclone, river erosion) □ Jobs
    □ Better Income □ Security □ Came with Family □ Others, specify__________

1.11 How did you know about Karail before coming here?
    □ Well □ Fairly well □ Not very well □ Not at all

1.12 Who told you about Karail? □ Relatives □ Friends □ Colleagues □ Others

1.13 How long you are staying? In Dhaka ________ in Karail ________

1.14 Where were you born? ___________________________________________

1.15 Where were you staying before coming here? __________________________

1.16 Why did you leave the place, where you lived before coming here?

    i)     iv)     
    ii)    v)     
    iii)   vi)     

1.17 Why did you choose Karail to live?

    i)     iv)     
    ii)    v)     
    iii)   vi)     

1.18 Do you want to stay here permanently? □ Yes □ No

1.19 What may cause you return to your home-district or other places?

    i)     iv)     
    ii)    v)     
    iii)   vi)     

2. Water supply system and water uses
2.1 Water supply and collection (Please fill up the table below)

<table>
<thead>
<tr>
<th>Purposes</th>
<th>Water Sources (* put the corresponding number below)</th>
<th>Amount in liters</th>
<th>Hours take to collect</th>
<th>Price (per Month)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) For drinking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) For cooking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) For bathing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) For toileting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) For leaning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


2.2 Who do collect water for the households?
[ ] Male-members  [ ] Female-members  [ ] Children

2.3 When do you collect water?  [ ] Morning  [ ] Afternoon  [ ] Evening

2.4 How do you store water?

i) vi) 

ii) 

v) 

iii) 

vi) 

2.5 Water supply system and perception
In general, how satisfied (least satisfied = 1, most satisfied = 4) are you with existing water facilities?

<table>
<thead>
<tr>
<th>Satisfaction with Water facilities</th>
<th>Least Satisfied</th>
<th>Less Satisfied</th>
<th>Satisfied</th>
<th>Most Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Quality of Water</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>b) Amount of Taps or Standpoints</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>c) Distance from Home</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>d) Queuing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>e) Water bill or price</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>f) Access way to water sources</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

2.6 What are your priorities on water supply?

<table>
<thead>
<tr>
<th>Priorities</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Status of water supply</td>
<td>□ Improved □ Adequate □ Free</td>
</tr>
<tr>
<td>b) Ownership of water sources</td>
<td>□ Own □ Shared (not free) □ Shared (free)</td>
</tr>
<tr>
<td>c) Types of Services</td>
<td>□ Pipeline to house □ Community stand points □ Lake □ Own Tubewell □ Shared Tubewell □ Other, specify</td>
</tr>
</tbody>
</table>

2.7 What types of water supply you used before coming here?  □ Pipeline □ Personal Tubewell □ Community Tubewell □ Vendor □ Tanker supply □ Borehole □ Others _____
2.8 Would you please compare that the water services you have now and had previously? The water service now is:
□ Better □ Somewhat better □ More or less the same □ Worse □ Much worse

3. Social relations
3.1 Do you have any relatives in Karail or in Dhaka?

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Number of close-relatives in the community: _____</td>
<td></td>
</tr>
<tr>
<td>2) Number of close-relatives in the city: _____</td>
<td></td>
</tr>
</tbody>
</table>

3.2 Since you came to live in Karail, how often have you visited these relatives?
□ Very often □ Occasionally □ Not very often □ Almost never □ Never

3.3 Are there any community activities in which you are not allowed to participate? □ Yes □ No

3.4 If Yes, in which activities are you not allowed to participate, and why?

<table>
<thead>
<tr>
<th>Activities</th>
<th>Why (poverty, occupation, education, gender, age, religion, political affiliation, ethnicity, others) List up to Three reasons.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
</tbody>
</table>

3.5 How many times have you travelled to your home districts in the past 12 months and Why?

<table>
<thead>
<tr>
<th>How many times?</th>
<th>Why? [List up to Three reasons]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
</tbody>
</table>

3.6 What types of people you talked to mostly by Mobile Phone in the last week and why?

<table>
<thead>
<tr>
<th>Types (Family members, Relatives, community leaders, local politicians, Friends in Karail, Friends in workplace, service providers)</th>
<th>Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.7 In the past 12 months, have you worked with others in Karail to do something for the benefit of the community? □ Yes □ No
3.8 What were the three main activities in the past 12 months? Was participation in these voluntary or required?

