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Environmental Governance of Urban-Local Government in Bangladesh: Policies and Practices

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Environmental Governance of Urban-Local Government in Bangladesh: Policies and Practices

PhD Dissertation

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Dedication

To my revered and beloved parents-

Razia Sultana

&

Md. Gias Uddin

DECLARATION

I do hereby declare that the dissertation entitled ***Environmental Governance of Urban-Local Government in Bangladesh: Policies and Practices,*** submitted to the Institute of Bangladesh Studies (IBS), University of Rajshahi, for the degree of Doctor of Philosophy in Political Science, is exclusively my own and original work. I swear that no part of it in any form has been submitted to any other University or academic institution in pursuance any degree or diploma or for other similar purposes.

Rajshahi
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CERTIFICATE

I do hereby certify that Mr. A. K. M. Mahmudul Haque has completed his research work and written the dissertation entitled ***Environmental Governance of Urban-Local Government in Bangladesh: Policies and Practices,*** under my direct, close supervision and guidance. This dissertation contains some findings on the basis of his own investigation. I think, Mr. Haque has produced a well-timed dissertation on Environmental Governance of Urban-Local Government in Bangladesh.

Thus, the dissertation is recommended and forwarded to the University of Rajshahi through the Institute of Bangladesh Studies (IBS) for maintaining necessary formalities leading to its acceptance in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Political Science.

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A. K. M. Mahmudul Haque

ABSTRACT

Environmental problems begin locally. The farmer who uses slash and burn agriculture to solve his hunger problem does not know or care that he is one of 1,000,000 who is destroying the nation's forests and making a significant contribution to global warming. The latrines constructed too close to the river, the cows left to bathe there, the factory which turns its pipe for waste water carelessly toward the river to make production easier and cheaper: this is how a nation's water resources are destroyed.

As the problem is fundamentally local, the solution is always local too. National leaders have spent too much time at global summits where little could be accomplished without taking the boring, painstaking steps at local levels. This study documents the fact that "Think global, act local" is a vital principle of environmental governance. Global action can never be more than the sum of millions of local actions and each can go for or against a healthy environment.

This study finds that the local governments which should be in the vanguard of environmental protection, saving ponds, disposing of or recycling solid waste, preventing building and other infrastructural development from damaging the environment, are not in fact even carrying their weapons. The laws are there and they are good: but in practice they are virtually ignored. So, nothing gets done.

So this study focuses on the local governments. We have selected Rajshahi as a typical Divisional city and Rajshahi City Corporation as a typical urban centre in Bangladesh, to see what local governments could do, can do and are doing. Through key informant interviews, questionnaires of stakeholders and review of documents, we have found what is happening in practice in this City Corporation.

From this case study, we can infer what is happening in the other Divisional cities. The conclusion is that there is a large gap between written policy/law and implementation. Other researchers should confirm that this is not just a problem of Rajshahi. Then we have recommended that the central government should do something: make penalties serious; mandate community involvement; provide resources; consolidate overlapping local jurisdictions and establish one agency in each City Corporation to monitor and act on the environmental health of the city, with sufficient professional staff, prosecutorial power and financial backing to get the job done.

ACRONYMS

ADAB	Association of Development Agencies in Bangladesh
ADB	Asian Development Bank
BBS	Bangladesh Bureau of Statistics
BECA	Bangladesh Environment Conservation Act
BELA	Bangladesh Environmental Lawyers Association
BEN	Bangladesh Environment Network
CAPI	Center for Asia Pacific Initiatives
CBO	Community Based Organization
CEO	Chief Executive Officer
CHT	Chittagong Hill Tracts
DAR	District Administration of Rajshahi
DC	Deputy Commissioner
DG	Director General
DoE	Department of Environment
DPHE	Department of Public Health and Engineering
DPP	Development Project Proposal/Proforma
ECA	Ecologically Critical Area
ECC	Environment Clearance Certificate
ECNEC	Executive Committee for National Environment Council
ECR	Environmental Conservation Rules
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EQS	Environmental Quality Standard
ESCAP	Economic and Social Commission for Asia and Pacific
FPCO	Flood Plan Coordination Organization
GoB	Government of Bangladesh
IBS	Institute of Bangladesh Studies
IEE	Initial Environmental Examination
IMED	Implementation, Monitoring and Evaluation Division
IUCN	International Union for Conservation of Nature
KII	Key Informant Interview

LCC	Location Clearance Certificate
LGD	Local Government Division
LGED	Local Government and Engineering Department
LGI	Local Government Institutes
LGRD	Local Government and Rural Development
MoEF	Ministry of Environment and Forest
NEAB	National EIA Association of Bangladesh
NEC	National Environment Committee
NEMAP	National Environment Management Action Plan
NGO	Non-Governmental Organization
PCR	Project Completion Report
PhD	Doctor of Philosophy
RMMRU	Refugee and Migratory Movement Research Unit
RAPA	Rajshahi Paribesh Andolon
RCC	Rajshahi City Corporation
RDA	Rajshahi Development Authority
RMDP	Rajshahi Metropolitan Development Plan
RMP	Rajshahi Metropolitan Police
SCC	Site Clearance Certificate
SWM	Solid Waste Management
ToR	Terms of Reference
UN	United Nations
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNO	Upazila Nirbahi Officer
UP	Union Parishad
UVic	University of Victoria
UZP	Upazila Parishad
WASPA	Wastewater, Agriculture and Sanitation for Poverty Alleviation in Asia
WHO	World Health Organization
ZP	Zila Parishad

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF CHARTS

LIST OF MAPS

LIST OF BOX

Chapter 1
Introduction

1.1 Prelude

Environmental governance is one of the most important aspects of governance and politics. It plays a significant role in achieving environmental sustainability. Strengthened environmental governance not only responds quickly and effectively to emerging environmental challenges at all levels but also promotes sustainable development. Its major goal is development with environmental protection.[1]

A universally-accepted definition of environmental governance is yet illusive. However, we can say that the term refers to a complex set of rules, practices and institutions related to the management of the environment in its different forms e.g., conservation, protection, and exploitation of natural resources.[2] Environmental governance shapes how humans deal with the environment.[3] It includes, among other things:

(i) the interactions among the institutions and actors within the society that influence how environmental problems are identified and framed;

(ii) how environmental issues reach the political agenda;

(iii) how policies are formulated to protect the environment;

(iv) how programs of environmental protection are implemented[4];

(v) the delivery of regular services to protect the environment;

(vi) planning and implementation of development and economic activities in an environmentally-conscious way.

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[1] UNEP, "Environmental Governance", p. 1; Available at: http://www.unep.org/environmentalgovernance/Introduction/tabid/341/language/en-US/Default.aspx [accessed on August 10, 2010].

[2] G. Fontaine, G. Van Vliet, and R. Pasquis, *Environmental Policies and Governance in Latin America* (New York: Flasco-Iddri-Cirad, 2007), p. 234.

[3] UNEP, "Environmental Governance: An Overview," UNFCCC Conference in Copenhagen in 2009; Available at: http://www.unep.org/pdf/brochures/EnvironmentalGovernance.pdf, [accessed on December 02, 2010].

[4] Kazu Kato, and Yohei Harashima, *Improving Environmental Governance in Asia: A Synthesis of Nine Country Studies* (Hayama: Institute for Global Environmental Strategies, 2000), p. 3.

We should be aware that the state of environmental governance is not the same in different parts of the world. In Least Developed Countries like Bangladesh, the choice between environmental protection and economic development is often a hard question. No nation wants to destroy its environment and make itself unlivable. Yet no nation wants to protect the plants and animals but condemn its people to hunger and illness. Developed countries often have the resources to have "guns and butter": here, that means both environmental protection and economic security for the people. Yet poor countries often do not have such easy choices available to them: they often live in a zero-sum world.

The hard choices are made even more difficult by the lack of appropriate policies and programs to achieve effective environmental governance. Yet, even where the policies and programs are right on paper, often there is no action to achieve their goals in the developing world. Officials who should make them reality may be poorly informed of what action to take, lack the resources to take necessary action or may even put their own families' enrichment ahead of the public good. Consequently, the environment, society, the economy and, ultimately, ordinary people, suffer.

Such poor policy implementation has been widespread at lower levels of government in the developing world, especially at the urban level, and Bangladesh is no exception. Considering the need and magnitude of the problems, urban-local government institutions must contribute towards positive environmental outcomes, through proper implementation of environmentally-sound policies. Research is needed to help them understand how to do it and why they should do it.

This study will investigate the broad jurisdictional and institutional framework and ways in which local governments participate in environmental management in Bangladesh. The City Corporation is the highest tier of the urban-local government system. Its environmental governance has a history, both for the social and the natural environment. This study focuses on environmental governance issues of City Corporations in Bangladesh, using Rajshahi as a case study.

1.2 Statement of the Problem

Our planet is severely affected by environmental pollution. Man, animals and biodiversity: all are at risk. Bangladesh is no exception. A report of the World Health Organization (2007) says that the major cause of 24% of human disease (33% of diseases of children) is environmental pollution. About 4 million lives could be saved every year by keeping the environment clean. The report also warns that total 13 million people die every year due to preventable environmental diseases. One third of these deaths are in developing countries. 58 million people die of diarrhoea due to the lack of safe drinking water and unsafe sanitation. 37 million die from diseases caused by air pollution. 21 million die in industrial and road accidents, and 19 million people die of causes related to water pollution and malaria.[5]

Environmental scientists have found that many of the above threats occur due to climate change at the global level, for which rapid industrialization and urbanization are mainly responsible. In the post-independence period, in Bangladesh, residential, commercial, mixed use, industrial, and paved road networks have increased nearly 400 percent.[6] This extensive building has resulted in the loss of natural resources i.e. loss of agricultural land, low land, wetland and water bodies.