<table>
<thead>
<tr>
<th>Activities</th>
<th>Voluntary</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.9 All together, how many days in the past 12 months did you or anyone else in your household participate in community activities?

3.10 What proportions of people contribute time or money toward common development goals?

☐ Everyone  ☐ More than half  ☐ About half  ☐ Less than half  ☐ No one

3.11 If there was a water supply problem in Karail, how likely is it that people will cooperate to try to solve the problem?

☐ Very likely  ☐ Somewhat likely  ☐ Neither likely or unlikely  ☐ Somewhat unlikely  ☐ Very unlikely

3.12 Suppose something unfortunate happened to someone in Karail, how likely is it that some people would get together to help them?

☐ Very likely  ☐ Somewhat likely  ☐ Neither likely or unlikely  ☐ Somewhat unlikely  ☐ Very unlikely

3.13 In general, do you agree or disagree with the following statements?

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Most people who live in Karail can be trusted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Most people are willing to help if you need it</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. One has to be alert or someone is likely to take advantage of you</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. People generally do not trust each other in matters of lending and borrowing money</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.14 Do you think that over the last five years, the level of trust in Karail has gotten better, worse, or stayed about the same?

☐ Gotten better  ☐ Gotten worse  ☐ Stayed about the same

3.15 Are you a member of any social/region-based organizations?

No  ☐
Yes  ☐ 1) Name of the Organizations:

3.16 Are you a member of any non-government organizations?

No  ☐
Yes  ☐ 1) Name:
2) Name:
3.17 Did you receive any help from someone in finding the house?
   | No   | Yes   | Why:   | Who:   |
   |      |       |        |        |
3.18 Did you receive any help from someone in finding job in Karail or Dhaka?
   | No   | Yes   | Why:   | Who:   |
   |      |       |        |        |
3.19 Did you receive any help from someone in getting water service to your house?
   | No   | Yes   | Why:   | Who:   |
   |      |       |        |        |
3.20 Do you think the people who live in Karail are:
   □ Very united   □ More or less united   □ Only a little united   □ Not united at all
3.21 Would you say it is easier, more difficult, or just about the same to make friends here in Karail than it is in your birth place?
3.22 In your opinion, in Karail generally peaceful or marked by violence?
   □ Very peaceful   □ Moderately peaceful   □ Neither peaceful nor violent
   □ Moderately violent   □ Very violent
3.23 In the past 6 months, have you or anyone in your household been the victim of a violent crime?
   | No   | Yes   | How many times? |
   |      |       |                 |
4. Political involvement
4.1 Are you involved in any political parties?
   □ No involvement (skip Q.4.2)
   □ Only support and vote (skip Q.4.2)
   □ Active participation as supporters
   □ Active participation as leader
4.2 What types of activities you do for the parties?

<table>
<thead>
<tr>
<th>Activities</th>
<th>Choose one</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Join in party meeting</td>
<td>As Supporter</td>
</tr>
<tr>
<td>2) Join in public meeting and rallies</td>
<td></td>
</tr>
<tr>
<td>3) Take part in picketing</td>
<td></td>
</tr>
<tr>
<td>4) Campaigning during vote</td>
<td></td>
</tr>
<tr>
<td>5) Stay with leader in the office or his public meeting</td>
<td></td>
</tr>
</tbody>
</table>

4.3 Have you participated in any meeting (decision-making) in relation to community improvement or environmental services with NGOs or Government Officials? □ Yes  □ No
4.4 Have you participated in any movement for water and sanitation?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
</tbody>
</table>

What kind of activities you did?
Who did help you?

4.5 How important a community leader in your life here in Karail?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>1</td>
</tr>
<tr>
<td>Somewhat important</td>
<td>2</td>
</tr>
<tr>
<td>Not very important</td>
<td>3</td>
</tr>
<tr>
<td>Not important at all</td>
<td>4</td>
</tr>
</tbody>
</table>

4.6 How important a political leader in your life here in Karail?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>1</td>
</tr>
<tr>
<td>Somewhat important</td>
<td>2</td>
</tr>
<tr>
<td>Not very important</td>
<td>3</td>
</tr>
<tr>
<td>Not important at all</td>
<td>4</td>
</tr>
</tbody>
</table>