During the last three decades, the average annual growth of urban population has been over seven percent, which led to rapid expansion of the urban areas, both horizontally and vertically.[7] This expansion led to a transformation of the surrounding land. Urban dwellers in increasing numbers meant ever-increasing demand for basic services, facilities and other resources. Meeting this demand led to unabated sprawl, slums and squatters, the latter increasing 50% from 1996 to 2009.[8] This, in turn, led to loss of natural resources, threats to the basic ecosystem and biodiversity and environmental pollution. Beyond the damage to nature, rapid urbanization led to the degradation of the

[5] *The Daily Amader Samoy*, June 13, 2007.

[6] Dewan Yamaguchi, Google Earth, *Impact Report IV (Draft Plan Report): Preparation of Detailed Area Plan for DMDP* (Dhaka: Rajdhani Unnayan Katripakkha, 2009), p. 6.

[7] Asian Development Bank, *Dhaka City Management Reform Pilot Project* (Dhaka: Bangladesh Center for Advanced Studies and Bangladesh Rural Advancement Committee, 1998) p. 8.

[8] Center of Urban Studies et al, *Slums of Urban Bangladesh: Mapping and Census*, 2005 (Dhaka: Centre for Urban Studies: 2006) p. 11.

standard of living, health and well being of the urbanites themselves.[9] Following are some examples from the Rajshahi area.

There were once 4,283 ponds in Rajshahi[10] Municipality. By 1981, the number had declined to 2,171. The number of ponds further dwindled to 729 in 1991. Presently, there are only 313 ponds in the city. These data clearly exemplify the rapid decline of ponds in all urban areas of the country. Reduction of water bodies and watersheds led to less infiltration of groundwater, creating water scarcity in the urban areas. In north Bengal, households rely heavily on "tube wells", tapping the underground water for drinking and washing. So, water scarcity is meant not only shortage of irrigation water but even shortage of drinking water and water to flush out human and animal waste.

The growth of slums and increase in squatters, and unplanned construction of houses, with no real regulation, has made for an overburdened sewerage system. Tap water from the public supply in Rajshahi has not been potable, probably since British rule (before 1947), when the public water supply was constructed, due to rusted and broken pipes and contamination. Inadequate drainage often resulted in flooding, waterborne diseases, and many other health hazards.

Some parts of Bangladeshi cities are little more than waste dumps. Industrial enterprises discharge their toxic and other harmful solid and fluid waste in untreated form into neighboring areas and water bodies. Domestic waste water is also discharged into water bodies. This not only pollutes the water but also adversely affects the biodiversity and ecological balance. Similarly, hospitals and clinics dispose their harmful clinical waste without concern for its environmental impact. Wastes from household activities, hotels and restaurants, markets and shopping places, slaughterhouses, etc. are thrown into open tips.

This system of open dumping of waste causes irreparable loss to the environment by polluting land, water and air, adversely affecting human health and lowering people's quality of life. In addition, it causes cardiovascular diseases, cancer and damage to crops and plants, by acid rain. The final disposal of urban solid waste is not yet sanitized.The

[9] J.M. Haque, "Impact of Private Land Development on the Environment of the Eastern Fringe Area of Dhaka", Unpublished Ph. D. Thesis (Dhaka: Bangladesh University of Engineering and Technology, 2004), p. 8.

[10] Fourth largest city of Bangladesh.

harmful consequence is the emission of greenhouse gases. It is estimated that, in Bangladesh, 2.19 million tons of carbon dioxide is emitted per year from human-generated urban waste.[11]

Bangladesh's urban environment is being degraded in an alarming way. This unpleasant condition has numerous causes including the lack of proper planning and policy framework, budget and institutional cooperation; people's lack of consciousness and cooperation; lax execution of policies and inadequate assessment of adverse environmental impact of the development and economic activities.[12] There is a huge administrative challenge, for the governments at all levels. These must devise ways to develop and implement appropriate policies and strategies. They need to control unplanned urban development and pursue sustainable urban environmental management. An examination of the causes of poor urban environmental management, and unplanned development, as well as its impact on the environment, has thus been long overdue.

1.3 Research Questions

In the light of the above statement of the problem, the following research questions have been chosen:

- What are the environmental responsibilities of the urban government bodies under government policy?
- How do the urban governments consider environmental issues during governance and development activities?
- What kinds of measures do they take to minimize and mitigate the environmental adversities created from unplanned development activities?
- How do the urban governments govern the management of waste generated from different sources?
- How do the urban government bodies conserve natural resources, including wetlands?

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[11] Iftikhar Enayetullah, et al., *Urban Solid waste management Scenario of Bangladesh: Problems and Prospects,* p. 13. Available at: http://www.waste concern.org/Publication/Waste%20Survey_05.pdf, [accessed on August 30, 2012].

[12] A Alam, *Growth of Informal Settlements and Its Effect on Urban Environment: Case Study of Three Selected Wards of Khulna City Corporation*, Unpublished Ph.D Thesis, (Rajshahi: University of Rajshahi, 2004), p. 2.

- What are the major weaknesses and constraints that limit the effective implementation of policies in the governance of environment?
- What policy measures do the urban governments in Bangladesh need to adopt to ensure environmental good governance?

1.4 Objectives of the Study

The core objective of this study is to review the policy framework of environmental governance in Bangladesh as it applies to urban-local governments. The actual role of urban-local governments in the implementation of such policies, in practice, will be evaluated. The specific objectives are:

- To review the policy framework of environmental governance at the urban level in Bangladesh;
- To assess to what extent, urban-local governments effectively manage environmental issues while performing governance and development activities;
- To evaluate the role of urban-local government in the governance of solid waste management;
- To ascertain the present state of governance in the conservation of urban ponds at the local level;
- To suggest policy measures for the urban-local governments to adopt to ensure effective environmental governance.

1.4.1 Literature Review

To determine the context of the study, the researcher has reviewed books, journals, public documents, reports, unpublished dissertations, etc. These publications cover different aspects of environmental governance and the issues relevant to Bangladesh's environmental governance in particular. To overcome the dearth of books on environmental governance, the researcher has also had to rely on the internet as a source. A summary of the literature reviewed follows:

Hempel (1994)[13] considers environmental governance as an important tool to control global environmental change and the institutional response needed to manage it. He stated that, while environmental problems are increasing significantly, governance remains sharply fragmented and territorial. He suggested that political institutions must be operated successfully to adjust to growing environmental crises.

M Salar Khan et al., (1994)[14] gave an account of wetlands and their importance in the country. They showed that development activities are the main threats to wetlands. This is one of the few sources that discuss the loss of wetlands in Bangladesh in depth.

M. Aminul Islam (1995)[15] also focused on the wetlands of Bangladesh and their importance. He explored the conversion of wetlands to agricultural land and found that drying up of wetlands has negative consequences on the ground water level. Ultimately this impacts the soil moisture resource. So, these resources should be conserved properly.

Alam (1996)[16] emphasized the increasing use of Environmental Impact Assessment (EIA) for those development projects which may undermine the foundation of long-term sustainable development. He made recommendations to implement, review and monitor the EIA process properly in our country.

Khan (1996)[17] described the concepts of environment and sustainable development. He then established a linkage between them, in the context of the development imperatives of Bangladesh. He put emphasis on the need to consider the environment in deciding development and economic activities, to ensure sustainable development in urban Bangladesh.

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[13] Lamont C. Hempel, *Environmental Governance: The Global Challenge* (Washington: Island Press, 1996).

[14] M Salar Khan et al., ed. *Wetlands of Bangladesh* (Bangladesh Centre for Advance Studies, 1994).

[15] M Aminul Islam, *Environmental Land Use and Natural Hazards in Bangladesh* (Dhaka: Dhaka University Press, 1995).

[16] M. Khorshed Alam, "Procedure of Environmental Impact Assessment: Bangladesh Perspective," *Bangladesh Review Journal*, Vol. 9 (Academy for Planning and Development, June, 1996).

[17] Habibur Rahman Khan, "Environment and Sustainable Development in Bangladesh," *Bangladesh Institute of International and Strategic Studies Journal,* Vol. 17, No. 2 (1996).

Farooque and Hasan (1996)[18] have consolidated a wide range of environment-related laws adopted as Orders, Ordinances, Acts, etc. They have also appended the Environment Policy of 1992 and a list of all environment-related international instruments to which Bangladesh is a party. The authors also inserted all amendments in this book. The book contains relevant laws on City Corporations. This book is a comprehensive guide to the status of the environmental law of the country.

Rahman (1998)[19] emphasized institutional support. However, he also discusses the capacity-building issues of the local government bodies to make environmental governance effective in Bangladesh. He stated that awareness-building, integration of national plans with environmental considerations, development of human resources, environmental compliance and enforcement, etc. are the most important capacity-building issues for environmental governance in Bangladesh.

Mahfuzullah (1999)[20] analyzed the current environmental issues such as "Save the Buriganga [River]". He shows how toxic and other harmful solid and fluid waste of industry is polluting the Buriganga.

Bakshi and Sen (2000)[21] emphasized the basic ingredients of the environment in their book. This book is basically an introduction to environmental chemistry.

Gaan (2000)[22] has written about different countries' laws including Bangladesh's concerning the environment, in a nutshell. The book makes it possible to compare national approaches to environmental governance.

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[18] Mohiuddin Farooque and S. Rizwana Hassan, *Laws Regulating Environment in Bangladesh* (Dhaka: Bangladesh Environmental Lawyers Association, 1996).

[19] Mir Obaidur Rahman, "Capacity Building Issues in Environmental Governance: The Bangladesh Perspective," *Lokproshason Samoeeky,* Vol. 12 (Dhaka: Public Administration Training Centre, 1998).

[20] Mahfuzullah, *Environmental Politics in Bangladesh* (Dhaka: Centre for Sustainable Development, 1999).

[21] D. N. Guha Bakshi and Subir Sen, *A Textbook of Environmental Science* (Kolkata: Kolkata Book House, 2000).

[22] Narrottam Gaan, *Environment and National Security* (Dhaka: The University Press Limited, 2000).