4.7 In past six months, how often have you received the following kinds of help from the water providers?

<table>
<thead>
<tr>
<th>Help</th>
<th>Number</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advice on a decision you had to make</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Help on a special occasions, such as sickness or marriage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Help in caring for children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial assistance, such as money or loan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Help in finding a job or a place to live</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other kinds of help</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify):</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.8 How much control do you feel you have in making decisions that affect your everyday life? Do you have?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No Control</td>
<td>1</td>
</tr>
<tr>
<td>Control over very few decisions</td>
<td>2</td>
</tr>
<tr>
<td>Control over some decisions</td>
<td>3</td>
</tr>
<tr>
<td>Control over most decisions</td>
<td>4</td>
</tr>
<tr>
<td>Control over all decisions</td>
<td>5</td>
</tr>
</tbody>
</table>

4.9 Do you think that political involvement can change the course of life?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally unable to change life</td>
<td>1</td>
</tr>
<tr>
<td>Mostly unable to change life</td>
<td>2</td>
</tr>
<tr>
<td>Neither able nor unable</td>
<td>3</td>
</tr>
<tr>
<td>Mostly able to change life</td>
<td>4</td>
</tr>
<tr>
<td>Totally able to change life</td>
<td>5</td>
</tr>
</tbody>
</table>

4.10 Overall, how much impact do you think you have in making Karail a better place to live?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A big impact</td>
<td>1</td>
</tr>
<tr>
<td>A small impact</td>
<td>2</td>
</tr>
<tr>
<td>No impact</td>
<td>3</td>
</tr>
</tbody>
</table>

4.11 In the past 12 months, have you done any of the following?

<table>
<thead>
<tr>
<th>Activities</th>
<th>1 = Yes</th>
<th>2 = No</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Attend in a community meeting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Met with a politician, called him/her, or sent a letter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Participated in a protest or demonstration or rallies or human chains</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Participated in an information campaign</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Participated in an election campaign</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F. Altered newspaper, radio or TV to a local problem</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. Notified police or court about a local problem</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H. Notified local government officials about a local problem</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.12 Have you done any of the following last time?

<table>
<thead>
<tr>
<th>Activities</th>
<th>1 = Yes : 2 = No</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Are you voter as a resident of Karail?</td>
<td></td>
</tr>
<tr>
<td>B. Did you vote in the last local election?</td>
<td></td>
</tr>
<tr>
<td>C. Did you vote in the last national election</td>
<td></td>
</tr>
</tbody>
</table>

4.13 To what extent do local government and local leaders take into account concerns voiced by you and people like you when they make decisions that affect you?

- □ A lot
- □ A little
- □ Not at all

4.14 In general, compared to five years ago, has the responsibility of local government improved, deteriorated, or stayed about the same?

- □ Improved
- □ Deteriorated
- □ Stayed about the same

5. Other housing facilities

5.1 What are the existing toilet facilities in your house/place?

- □ Own (go to 5.1.1)
- □ Shared (go to 5.1.2)
- □ Not available

5.1.1 If Own, please answer the following questions:

1) Types of toilet:
   - □ Twin-pit latrine
   - □ Single-pit latrine
   - □ Hanging latrine
   - □ Water sealed latrine
   - □ Flush latrine
   - □ Other (specify)

2) Distance from your living room: ____________

5.1.2 If Shared, answer the following questions:

Types of toilet:
   - □ Twin-pit latrine
   - □ Single-pit latrine
   - □ Hanging latrine
   - □ Water sealed latrine
   - □ Flush latrine
   - □ Other (specify)

5.2 Distance from your living room: ____________

5.3 How many households and dwellers share the toilets? ____________

5.4 How long it takes to go there? ____________

5.5 Do all members of your household use sanitary toilet? □ Yes □ No (go to 5.5.1)

5.5.1 If No, who does not? ____________ Why not? ____________

5.6 What are the problems you face to use toilets? □ □ □

5.7 Is there any facility to collect excreta and to clean toilets? □ Yes (go to 5.7.1) □ No □

5.7.1 If Yes, who are responsible? □ City corporation □ NGOs □ Community people □ Other (Please specify)

5.8 Collection of faecal matter: □ City Corporation □ Private

5.9 Disposal of faecal matter: □ With the garbage nearby house □ In vacant plots

5.10 Drainage: □ Yes □ No

5.11 If Yes, □ Open Drains □ Closed Drains
5.12 Energy Uses (Electricity and Other)  □ Yes  □ No
5.13 How do you cook? □ Wood  □ Kerosene-cooker  □ Dung Cake  □ Saw Dust  □ Dry Leaves  □ Others
5.14 Where do you cook? □ In Kitchen  □ In Living Room  □ In Veranda  □ In Open Place
5.15 Do you have electricity connection? □ Yes  □ No
5.16 Space per person in sleeping room: 
5.17 Ventilation condition in house: □ Yes  □ No
5.18 Smoke from neighbourhood coming inside house: □ Yes  □ No
5.19 Smoking inside house: □ Yes  □ No
5.20 Use fly doors or windows: □ Yes  □ No
5.21 Use of preventive measures from mosquitoes/flies: □ Yes  □ No

6. Socioeconomic Information

6.1 Household Income and Expenditure:

<table>
<thead>
<tr>
<th>Sources</th>
<th>Income (Monthly) Amount (BD Tk.)</th>
<th>Sources</th>
<th>Expenditure (Monthly) Amount (BD Tk.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self</td>
<td>Foods</td>
<td>Spouse</td>
<td>House-rent</td>
</tr>
<tr>
<td>Spouse</td>
<td>House-rent</td>
<td>Children</td>
<td>Clothes</td>
</tr>
<tr>
<td>Children</td>
<td>Transport</td>
<td>Other Member</td>
<td>Transport</td>
</tr>
<tr>
<td>Other Member</td>
<td>Medical</td>
<td>Others</td>
<td>Medical</td>
</tr>
<tr>
<td>Others</td>
<td>Electricity</td>
<td>Others</td>
<td>Electricity</td>
</tr>
<tr>
<td></td>
<td>Savings</td>
<td></td>
<td>Savings</td>
</tr>
<tr>
<td></td>
<td>Others, Specify</td>
<td></td>
<td>Others, Specify</td>
</tr>
<tr>
<td>Total</td>
<td>Total</td>
<td></td>
<td>Total</td>
</tr>
</tbody>
</table>

6.2 How many hours a day do you work at your job?
6.3 How many days a month do you work at your job?
6.4 Where is your place of job located?
6.5 How long is from here?
6.6 How do you go there?
6.7 Which of these phrases come closest to your opinion about your present job?
   □ Bad job  □ Job like any other  □ Good job  □ Fine job
6.8 Housing status:

<table>
<thead>
<tr>
<th>a) Status of land ownership</th>
<th>Owner</th>
<th>Public Land</th>
<th>Private Land</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>b) Status of House Ownership</td>
<td>Owner-occupier</td>
<td>Rented</td>
<td>Public</td>
<td>Others</td>
</tr>
<tr>
<td>c) Roof materials of the houses</td>
<td>Bricks</td>
<td>Bamboo</td>
<td>Straw</td>
<td>Tin</td>
</tr>
<tr>
<td>d) Wall materials of the houses</td>
<td>Bricks</td>
<td>Bamboo</td>
<td>Straw</td>
<td>Tin</td>
</tr>
<tr>
<td>e) Household Assets (Modern)</td>
<td>Television</td>
<td>Radio</td>
<td>Tape</td>
<td>Freeze</td>
</tr>
<tr>
<td></td>
<td>Motor-Cycle</td>
<td>Electric Fan</td>
<td>Electric Iron</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Camera</td>
<td>Mobile</td>
<td>Others</td>
<td></td>
</tr>
</tbody>
</table>

6.9 How much do you pay for your house rent?

6.10 How many altogether are living in one room?

6.11 Would you please compare that the house you have now and had previously? The house now is:

- Better
- Somewhat better
- More or less the same
- Worse
- Much worse

6.12 What is it that you like most about living in Karail?

6.13 What is it that you like least about living in Karail?

6.14 Keeping in mind all aspects of life, where do you think that you were more satisfied and happy?

- In your home district
- In your previous place
- In Dhaka
- In Karail

7. Do you have any final comments regarding water supply system and livelihood in Karail?

__________________________________________________________________________

Thank you for the time you have given to complete this questionnaire.
APPENDIX 2

Interview guide for the water consumers

Personal and demographic details
Name, Age, Education, Occupation, Marital Status, Original home-districts, Length of living, Purposes of migration to Karail.

Everyday experiences
Please describe a typical day of your life. At present what are the most pressing problems in your household and in the community? To what extent do you feel very safe here? In your opinion, is Karail generally peaceful or marked by violence?