Amin (2002)[23] evaluated the role of urban-local governments and specialized State agencies in environmental governance in Dhaka City. He found that the environmental governance of the capital is not effective. Most of their problems are with coordination, transparency and accountability, capacity-building, rule application and adjudication, civic engagement, motivation and rewards, and strategic vision. So, major reforms in environmental governance are necessary in Dhaka.

Ahmad (2002)[24] has pointed out that, with rapid growth of urbanization, the structure of urban local governments in Bangladesh has been changed. Since the very beginning, these institutions have been suffering from various problems. So, they cannot provide urban people with a good quality of civic amenities. That is why, good governance of urban centers should be established in order to deliver all these services properly.

Mohammad (2002)[25] described major environmental issues and their related legal issues, such as- agro-chemical pollution, air pollution, sound and noise, industrial pollution, radiation pollution, coastal pollution, biodiversity degradation, urbanization, land degradation, solid waste management, soil erosion and fertility degradation, wetland and water resource degradation, etc. He has quoted almost 200 hundred laws, including the laws related to local government. He also identified causes which produce the ineffectiveness of the environmental laws in Bangladesh.

Zahid (2005)[26]**,** in his book, shed light on the national and local level planning experience, planning process and institutional environment for project management in Bangladesh over the last few decades. There is also discussion of the relevant theories. This book deals with the conceptual issues, dimensions and practices of national development planning and project management in Bangladesh. In this book, the author also describes the planning process, implementation and management of rural development projects, supported by empirical evidence.

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[23] Md. Nurul Amin, "The Role of Urban-Local Government and Special Service Providers in Environmental Governance in Dhaka City," *The Journal of Local Government*, Vol. 31, No. 2, (NILG: 2002).

[24] Emajuddin Ahmad, *Bangladesh Lok Proshashon (Public Administration in Bangladesh)* (Dhaka, Bangladesh: Anonna Publications, 2002).

[25] Noor Mohammad, "Environmental Problems in Bangladesh: An Appraisal," *The Journal of Local Government*, Vol. 31, No. 1 (NILG: 2002).

[26] S.J. Anwar Zahid, *Rural Development Planning and Project Management in Bangladesh* (Comilla: Bangladesh Academy for Rural Development, 2005).

Ishrat Islam (2005)[27] worked on the loss of wetlands and showed the negative effects of conversion of wetlands by private developers for housing development. She has discussed the socio-economic and environmental impact of loss of wetlands on local residents.

A report by the **United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) (2005)** [28] found that rapid but unplanned urbanization creates environmental hazards, through its direct impact on human health and safety. Besides this, air pollution, illegal dumping of liquid wastes, poor drainage, contamination of water, poor quality of solid waste management etc. are the main causes of pollution of the urban environment in Bangladesh. In this regard, the report suggests that sufficient financial support and efficient human resources can play vital roles to overcome the governance challenges for the local governments. Yet local self-governments are financially dependent on the central government and, therefore, they cannot make decisions locally. This is another obstacle to effective local environmental governance.

Jahan et al. (2005)[29] found that lack of appropriate urban policy and planning, problems in financial management and institutional weakness always lead to poor quality of the civic services in urban Bangladesh. As a result, environmental issues and others are not focused on properly and it creates problems in urban areas. Effective urban governance is a must to solve these problems.

Fakier, Stephens, Tholin and Kapelus (2005) [30] explained that responsible and accountable governance, regulations, participation through integrated mechanisms and structures, coordination, institutional duties for regulating environmental impact and people's access to environmental information ensure good quality of environmental

[27] Ishrat Islam, "Urbanization Process and Loss of Wetland: A case Study of Ashulia, Dhaka", Paper presented at the 19th Pacific Regional Science Conference, Nihon University, Tokyo, July 25-28, 2005.

[28] Economic and Social Commission for Asia and the Pacific (ESCAP), *Urban Environmental Governance: For Sustainable Development in Asia and the Pacific* (Bangkok: ESCAP, 2005); Available at: http://www.unescap.org/esd/environment/publications/Urban_Environment/UEG.pdf, [accessed on December 12, 2012].

[29] Jahan, Sarwar et al., *Supporting Urban Governance Reform, Final Report* (Dhaka, Bangladesh: Asian Development Bank, 2005); Available at: http://www.adb.org/Documents/TACRs/BAN/36475-BAN-TACR.pdf., [accessed on December 22, 2012].

[30] Fakier, Saliem; Anthea Stephens; Jenny Tholin; and Paul Kapelus, *Environmental Governance* (Pretoria, South Africa: Department of Environmental Affairs and Tourism, Background Research Paper produced for the South Africa Environment Outlook report, October 2005); Available at: http://s3.amazonaws.com/zanran_storage/soer.deat.gov.za/ ContentPag es/ 42728136.pdf, [accessed on July 22, 2013].

governance. To them, local governments also have responsibility to play a dominant role in environment governance.

Ahmad (2005)[31] explained how the complex socio-economic environment of urban areas had led to the problems in urban services and infrastructure. Different types of pollution, threats to flora and fauna, degradation of ecosystems, lack of healthy sanitation, lack of piped water supply, water logging, arsenic, poor solid waste management, etc. are common in urban centers. To solve these problems, central governmental policies and effective roles for local government and NGOs are very important.

Rahman and Hassan (2005)[32] examine how solid waste management, industrialization, slums, poor drainage system, etc. can be detrimental to the urban environment. Besides, urbanization trends, how urbanization is affecting the environment, poor quality of urban services, including water supply, sanitation, open space and parks and inadequate health services also occupy great importance. All these, in effect, are caused by poor governance of the environment.

Siddiqui (2005)[33] discusses different types of local government institutions, at rural and urban levels in Bangladesh. The present structure of local government in Bangladesh has undergone a long period of evolution. In addition, changes have taken place in these institutions since the independence of Bangladesh. The central government has excessive control over these institutions. These institutions have weaknesses in their management and that is why they are not being able to render their services in a satisfactory way.

Fox and Menon (2008)[34] presented Bangladesh as a highly centralized state, in which local government is less devolved than in other states. The local political structure changes in accordance with the change in the central government. Besides, little accountability, problems in income and expenditure, limited access to revenue sources

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[31] Mohiuddin Ahmad, *Living in the Coast: Urbanization* (Dhaka: Living in the Coast Series 4, June, 2005); available at: http://www.warpo.gov.bd/rep/liv/living4.pdf. [accessed on September12, 2013].

[32] Arifur Rahman, and Mahboob Hassan, *People's Report 2004-2005* (Dhaka, Bangladesh: Ministry of Environment and Forest, Unnayan Shamannay, 2006), pp. 125-182.

[33] Kamal Siddiqui, (ed.) *Local Government in Bangladesh* (Dhaka: University Press Limited, 2005).

[34] William Fox F. and Balakrishna Menon "Decentralization in Bangladesh: Change has been Illusive", Atlanta, GA, United States: Georgia State University, Andrew Young School of Policy Studies, International Studies Program, *Working Paper* No. 08-29 (December, 2008); Available at: http://www.aysps.gsu. edu/isp/files/ispwp0829.pdf, [accessed on December 12, 2012].

and a weak monitoring system of the quality of service delivery have made the local governments in Bangladesh ineffective.

Sultana (2010)[35] showed how human security is conceptually interlinked with the issues of urbanization. She showed that there is a gap between urban policies and planning practices. She found that unplanned development activity is a great threat to environmental security. So, planning and implementation of development activities should be done properly with proper policies.

Rabbani (2012)[36] focused on policy options in the governance of environmental issues and compliance of these policies with the planning, regulatory and management functions of local government. He found that local government has a good legal base and policy framework to tackle environmental issues in development but there is a gap in translating these policies into practice. Behind this gap, lack of enthusiasm of elected leaders, lack of proper function of internal organizations like standing committees, Project Implementation Committees (PICs) etc. and lack of environmental knowledge among the citizenry are responsible for non-implementation of policies.

A report by **Bangladesh Municipal Development Fund (2012)**[37] has identified the lack of people's consciousness and cooperation, incompatible solid waste collection, open dumping together with hazardous and non-hazardous waste, lack of recycling facilities, lack of efficient manpower and monitoring, insufficient financial support, etc. as the major challenges in the governance of urban solid waste management. Due to rapid urbanization, urban local councils are facing severe strain in keeping up with the increased demands on their infrastructural facilities and urban services, especially in urban solid waste management. They do not have the requisite technical, institutional and financial capacities to address their worsening situation of solid waste management.

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[35] Razia Sultana, "Unplanned Rapid Urbanization in Bangladesh: A Threat to Human Security," *BIISS Journal*, vol.31, No.3, (July 2010).

[36] Golam Rabbani, "Environmental Governance: Policies and Practices at Local Government Level in Bangladesh", *Institute of Bangladesh Studies Journal*, Vol. 35 (Rajshahi University, 2012).

[37] Bangladesh Municipal Development Fund, Study on Municipal Solid Waste Management, June 2012, Available at: http://www.bmdf-bd.org/images/frontImages/gallery/SPA_Picture/MSWMFinalReport.pdf, [accessed on March 30, 13].

Mahbub Siddiqui (2012), one of the founders of Heritage Rajshahi - a Civil Society Organization, conducted several research projects on different aspects of the environment of Rajshahi. He conducted an extensive study[38] of 252 missing ponds, in his article "Missing Ponds (*Rajshahi Mohanogorir Hariye Jaoa Pukur o Dighi*). In his article, he described the history of the disappeared ponds, one by one. He emphasized the need for more effective governance, to protect the rapidly decreasing number of ponds in Rajshahi City.

Md. Moynul Ahsan and Mohammad Habibur Rahman (2014)[39] emphasized the need for appropriate legal, institutional and community action to promote urban sustainable development: *i.e.* to stop the loss of natural resources, to improve the living environment and to reduce local pollution.

The literature review amply indicates that urban areas have some unique problems in the area of environmental governance, at the local, national and global levels. While these studies have provided details about examples of the general problem, what is missing is an overall consideration of the problem and what is common to all these studies. In addition, while there is a substantial and increasing body of literature addressing environmental governance issues at the global level, the study of Bangladesh's specific problems has been limited. These are the two major research gaps which this study seeks to address.

1.4.2 Justification of the Study

Effective environmental governance is a must to improve overall environmental conditions. In this regard, research is considered as one of the key factors to find the best methods of ensuring environment governance. This research would contribute significantly to filling up the existing knowledge gaps in this field: about environmental governance problems at the local level in general and about Bangladesh's problems and solutions in specific. It is expected that the research findings would be of great use for

[38] Mahbub Siddiqui, "Rajshahi Mohanogorir Hariye Jaoa Pukur o Dighi (Disappeared Ponds of Rajshahi City)" quoted in Md. Mahbubur Rahman, ed. *Rajshahi City: Past and Present,* Seminar Volume (Rajshahi: IBS, Rajshahi University, 2012), pp. 170-226.

[39] Md. Moynul Ahsan and Mohammad Habibur Rahman, "Environmental Impact of Rapid Urban Growth in Dhaka Megacity: A Case Study of Bhatara Union", 2014; Available at: http://www.bip.org.bd/ SharingFiles/journal_book/2014 0427152 157.pdf, [accessed on March 30, 2015].

policy makers, related government officials, urban authorities, planners, researchers and students, as well as for the environmentalists. It would help concerned authorities significantly in undertaking environmental protection initiatives to ensure effective and efficient environmental governance in Rajshahi City as well as in all other cities and towns of Bangladesh. “If you do not know what others are doing, you do not know what to do”.

1.5 Research Design

1.5.1 Research Approach

The study has been conducted following mixed methods. Both qualitative and quantitative data have been used in this research, with the aim of exploring the state of urban environmental governance in the city of Rajshahi.

1.5.2 Type of Research

The present research is an evaluative one. The aim of this research is to evaluate the development programs and activities of urban-local government. It has also assessed the extent of urban-local government’s action, emphasizing environmental issues on planning and implementation of development projects, as well as other activities and general policies, and their effects on the environment.

1.5.3 Types of Data Used

Both qualitative and quantitative data have been used in this research.

1.6 Sources of Data

Data have been gathered from a variety of sources that can be categorized as primary and secondary sources.

1.6.1 Primary Sources

Primary sources include field studies, questionnaire respondents, review of documents of selected development projects, general review of the activities of urban-local government, government rules and policies, etc.

1.6.2 Secondary Sources

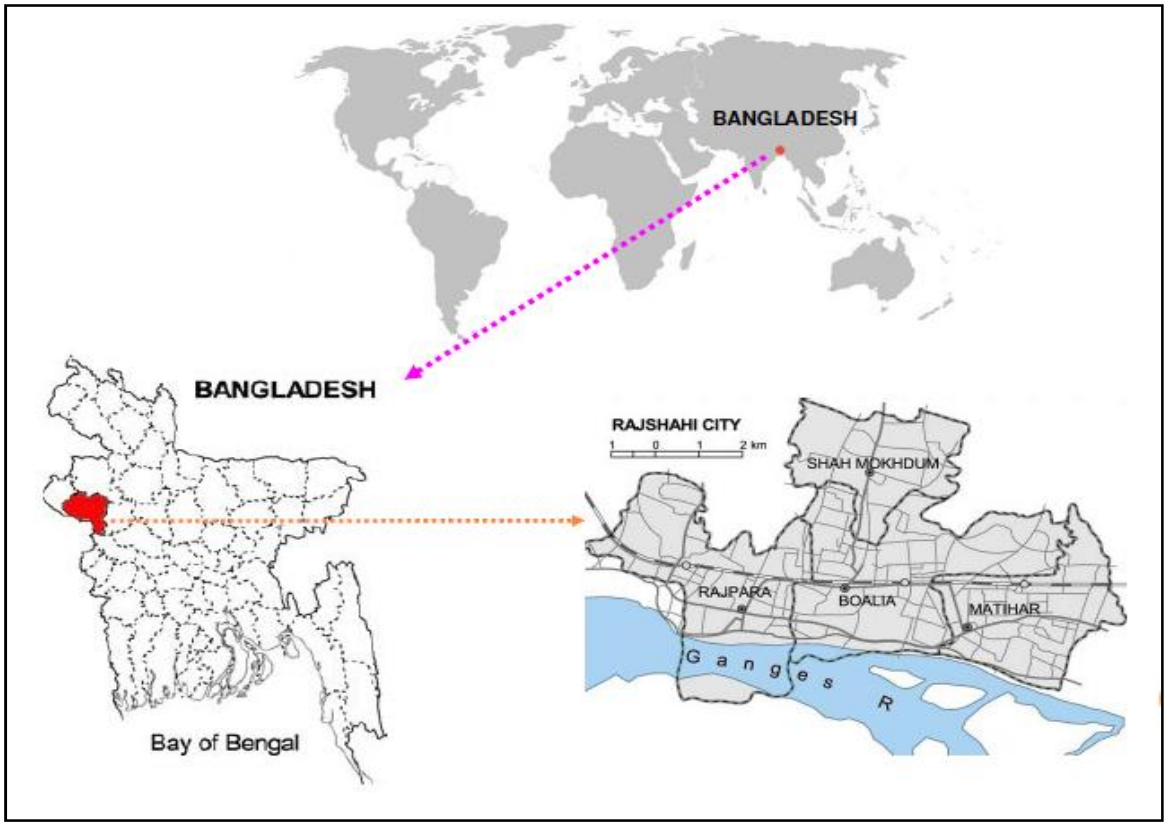
Secondary sources that have been used in this research are various research reports and articles, official statistics, relevant books, unpublished study documents, reports, theses/dissertations, daily newspapers, websites, etc.

1.7 Selection of the Study Area

The study has been conducted on the Rajshahi City Corporation (RCC). It has been selected purposively among the eleven City Corporations in Bangladesh for the following reasons.

Map 1.1

Geographical Position of Rajshahi City



[Source: RCC 2012]

RCC is the fourth largest city of Bangladesh with a semi-cosmopolitan nature. It is the largest city in Northern Bangladesh and has resemblance with other regional centers. The capital, Dhaka, has now turned into a mega-city and, as such, may no longer represent typical urban Bangladesh. Therefore, Rajshahi is more representative of urban governance problems and issues in Bangladesh than Dhaka.

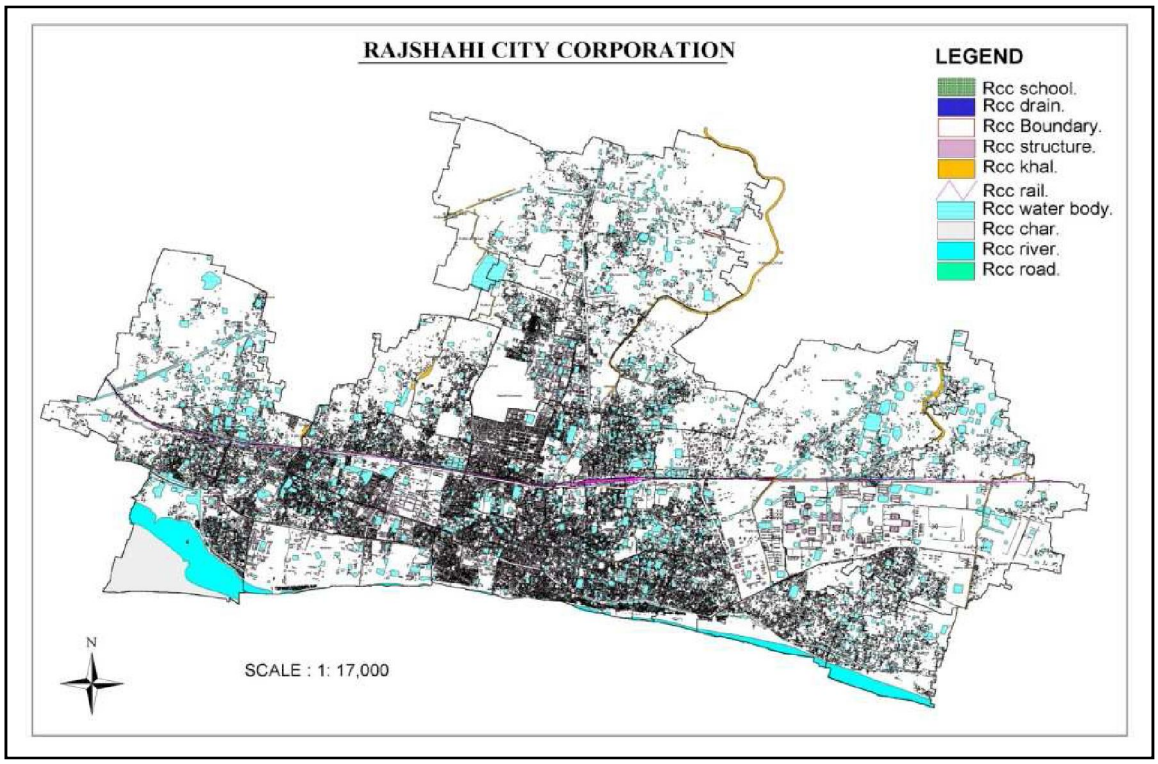
Secondly, all the City Corporations of Bangladesh are now functioning under the same Act, "Local Government (City Corporations) Act, 2009." The environmental activities of all the City Corporations are almost identical. Other rules and circulars are also same and promulgated by the Local Government Division of the Ministry of Local Government and Rural Development (LGRD). Principal sources of funds for development activities of all City Corporations are the allocations from the Ministry and the same donor agencies that stipulate the same guidelines for environmental compliance by all local governments. The research on the RCC thus may be considered as representative of all the City Corporations in Bangladesh.