Water supply systems
Tell me the history of the water supply systems in Karail. How do you get water for everyday uses now? How much you use every day? How do you store water? Who collects your water? How long does it take to collect water? What are the problems you face to collect/store water? Do you know about the water connection network in your area? Is it coming from the roads (DWASA connections) or from T&T or Gulshan areas through informal connections? Who are the providers? Who can be a water provider? Is party-politics important for informal water businesses? How did you become a member of this service? Who did help you? What is the management system behind the water supply? Who operates the water supply and when? What do you know about the DSK/CBOs who are working for water in Karail? How do you pay the bill for water, and how much in a month? Do you feel you have to pay more than others? If yes, then why? What causes changes in the water-charge?

Perception of water services
What do you regard as the most important advantages and disadvantages of getting a water supply? In your opinion, to what extent do the service providers respond to and satisfy your demands? Do you feel the officials/water providers really understand your problems? Why does the government (DWASA) not supply water directly? Why does it take so long to start a water supply in Karail? Do you know which NGOs are involved in the water supply system in Karail? In the past six months, what kinds of help you have received from the water providers? What kinds of help did the providers also want from you? Are you happy with this informal/DSK water service?
Who are the persons/groups who control Karail and its water services? Why do these persons/groups have more influence than others? Why do the political leaders help the informal water businesses in Karail?
Do you think the location of Karail facilitates access to water services? What are the opportunities that Karail has that protect its residents from eviction and facilitate services? Who are the persons generally who help to protect people from eviction?

**Social network and economic opportunities**
Are you a member of any formal or informal organizations/associations in your area or outside it? What are the major benefits of being involved in associations/social networks? Do they help you to get access to services and how? Suppose something unfortunate happened to someone in Karail, how likely is it that some people would get together to help them? Who has priorities to get information and why?

**Political contact**
Are you involved in any political party? What types of activities do you do for the party? Do you support the party of your own choice, or the same party as your neighbours? Do you view political involvement as necessary for getting services, including water? How does local politics impact on the water supply systems? Do you support the informal water business and why? To what extent do local government (DCC) and local leaders take into account concerns voiced by you and people like you when they make decisions that affect you? Have you visited the DCC to inform them about your needs? Do you know who is the Councilor of your Ward? What are the factors that make local government (DCC) incompetent? What do you think about the politicization of the DCC? What should the DWASA and the DCC do for the water supply?

**Post-interview issues and notes**
Evaluation of the interview, small-talk on relevant issues.
APPENDIX 3

Interview guide for the informal water providers

**Personal details:** Name, Age, Education, Position in the Organization, Length of service.

**Water supply systems**
Tell me the history of the water supply systems in Karail. Do you know how many water vendors are active now? Who are the owners of the vendors? When did this vendor/pipeline water supply system start? Who was the pioneer of the business in Karail? How do they manage sources of water? How do they get permission from the government? How is the present government helping for this business? How have you been a water provider? What are the prerequisites to being a provider? How much did you invest for water vendor/supply lines? How much do you earn in a year/month? How many households are under your catchment? How do you operate and manage the water supply? How do you collect payment/water changes? What causes water charges to increase? How do the consumers store water? To what extent do you feel the consumers are happy with this service? Do they demand something more from you? How do you negotiate with the consumers when they demand something new or raise any problems? What are the major problems you face while operating informal water services?

**Social relation and economic opportunities**
How often do you visit your water catchment and meet the consumers? How do you communicate with them? How do they file a complaint? What are other benefits you offer for the consumers besides water services, such as jobs, social security, money etc.?

**Political contact**
Are you involved in any political party? What types of activities do you do for the party? Do you support the party of your own choice or the same party as your neighbours? Do you believe that political involvement (party-politics) is an important factor for doing informal business/getting services, including water? How does it work for you? Why do local politicians support the informal water business? Is it very difficult to get access to party leaders or government officials now?
Needs and proposed interventions

What is your future plan? What do you think about the prospect of a formal (DSK-DWASA) water supply? What incentive do you want if the government asks you to stop your water business? Or what can be the best suitable solution in your opinion? What should the DWASA, DCC and DSK do now?

Post-interview issues and notes

Evaluation of the interview, small-talk on relevant issues.
APPENDIX 4

Interview guide for government and NGO officials

**Personal details:** Name, Age, Education, Position in the Organization, Length of service.

**Information about organizations:** Name, Length of service, aims and objectives, areas of activities and services offered, future policies and programs.