RCC covers an area of total 96.72 sq. km. and the total population of RCC is 795,451, as per the 2011 census. It consists of 4 Police Stations, 30 Wards and 134 localities. The city is situated on the bank of river Padma. It is located between 24.22' north latitude and between 88°28' and 88°38' east longitude. The city has a sub-tropical wet and dry climate, which is generally marked with monsoons, high temperature, considerable humidity and low rainfall. The annual rainfall is 1159.9 mm. The average temperature is 25.1°C. Low temperature, usually in January, varies from 2.7°C to 14.1°C and high temperature, usually in the months of April to July, varies from 22.6° to 41°C. The mean relative humidity is found to be low in March (65%) and high in July-September (88-89%).[40]

[40] *Rajshahi Metropolitan Development Plan (2004-2024),* Vol.1 (RDA: 2004), p. 7.

Map 1.2

Rajshahi City Corporation



[Source: RCC 2006]

1.8 Sample Size and Sampling Procedure

1.8.1 Sampling of Environmental Activities

Among the environmental activities of RCC, the study has focused on,

i) Solid waste management;

ii) Conservation of ponds;

iii) Environmental issue considerations in regular and development activities;

1.8.2 Sampling of Respondents

The sample size of the respondents is 381. The respondents are categorized into five, such as:

i) **Professionals:** environmental professionals like Civil Society members, urban planners, Engineers, experts of public organizations, NGO personnel, etc. who have expertise knowledge in the field of environment and governance.

ii) **Executives and Public Representatives:** include elected Councilors of RCC and Officials of RCC, Rajshahi Development Authority (RDA), Department of Environment (DoE), Rajshahi and District Administration of Rajshahi (DAR) who are directly involved in policy making and implementation.

iii) **Field Staff:** include third class and fourth class employees of RCC who are engaged in solid waste management activities of RCC.

iv) **Stakeholders:** include the persons who are directly affected by the activities and concerned policies of the RCC and/or the central government. The purposive sampling method has been followed in selection of stakeholders because all the stakeholders of the city are not knowledgeable on environmental issues.

v) **Owners of and Neighbors of Ponds:** include the owners and neighbors of the pond of RCC that have already been filled up. The distribution of the sample size and sampling procedure is shown below:

Table 1.1

Sample Distribution

Respondents	Sampling procedure	Technique of data collection	Sample size
Professionals	Purposive Sampling	Key Informant Interview	11
Executives and Public Representatives	Purposive Sampling	Face to Face Interview using Questionnaire	16
Field staff	Simple Random Sampling	Face to Face Interview using Questionnaire	124
Stakeholders	Purposive Sampling	Face to Face Interview using Questionnaire	180
Owners of and Neighbors of Ponds	Simple Random Sampling	Face to Face Interview using Questionnaire	50
		Total Respondents:	**381**

Stakeholders and field staff have been selected from 6 Wards out of 30 Wards in RCC following cluster sampling techniques. At first, 30 Wards have been classified into 6 clusters based on their urbanization character, like i) Residential, ii) Commercial, iii) Industrial, iv) Hospitals and Clinics, v) Semi-urban, and vi) Outskirt of urbanization. From 6 clusters, 6 Wards, 1 from each cluster, have been selected, following simple random sampling technique. Following this process, Ward nos 5, 6, 12, 16, 25, and 30 of RCC have been selected. Table 1.2 shows the location and characteristics of selected Wards.

Table 1.2

Location & Characteristics of Selected Wards of RCC

Ward no.	Area & Population	Location	Urbanization Character
Ward no. 5	Area: 517 acres Population: 17,382	Mahisbathan, Vatapara, Rajpara, Mahisbathan Kulupar	Residential
Ward no. 6	Area: 689 acres Population: 14,971	Laxmipur, Laxmipur Vatapara	Hospitals and Clinics, Major Markets
Ward no. 12	Area: 485 acres Population: 11,314	Rampura, Boalia	Commercial
Ward no. 16	Area: 1,136 acres Population: 16,501	Sapura, Koedara, Poba & Borobonogram	Industrial
Ward no. 25	Area: 537 acres Population: 12,719	Raninagar, Talaimari	Sub-urban
Ward no. 30	Area: 1,754 acres Population: 31,308	Motihar, Mirzapur, Budhpara, Meherchondi, Keogachi, Choddopai	Outskirt

Please see ***Annexure II*** for details of background information of the respondents *i.e.*, Stakeholders, Field Staff, and Owners of and Neighbors of Ponds.

1.9 Data Collection Tools

1.9.1 Primary Data Collection

a. Questionnaire Survey

The main source of primary data in this study is questionnaire survey among the respondents. Four sets of questionnaires have been prepared, for four categories of respondents: executives and public representatives; stakeholders; field staff; and owners of and neighbors of ponds. The questionnaires collect data on the level of governance maintained on the selected issues of environment. Objective-wise questionnaires have been arranged, including both open-ended structured and close-ended unstructured questions.

The respondents have been interviewed by the researcher himself and trained interviewers. Please see *Annexure I* for details of the questionnaires that have been used in this research.

b. Observation

Observation helps get the real information. The researcher has observed the regular environmental activities of RCC including: solid waste collection, transportation and disposal, infrastructural facilities of solid waste management, and the extent of environmental issue compliance by RCC in its regular and development activities.

c. Key Informant Interview

Those people who have expert knowledge in the fields of environment and governance, like Civil Society members, University teachers, urban planners, Engineers, NGO personnel, experts of public organization, etc. the executives of RCC, RDA, DoE and DAR, and some public representatives have been considered as the key-informants for this study. A checklist has been used to collect data from the key informants.

d. Case Studies

In this research, the case study method has also been adopted, to get a more comprehensive understanding of the real situation of environmental governance. Case

studies have examined the level of environmental issue consideration during planning of development projects already implemented by RCC. In this regard, five infrastructure development projects of RCC have been studied as cases.

1.9.2 Secondary Data Collection

a. Document Study

For in-depth analysis and to make the information more reliable and valid, relevant documents have been reviewed. The secondary data have been collected by selecting projects from secondary sources. The Development Project Proforma/Proposal (DPP) of selected projects and their Project Completion Reports (PCR) have been collected from concern divisions of Rajshahi City Corporation. Other qualitative and quantitative data from secondary sources have been collected from related books, recognized journals, electronic journals, newspapers, published and unpublished dissertations available in the libraries of various universities, institutions, government and non-government organizations and development agencies, and internet websites. During the whole study period, document study was ongoing.

1.10 Data Analysis and Presentation of Findings

To avoid inconsistency and error, collected data have been reviewed, scrutinized and processed in the light of objectives and variable/indicators, following certain steps like editing, coding, categorization, listing, tabulation, etc. Collected quantitative data have been analyzed using appropriate statistical techniques. Qualitative data have been analyzed through logical reasoning processes.

Results and findings have been presented in tabular and narrative form, including percentage and frequency. In addition, graphical presentation has been provided to interpret the data in a more meaningful way and to communicate them more easily to the readers.

1.11 Conceptual Framework

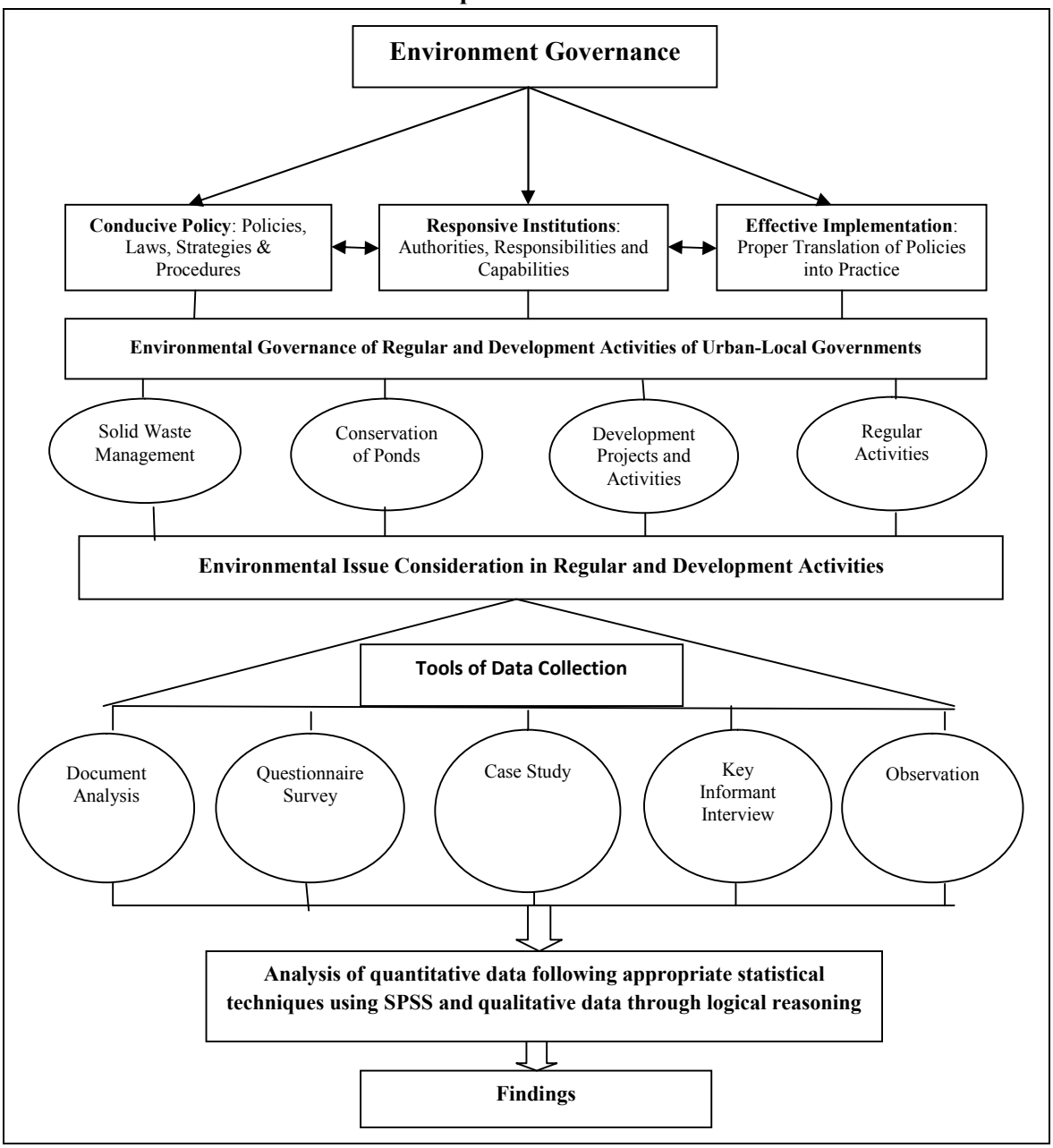
This study is based on the concept of governance. To explain the aspects of environmental governance, a particular frame has been built.