**Water supply system:** How long has your organization been working for the water supply in Karail? How many officials/workers are involved at the field level? How did you get access to Karail in the beginning? Why was Karail chosen? Why are people interested in getting formal water? What was the process of forming community-based organizations? Please explain the whole process of the CBOs activities. What are the problems you faced or are facing regarding CBOs? Please explain the water consumption rate and your management system. How does the DSK model work? Why does it take so long to start a water supply in Karail? Tell me about your CBO’s formation, and the responsibilities and difficulties of CBO operation in Karail. What is the impact of party-politics on water governance in Karail?

**Partnerships and Co-ordination:** Who are the other organizations involved in the water supply systems? What are the major pitfalls in participation? Who are the others who should also have participated? Why is it they cannot participate? Who has more access to information than others? To what extent are you satisfied with co-ordination among organizations? Do you think the water supply system only depends on the financial support coming from international organizations? To what extent are government authorities (viz. DWASA and DCC) concerned regarding water scarcity in the slums? What are the factors that make local government (DCC) incompetent? What do you think about the politicization of the DCC? How are local politicians playing their roles? What are the main barriers to participatory approach to the water supply? How does the informal provision of water supply in Karail impede the formal water supply? What are the factors that help the informal provision of water? How do you see the future of water provisions in Karail?

**Post-interview issues and notes**
Evaluation of the interview, small-talk on relevant issues.
APPENDIX 5

Interview guide for civil society members
(Academics, politicians, journalists, planners and others)

Personal details: Name, Age, Education, Position in the Organization, Length of service.

Water supply system: To what extent do you know about the Karail slum? Have you visited Karail? Who told you about Karail? How do you feel about the existence of Karail in Dhaka city? Do you know how they get water services there? Why was Karail chosen for a formal water supply? Who is providing the water and why? Who is doing the informal water business? What might be the major problems in Karail? Does everybody get equal right to claim formal water? Who has priority? What about water revenue for the urban poor? Tell me about CBO formation, and the responsibilities and difficulties of CBO operation in Karail. What is the impact of party-politics on water governance in Karail?

Partnerships and Co-ordination: Do you think the government should make further intervention regarding the water services to Karail? How would you evaluate the performance of the DWASA, DCC and NGOs regarding water supply to the slum areas? What are the major factors that impede a better partnership and co-ordination process? What are the factors that make local government (DCC) incompetent? What do you think about the politicization of the DCC? To what extent does the DCC participate in the water supply project in Karail? Do you think that the DCC can satisfy the urban poor as much as the mainstream urban residents in Dhaka? Why does it take so long to start a water supply in Karail? What should the DWASA and the DCC do?

Potentialities and Constraints: How would you evaluate the contribution of Karail to the urban economy? What about the political use of Karail? Why is eviction in Karail not possible? Do you think the residents of Karail are politically active? Do you agree that the social networks and political contacts of the residents (consumers and providers) in Karail are major factors affecting the survival of both Karail and the informal water business? How can party affiliation be conducive to maintaining an informal water business? Why do local politicians support the informal water supply in Karail? What do you think about the future of Karail?

Post-interview issues and notes

Evaluation of the interview, small-talk on relevant issues.
APPENDIX 6
Guide for focus group discussions

Personal and demographic details of the participants
Name, Age, Original home-districts, Length of living in Karail, Purposes of migration to Karail.

Everyday experiences
At present what are the most pressing problems in your households and in the community? To what extent do you feel very safe here? What about eviction threats? How does its location matter to the survival of Karail?

Water supply systems
Tell me about the previous water supply systems in Karail. How do you get water for everyday use now? How much do you use every day? How do you store water? Who collects your water? How long it takes to collect the water? What are the problems you face to collect/store water? What about the water connection network in your areas? Is it coming from the roads (DWASA connections) or from T&T or Gulshan areas through informal connections? Who are the providers? What are the prerequisites of being a water provider? How did you become a member of this service and why? Who did help you? What is the management system of the water supply? Who operates it and when? What do you know about the DSK/CBOs who are working for water in Karail? Tell us something about CBO formation and the responsibilities of the executives. What are the problems involved in CBO activities? How do you pay the bill for water, and how much in a month? Do you feel you have to pay more than others? If yes, then why? What causes changes in the water-charge?

Perception of water services
What do you regard as the most important advantages and disadvantages of getting a water supply? In your opinion, do the service providers respond to and satisfy your demands? Do you feel the officials/water providers really understand your problems? Why does the government (DWASA) not supply water directly? Why does it take so long to start a water supply in Karail? What should they do? Do you know which NGOs are involved in the water supply system in Karail? Are you happy with this
informal/DSK water service? Who are the persons/groups who control Karail and its water services? Why do these persons/groups have more influence than others? Who has more access to information than others and how does this influence everyday life? Why do the political leaders help the informal water businesses in Karail? What are the impacts of party-politics on the water supply systems?

Do you think the location of Karail facilitates access to water services? What are the opportunities Karail has that protect its residents from eviction and facilitate services? Who are the persons generally who help to protect the residents from eviction?

Social network and economic opportunities
What are the major benefits of being involved in associations/social networks? Do they help you to get access to informal services and how? How do you negotiate with others (as consumers/providers)? Suppose something unfortunate happened to someone in Karail, how likely is it that some people would get together to help them?

Political contact
Do you think political involvement is necessary for getting services, including water? To what extent do local government (DCC) and local leaders take into account concerns voiced by you and people like you when they make decisions that affect you? What are the factors that make local government (DCC) incompetent? What about the politicization of the DCC? What should they do?

Post-interview issues and notes
Evaluation of the interview, small-talk on relevant issues.
## APPENDIX 7

List of participants in interview and focus group discussions

1. **Summary of interview participants:**

<table>
<thead>
<tr>
<th>Categories</th>
<th>Who were participants?</th>
<th>Number of participants</th>
<th>Durations of interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Water consumers</td>
<td>10</td>
<td>60-90 minutes</td>
</tr>
<tr>
<td></td>
<td>Formal water</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Informal water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Informal water providers</td>
<td>7</td>
<td>60 minutes</td>
</tr>
<tr>
<td>3</td>
<td>Formal water providers (CBO executives, NGO officials and DWASA officials)</td>
<td>6</td>
<td>60 minutes</td>
</tr>
<tr>
<td>4</td>
<td>Civil society members (Academics, politicians, planners, journalists and others)</td>
<td>10</td>
<td>60 minutes</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>48</strong></td>
<td></td>
</tr>
</tbody>
</table>

2. **List of participants (water consumer) in interviews:**

<table>
<thead>
<tr>
<th>Interview No.</th>
<th>Name</th>
<th>Types of services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Humayun Kabir</td>
<td>Formal water</td>
</tr>
<tr>
<td>2</td>
<td>Anonymous</td>
<td>Formal water</td>
</tr>
<tr>
<td>3</td>
<td>Abul Kashem</td>
<td>Informal water</td>
</tr>
<tr>
<td>4</td>
<td>Joinal Abedin</td>
<td>Informal water</td>
</tr>
<tr>
<td>5</td>
<td>Osman Ali</td>
<td>Informal water</td>
</tr>
<tr>
<td>6</td>
<td>Name unknown</td>
<td>Informal water</td>
</tr>
<tr>
<td>7</td>
<td>Name unknown</td>
<td>Formal water</td>
</tr>
<tr>
<td>8</td>
<td>Anonymous</td>
<td>Formal water</td>
</tr>
<tr>
<td>9</td>
<td>Abdul Malek</td>
<td>Informal water</td>
</tr>
<tr>
<td>10</td>
<td>Mohammad Jewel</td>
<td>Informal water</td>
</tr>
<tr>
<td>11</td>
<td>Md Moinuddin</td>
<td>Informal water</td>
</tr>
<tr>
<td>12</td>
<td>Mst. Bina</td>
<td>Informal water</td>
</tr>
<tr>
<td>13</td>
<td>Md Sukkur</td>
<td>Formal water</td>
</tr>
<tr>
<td>14</td>
<td>Morjina Begum</td>
<td>Formal water</td>
</tr>
<tr>
<td>15</td>
<td>Md Nur Alam</td>
<td>Informal water</td>
</tr>
<tr>
<td>16</td>
<td>Anonymous</td>
<td>Informal water</td>
</tr>
<tr>
<td>17</td>
<td>Name unknown</td>
<td>Informal water</td>
</tr>
<tr>
<td>18</td>
<td>Nasima Khatun</td>
<td>Informal water</td>
</tr>
<tr>
<td>19</td>
<td>Name unknown</td>
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<tr>
<td>20</td>
<td>Mizanur Rahman</td>
<td>Formal water</td>
</tr>
<tr>
<td>21</td>
<td>Anonymous</td>
<td>Informal water</td>
</tr>
<tr>
<td>22</td>
<td>Mst Anju</td>
<td>Informal water</td>
</tr>
<tr>
<td>23</td>
<td>Mst Shimu Khatun</td>
<td>Formal water</td>
</tr>
<tr>
<td>24</td>
<td>Anonymous</td>
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</tr>
<tr>
<td>25</td>
<td>Anonymous</td>
<td>Informal water</td>
</tr>
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</table>
3. List of participants (providers and others) in interview