Governance is a broad concept which has three basic components:

i. conducive policy, that includes policies, laws, strategies and procedures with broad good governance framework,
ii. responsive institutions, that include authority, responsibilities and capabilities, and
iii. effective implementation that includes proper translation of policies into practice.

This study has adopted those basic components which are applicable to environmental governance.

Figure 1.1
Conceptual Framework



[Source: Developed by the researcher]

1.12 Feasibility of the Study

The Researcher's academic background, having a Master's Degree in Political Science and the completion of one year course work on research methodology, conducted by the Institution of Bangladesh Studies (IBS), is aptly suitable for the subject under study. Supervision and close monitoring of the learned supervisor, logistic support from IBS, and intellectual help from other scholars have made the study fruitful. Sources that have been used here are available inside Bangladesh. Libraries at the IBS, Central library of the University of Rajshahi and University of Victoria (UVic), Canada, and the libraries of some other organizations have provided a considerable amount of material. My four-month long PhD Internship Program to the UVic, Canada, has been very much helpful to enrich the research through experimental learning of environmental governance of British Columbia, Canada and consultation with some academicians of the UVic. The time and finance available to this investigator have been sufficient for him to complete the research.

1.13 Scope and Limitations of the Study

1.13.1 Scope of the Study

Under the present environmental situation, the issue of environmental governance has become vital to everybody concerned. The improvement of overall environmental conditions depends mainly on effective environment governance. Such governance requires well-equipped, responsive institutions with well-designed programs. Such programs must be supported by an efficient and honest work force, sufficient resources, appropriate policies, laws and regulations with strong enforcement, etc., So, there was a scope in this research to examine empirically whether or not these requirements exist in practice in the RCC, in management of solid waste, in conservation of ponds of the city and in consideration of environmental issues during regular and development activities. The study also had scope to identify the challenges that RCC faces in the process of environmental governance.

1.13.2 Limitations of the Study

Major limitations of the study follow:

- The research is limited by the fact that it covers only one City Corporation out of 11 City Corporations in Bangladesh. It also excludes environmental governance of a Municipality (Paurashava), which is another urban-local government body of Bangladesh.
- Both money and scholarly support are necessary to conduct evaluative research in this new field of study. In these cases, the study was limited.
- There were insufficient research publications in this field.
- The ambiguity of collected data hampers the research work to some extent.
- The respondents did not cooperate to the expected level with the researcher during data collection from field.

1.14 Expected Outcomes and Dissemination Policy

Environmental governance is one of the most important issues in ensuring environmental sustainability. The research has depicted a clear picture of environmental governance, especially in the Rajshahi City Corporation and, by implication, in the other regional urban centers of Bangladesh. The study findings and suggestions would help the authorities concerned to formulate policies and take proactive and dynamic decisions for environmental development. The study establishes a precedent and model for other environmental researchers into local environmental governance, in Bangladesh and elsewhere. The author intends to publish this study in national and international academic journals to the extent possible.

1.15 Structure of the Dissertation

The dissertation has eight chapters. The first chapter contains the research problems, literature review and methodology of the study. The second chapter explores the concepts of governance and environmental governance. The third chapter focuses on the present system of local government in Bangladesh, including its background, history, functions and the policymaking process of urban-local government. The fourth chapter portrays the legal framework of the urban environment of Bangladesh. The fifth chapter focuses on

environmental issue consideration in regular and development activities of RCC. The sixth chapter highlights the state of governance in RCC's solid waste management. The findings regarding conservation of ponds of RCC are presented in the seventh chapter. The last chapter summarizes the main findings, and offers some policy options, along with conclusion and further research indications.

1.16 Chapter Conclusion

Environmental governance plays a vital role in conserving the environment. Environment does not mean nature only: it also means maintenance of natural and artificial things related to the environment. Since everything comes from the environment, it must be managed properly. Unplanned and rapid development activities are continuously creating negative and adverse impacts on the natural biotic environment. If the environment is affected negatively, and continuously contaminated, we will be jeopardized in the long run. Thus, the need for good environmental governance, as an integral part of sustainable development arises.

This study aims to shed some lights on the issues of environmental governance at the local level in Bangladesh's context. The discussion focuses on two main themes: policy options in environmental governance issues and compliance with these policies in regulatory and management functions. In exploring these dimensions, this study has investigated the broad jurisdictional and institutional framework and ways in which urban-local governments interact with or are involved in environmental management.

The study has been conducted following a mixed-method approach. It has been done aiming at evaluating the activities of the RCC in the management of solid waste and conservation of ponds in Rajshahi City. It has also explored the extent to which the RCC emphasizes environmental issues in planning and implementation of development projects, as well as in their regular activities. Both primary and secondary data have been used in the research. The research was conducted through applying both open-ended structured and close-ended unstructured questionnaires for different respondents, key informant interview techniques, and participant observation methods. Both simple random sampling and purposive sampling techniques have been utilized in selection of different categories of respondents. Collected data have been analyzed following appropriate statistical methods of analysis.

Chapter 2
Exploring Environmental Governance

2.1 Introduction

The environment is what we have around us. The environment is composed of the natural, the artificial and the supernatural. The environment is a system. People interacting with the environment constitute a social system. A social system must be governed purposively or it will govern itself, without purpose and without regard to its effects on other systems in society. A social system may, by luck, be effective for those involved in it and not produce social problems, without governance: however, experience shows that the opposite is the more likely result. Everything we know about the environment today, especially in Bangladesh, shows that we have not been that lucky.

Environmental governance is the purposeful government of the environment, for its own protection and for the protection of social systems with which the environment interacts.

The words “environmental governance” have become poignant, pithy and terse. The term has an intuitive appeal and most people think that they understand it when they hear it. Yet, when they begin to discuss it, most people arrive at the conclusion that environmental governance is a difficult concept which they barely understand at all. So, before considering the data from the research, we need to try to get the topic clearer.

Environmental governance is a concept that coexists, and interacts, with the core concept of governance. If political science is the theory of governance, environmental governance is “applied governance”. So the relationship of environmental governance and governance in general is complex and central to both issues. Without governance, environmental governance has no content. Without environmental governance, governance, along with the governed, will eventually cease to exist, along with the rest of the world.

Governance generally involves political, economic, theocratic and social issues: no less does environmental governance. The concept of “environmental governance” is a consolidation of the learning from the study of government and the learning from the

study of the environment. Indeed, environmental governance has emerged from current scholarly efforts to explore the 'governance-environment' nexus. Such efforts are largely based on the assumption that the presence or absence of democratic or "good" governance eventually affects the environment.[1]

According to Mugabe, the difficulty in conceptualizing 'environmental governance' lies precisely in the complexity of defining "governance" in general.[2] Thus, before even trying to discuss environmental governance, we need to review what we know about the environment and what we know about governance in general. Then perhaps we can arrive at sense rather than continuing nonsense and confusion.

2.2 Environment

The environment is basically everything that makes it possible for humans to live on Earth, or affects our ability to do so successfully. The things and beings that humans need from nature are the environment. It includes living and non-living things - water, air, land and physical properties and the interrelationships that exist among/between them and human beings, other living beings, plants and micro-organisms.[3] Dictionaries define the environment as the objects or the region surrounding anything.[4] Accordingly, the term encompasses both the features and the products of both the natural world and those of human civilization.

At the international level, for the first time, the United Nations Conference on Human Environment, held at Stockholm in 1992, distinctly elucidated the concept of environment. It recognized that the environment is not only limited to water, air, soil, wildlife, etc., which needs protection, but also includes factors like poverty, underdevelopment, urbanization, deforestation, population explosion and encompasses the interrelationships among people, resources, and development.[5] Environment is the aggregate of surroundings of a living organism, including natural forces and other non-living things that provide conditions of development and growth, as well as of danger and damage.

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[1] John Mugabe and Godber W. Tumushabe, *Environmental Governance: Conceptual and Emerging Issues*, p. 12; Available at: <http://www.acts.or.ke/GE-Chapter1.pdf> [accessed on August 5, 2011).

[2] *Ibid.*

[3] *The Bangladesh Environment Conservation Act, 1995 (amended in 2010),* Section. 2.

[4] J.H. Murray, et al., *Compact Oxford English Dictionary*, 2nd ed., (Oxford: Clarendon, 1991) p. 532.

[5] S. N. Dhyani, *Management of Environmental Hazards (*New Delhi: S. N. Publication, 1993), p. 44.

The environment is composed of two different components: the natural environment and the social environment. The natural environment refers to the environment that encompasses all living and non-living things occurring naturally, without human action, on earth: air, soil, water, animals, plants, temperature, etc. For religious people, the natural environment is "the environment made by God". The social environment is the environment made by man. Social environment refers to the immediate physical and social setting in which people live or in which something happens or develops. It includes the culture in which the individual becomes educated or lives as well as the people and institutions with whom the individual interacts. In order to enrich their lives, people have used natural resources, and in the process, they have brought about many changes in the natural environment. Human settlement, roads, farmlands, dams and many other things are a part of this interaction between the social and natural environments.

2.3 Governance

Governance is related to maintenance: of a thing living or non-living. Governance is the control of human action. Policies are formed by policymakers to control the actions of people.