<table>
<thead>
<tr>
<th>Interview No.</th>
<th>Name</th>
<th>Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Informal water providers</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Mohammad Hasan</td>
<td>Water providers</td>
</tr>
<tr>
<td>27</td>
<td>Parvin Khatun</td>
<td>Water providers</td>
</tr>
<tr>
<td>28</td>
<td>Kabil Molla</td>
<td>Providers and operators</td>
</tr>
<tr>
<td>29</td>
<td>Selim Dhali</td>
<td>Providers</td>
</tr>
<tr>
<td>30</td>
<td>Shahjahan</td>
<td>Operators</td>
</tr>
<tr>
<td></td>
<td>Formal water providers</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Akhil Kumar Das</td>
<td>DSK official</td>
</tr>
<tr>
<td>32</td>
<td>Mahbubur Rahman</td>
<td>DSK official</td>
</tr>
<tr>
<td>33</td>
<td>Mehedi Hassan</td>
<td>LIC, DWASA</td>
</tr>
<tr>
<td>34</td>
<td>Selina Khatun</td>
<td>President, CBO</td>
</tr>
<tr>
<td>35</td>
<td>Abdul Mannan</td>
<td>Secretary, CBO (Informant)</td>
</tr>
<tr>
<td>36</td>
<td>Mohammad Shamol</td>
<td>Vice President, NBUS (Informant)</td>
</tr>
<tr>
<td></td>
<td>Civil society members</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Md Nazrul Islam</td>
<td>Professor and Director, CUS</td>
</tr>
<tr>
<td>38</td>
<td>Mallik Akram Hossain</td>
<td>Professor at JU</td>
</tr>
<tr>
<td>39</td>
<td>Nurul Islam Nazem</td>
<td>Professor at DU</td>
</tr>
<tr>
<td>40</td>
<td>Faisal Kabir Shuvo</td>
<td>Planner, Eastern Housing Dhaka</td>
</tr>
<tr>
<td>41</td>
<td>Abu Musa Abdullah</td>
<td>Planner, RAJUK</td>
</tr>
<tr>
<td>42</td>
<td>Din Mohammad</td>
<td>Associate Professor, ULAB</td>
</tr>
<tr>
<td>43</td>
<td>Sheikh Rokon</td>
<td>Assistant Editor, Samakal</td>
</tr>
<tr>
<td>44</td>
<td>Manjur Morshed</td>
<td>Field Executives, WaterAid</td>
</tr>
<tr>
<td>45</td>
<td>AFM Abdul Alim Naki</td>
<td>Former Commissioner, DCC</td>
</tr>
<tr>
<td>46</td>
<td>Anonymous</td>
<td>Local politician (Mohakhali area)</td>
</tr>
</tbody>
</table>

4. Participants in focus group discussions:

<table>
<thead>
<tr>
<th>No.</th>
<th>Types</th>
<th>Who were participants?</th>
<th>Number of participants</th>
<th>Duration of discussions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Homogenous</td>
<td>Formal water consumers</td>
<td>5</td>
<td>90-120 minutes</td>
</tr>
<tr>
<td>2</td>
<td>Homogenous</td>
<td>Informal water consumers</td>
<td>5</td>
<td>90-120 minutes</td>
</tr>
<tr>
<td>3</td>
<td>Homogenous</td>
<td>Water providers-DSK officials</td>
<td>4</td>
<td>90 minutes</td>
</tr>
<tr>
<td>4</td>
<td>Heterogeneous</td>
<td>Formal water consumers Informal water consumers CBO executives Community leaders</td>
<td>6</td>
<td>90-120 minutes</td>
</tr>
</tbody>
</table>