The concept of governance has been increasingly recognized as the central issue of development discourse. It is defined differently by different people depending on their political and/or intellectual backgrounds.[6] Even the definition of governance often causes misunderstandings.[7]

In the economic, social, environmental and political disciplines, the term 'governance' has multiple interpretations.[8] Rhodes refers to this term with six separate uses: as minimal State, as corporate governance, as the new public management, as "good governance," as a socio-cybernetic system, and as self-organizing networks.[9] The World Bank defined

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[6] United Nations Development Program (UNDP), *Governance for Sustainable Human Development*, p. 3; Available at: http://magnet.undp.org/policy/chapter1.htm, [accessed on September 6, 2012].

[7] John Mugabe, and Godber W. Tumushabe, *op. cit*. p. 13.

[8] Sir John Harman, *The Relationship between Good Governance and Environmental Compliance and Enforcement*, p. 2; Available at: http://www.inece.org/conference/7/vol2/08_Harman.pdf, [accessed on 05 September 2012].

[9] R. A. W. Rhodes, *Understanding Governance: Policy Networks, Governance, Reflexivity, and Accountability* (London: Open University Press, 1997), quoted in Yoichiro Usui, "Governance Legal Order, Social Integration: Reviewing New Governance Approaches in EU Studies," p. 23; Available at: <http:// www.nuis.ac.jp /~usui/Usui_2000_Journal_of_NUIS.htm> [accessed on May, 29, 2010].

governance as the exercise of political power to manage a nation's affairs.[10] The Institute for Global Environmental Studies explained governance as a complex set of values, norms, processes, and institutions by which society manages its development and resolve conflicts.[11] The United Nations Development Program (UNDP) explained governance as interrelated with sustainable human development. According to it, governance is:

> "…the exercise of economic, political and administrative authority to manage a country's affairs at all levels. It comprises the mechanisms, process and institutions, through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences. "[12]

UNDP also state that the goal of governance initiatives should be to develop capacities that are needed to promote development that gives priority to the poor, sustains the environment and creates needed opportunities for employment and other livelihoods.[13]

Similarly, Louis O. Dorvilier said that governance materializes itself through the imposition of authority in the economic, political and administrative areas, as a way to manage the affairs of the State. It includes the institutions, processes and instruments through which citizens and groups promote their common interests and rights: and also through which they meet their responsibilities and reconcile their differences.[14]

United Nations Educational, Scientific and Cultural Organization in its *Capacity Building for Governance Monograph* opines that governance means more than government. Government refers to a political process that encompasses the whole society and contributes to the making of citizens' active contributions to the social contract that binds

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[10] World Bank, quote in Adlan Al Hardallu, "Environmental Governance", *Rio+10 Review Report*, The Environmentalists Society, EDGE for Consultancy and Research, p. 1.

[11] Institute for Global Environmental Strategies, *Environment and Governance,* p. 1. Available at: <http://www.iges.net/environment/governance/gov-1a.html> [accessed on 16 October 2010].

[12] UNDP, *Governance for Sustainable Human Development Program* (New York: United Nations Development Program, 1997), pp. 2-3.

[13] United Nations Development Program, *Governance for Sustainable Human Development*, p. 10; Available at: <http://magnet.undp.org/policy/chapter1.htm> [accessed on October 30, 2011].

[14] Louis O. Dorvilier, "Challenges for Development and Social Stability Least Developed Countries (LDCs) Social Alert. Governance, Peace and Stability in LDCs." 3rd United Nation Conference on LDCs. May 9, 2001. Brussels, Belgium, Paragraph 3; Available at: http://www.soci alalert.org/doc/PMAMay9-louis(en).htm> [accessed on November 22, 2001].

them together.[15] According to United Nations Economic and Social Commission for Asia and the Pacific, governance means the process of decision-making and the process by which decisions are implemented (or not implemented).[16]

According to Mugabe and Tumushabe, governance goes beyond government. Governance is understood as an organization that enforces laws for a State; government is the State and its political administration and decision-making process. Civil society organizations include a myriad of associations around which society systematically organizes itself. Such associations include "trade unions; non-governmental organizations; gender, language, cultural and religious groups; charities; business associations; social and sports clubs; cooperatives and community development organizations; environmental groups; professional associations; academic and policy institutions; and media outlets.[17] It is important to emphasize that the political parties are also categorized as part of civil society if they are embodied in the Parliament.

The institutions of governance in the three domains (State, civil society and the private sector) must be designed to contribute to sustainable human development. Governance can do this by establishing the political, legal, economic and social circumstances for poverty reduction, job creation, environmental protection and the advancement of women.[18]

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[15] Quoted in Shahnaz Parvin, "Good Governance: A Theoretical Analysis," *The Journal of Bangladesh Public Administration,* vol. 12 (November: 2007), p. 102.

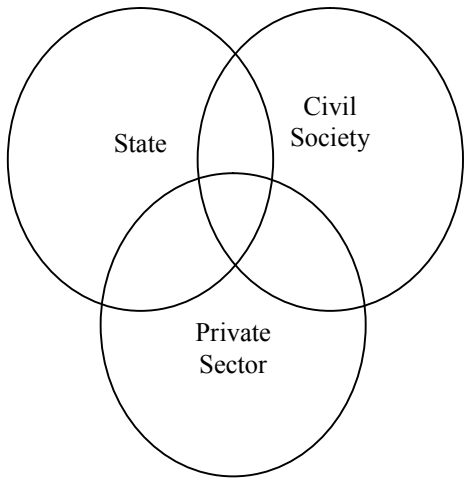
[16] United Nations Economic and Social Commission for Asia and Pacific, *What is Good Governance?* Available at http www.unescap.org/pdd/prs/ProjectActivities/Ongoing/gg/governance.asp, [accessed on January 21, 2013].

[17] Convergence of Public and Private Sectors: Maximizing Accountability, Efficiency and Higher Productivity during the Philippine Productivity and Quality Movement 2000 First National Congress on August 18, 2000 at the Philippine Trade Training Center. Civil Service Commission, Available at http://www.waikato.ac.nz/ wfass/subjects/geogra phy/research /graduate/ismar/ismar_partialthesis. pdf, pp. 27-28, [accessed on April 21, 2010].

[18] United Nations Development Program, *op. cit,.* p. 10.

Box 2.1

Good Governance reaches beyond the State



Governance includes the state, but transcends it by taking in the private sector and civil society. All three are critical for sustaining human development. The state creates a conducive political and legal environment. The private sector generates jobs and income, and civil society facilitates political and social interaction mobilizing groups to participate in economic, social and political activities. As each has weaknesses and strengths, a major objective of our support for good governance is to promote constructive interaction among all three.

[Source: UNDP, Re-conceptualizing Governance, New York, 1997; Available at: http://www.waikato.ac.nz/w fass/subjects/geogra phy/research/graduate/ismar/ismar_pa rtial thesis.pdf, [accessed on January 5, 2010].

Civil society, lying between the individual and the State, comprises individuals and groups interacting socially, politically and economically - regulated by formal and informal rules and laws. The State, of course, can do much in such areas as upholding the rights of the vulnerable, protecting the environment, maintaining stable macro-economic conditions, maintaining standards of public health and safety for all at an affordable cost, mobilizing resources to provide essential public services and infrastructure, and maintaining order, security and social harmony.[19]

As a consequence of post-Cold War governance crises, the United Nations Commission on Global Governance defined the term governance as:

> "the sum of the many ways through which individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflicting or diverse interests may be accommodated and cooperative action may be taken."[20]

[19] *Ibid.*

[20] United Nations Commission on Global Governance, *Our Global Neighborhood* (New York: Oxford University Press, 1995), p. 2.

Among the actors involved in governance, the Government is one of them. Other actors involved in governance vary depending on the level of governance that is under discussion. In rural areas, for example, other actors may include influential land lords, associations of peasant farmers, cooperatives, NGOs, research institutes, religious leaders, finance institutions political parties, the military etc. The situation in urban areas is much more complex.

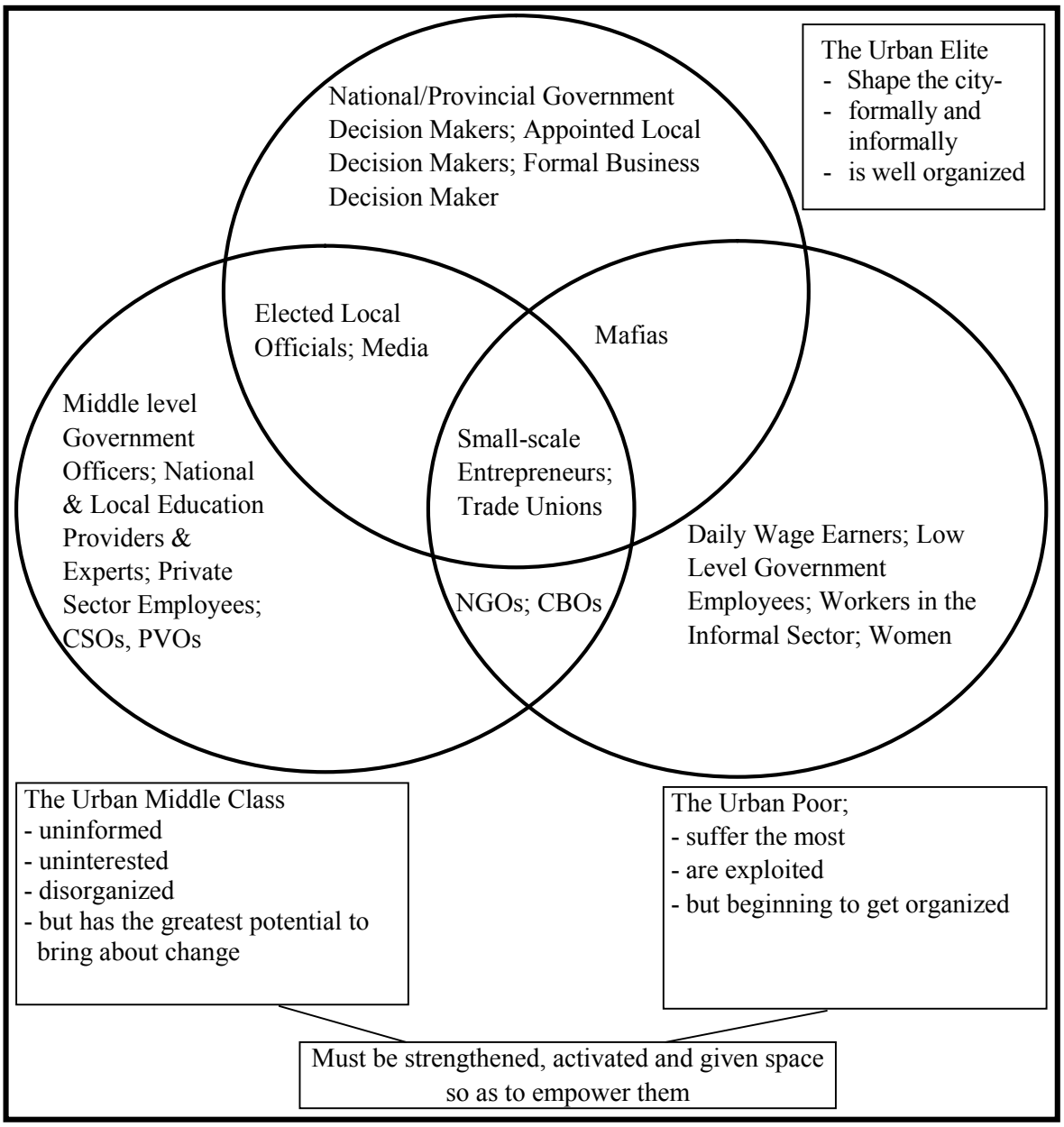
Figure 2.1 depicts the interconnections between actors involved in urban governance. At the national level, in addition to the above actors, media, lobbyists, international donors, multi-national corporations, etc. may play a role in decision-making or in influencing the decision-making process.[21]

All actors, other than the Government and the military, are grouped together as part of the "civil society". In some countries, like Bangladesh, in addition to the civil society, organized crime syndicates also influence decision-making, particularly in urban areas and at the national level.

[21] *Ibid.*

Figure 2.1

Interconnection among Urban Actors in Governance



Source: United Nations Commission on Global Governance, Our Global Neighborhood (New York: Oxford University Press, 1995); Available at: http://www.unescap.org /pdd/prs/ProjectActivities/Onging/gg/governance.asp, [accessed on January 21, 2013]

Similarly, formal government structures are the means by which decisions are arrived at and implemented. At the national level, informal decision-making structures, such as "kitchen cabinets" or informal advisors may exist. In urban areas, organized crime syndicates such as the "land Mafia" may influence decision-making. In some rural areas locally powerful families may make or influence decision-making. Such, informal decision-making is often the result of corrupt practices or leads to corrupt practices.[22]

Governance has three legs that represent its extent: economic, political and administrative.[23] Economic governance includes decision-making processes and is related to the country's economic activities. Economic governance also includes a nation's interactions with the economies of other countries.[24] Governance clearly has a role in action to promote equity, reduce poverty and improve quality of life. Political governance is the process of decision-making to formulate policy. Administrative governance is the system of policy implementation.[25]

Hasnat Abdul Hye, in an international conference on good governance, expressed his view that governance is the undertaking of activities, management of resources, organization of men and women by groups of people, communities local government bodies, business organizations and the branches of the State (legislature, judiciary and government) through social, political, administrative and economic arrangements that meet the daily needs of people and ensure sustainable development.[26]

The above definitions indicate that governance, as a concept, recognizes that power exists inside and outside the formal authority and institutions of the State. In many formulations, governance includes both central and local government, the private sector and civil society. Governance includes the institutions, processes and instruments through which a

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[22] *Ibid.*

[23] Deutsche Stiftung Entwicklug, "Concept and Principles of Good Governance." Available at: <http://www.dse.de/zg/gg/html/english/4_inde pthp aper_1.htm > [accessed on November 23, 2011].

[24] Akhtar Badshah, "Good Governance for Environmental Sustainability." Background Paper for the Public Private Partnership Program of UNDP; Available at: (pdf) <http://www.undp.org/ ppp/library/files/akhtar01.doc> [accessed on November, 23, 2011].

[25] United Nations Development Program, *Governance for Sustainable Human Development,* Chapter 1; Available at: <http://magnet.undp.org/policy/chapter1.htm> [accessed on 30 October 2011].

[26] Hasnat Abdul Hye, "Good Governance", Concept paper presented in the International Conference on Good Governance, jointly organized by Local Government Division, Ministry of LGRD and Co-operatives, Government of Bangladesh and United Nations Development Program on August 4-6, 1998, p. 2.

society collectively takes decisions and acts upon them. It recognizes that decisions are made taking the common interests of the citizens and groups into account.

2.4 Environmental Governance

Now we can put the concepts of the environment and governance together to arrive at the concept of environmental governance. From the discussion of the environment, environmental governance clearly means the interaction of the social and natural environments. From the discussion of governance, environmental governance clearly means the interaction of social systems across an urban or rural area to take decisions collectively, as a society, and to act upon them. Consolidating these, we can arrive at a more precise definition of environmental governance: Environmental governance means the interaction of social systems to take, and act upon, collective decisions which concern the interaction of the social and natural environments.

Environmental governance is environmental maintenance. Throughout the developed world, environmental governance has become an integral part of the total governance by the political system. If we fail to maintain environmental practices with codified and enforced policies, we shall be in a great crisis in near future. So, environmental governance should be given priority in any country's political system.

Environmental governance is an important instrument, governance systems influence environmental outcomes. The term 'environmental governance' is used to describe how decisions about the environment are made and who makes such decisions. It includes the formal and informal institutional arrangements for resource and environmental decision-making and management. It includes and extends beyond the State to involve the private sectors and civil society organizations. Thus, it involves a range of institutions, social groups, processes, interactions and traditions, all of which influence how power is exercised, how public decisions are made, how citizens become engaged or disaffected, and who gains legitimacy and influence and achieves accountability.

Environmental governance indicates that delivery of the general services of the State and local governments, as well as planning and implementation of development activities, have to be undertaken in a manner in which environmental issues are considered and dealt with. It deals with the actors within each level of government, between elected

representatives and appointed officials, and among traditional, private and non-government bodies, which exercise power to make decisions about the disposition of natural resources and the benefits that flow from the environment.[27]

Asian Development Bank (ADB) defines 'environmental governance' in the following way:

> "Environmental governance is the manner in which people exercise authority over nature. It concerns the actors-within each level of government, between elected and appointed officials, and among 'traditional' private and non-governmental bodies- and the power that they exercise to make decisions about the disposition of natural resources and benefits that flow from the environment."[28]

Environmental governance is not limited to the environmental or natural resource sectors or the Ministries, agencies and laws concerning the environment. It also encompasses the broader range of governance actors. In fact, it attests to the role of many actors (*e.g.* the State, the private sector and civil society) in environmental decision-making processes and in the management of environmental problems.[29] As a framework of development, environmental governance refers to a process about how different departments, agencies and institutions deal with their environmental issues. It is concerned with the interactions between formal and informal institutions and the actors within the society e.g. central government, local government, private sectors and civic bodies. The identification of environmental good governance requires a judgment about how power and authority within the society should be distributed among different levels of government and also between the State and society, in order to serve the broadest cross-section of people, and their environment, best.[30]

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[27] Asian Development Bank, *Asian Environment Outlook 2001* (Manila: Asian Development Bank, 2000), p. 82, quoted in Md. Nurul Amin, "The Role of Urban Local Government and Special Service Providers in Environmental Governance in Dhaka City," *The Journal of Local Government*, Vol. 31, No. 2 (December, 2002), p. 23.

[28] *Ibid.*

[29] Mir Obaidur Rahman, "Capacity Building Issues in Environmental Governance: The Bangladesh Perspective," *Lokproshason Samoeeky (Public Administration Periodical),* Vol. 12 (September, 1998), p. 47.

[30] Md. Nurul Amin, "The Role of Urban Local Government and Special Service Providers in Environmental Governance in Dhaka City," *The Journal of Local Government*, Vol. 31, No. 2 (December, 2002), p. 28.

According to Graham J, Amos B and Plumptre T., governance, in the context of the environment, encompasses the relations and interplay among State and non-State entities, processes and normative frameworks, where powers and functions directly or indirectly influence the use, management and control of the environment.[31] Environmental governance thus concerns legal and policy decisions to manage environmental issues; compliance with those policies in development management; and the participation of common people who are directly affected by the outcome of such decisions.[32]

Mugabe and Tumushabe observed that the literature related to environmental issues failed to define the concept of environmental governance. According to them, environmental governance is a democratic system, with the participation of many actors, in which the State (s) has the role to share responsibilities at the global level and to delegate power at the local level, in order to successfully manage and preserve the environment.[33]

The juxtaposition of governance and the environment has a number of features.[34]

- Firstly, the State and civil society are in charge of implementing environmental management on their respective parts;
- Secondly, the connection between governance and environment suggests that environmental management involves political issues and processes;
- Thirdly, the linkage means that environmental preservation is a mutual task shared between government and the civil society; and
- Finally, environmental governance highlights the differing yet related roles of State, private sector and civil society.

An effective policy framework is important in developing an integrated environmental governance system. The frameworks will allow and encourage the participation of all stakeholders: government, industry and public. To do this, they must ensure adequate and transparent dissemination of information, and constantly build the capacity for interactions of all sectors.

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[31] J. Graham, B. Amos, and T. Plumptre, "Governance Principles for Protected Areas in the 21st Century", Institute of Governance, Ottawa, 2003; Available at: http://www.environment.gov.u/soe/2006/ publications/ integrative/local government/references.html. [accessed on September 22, 2010].

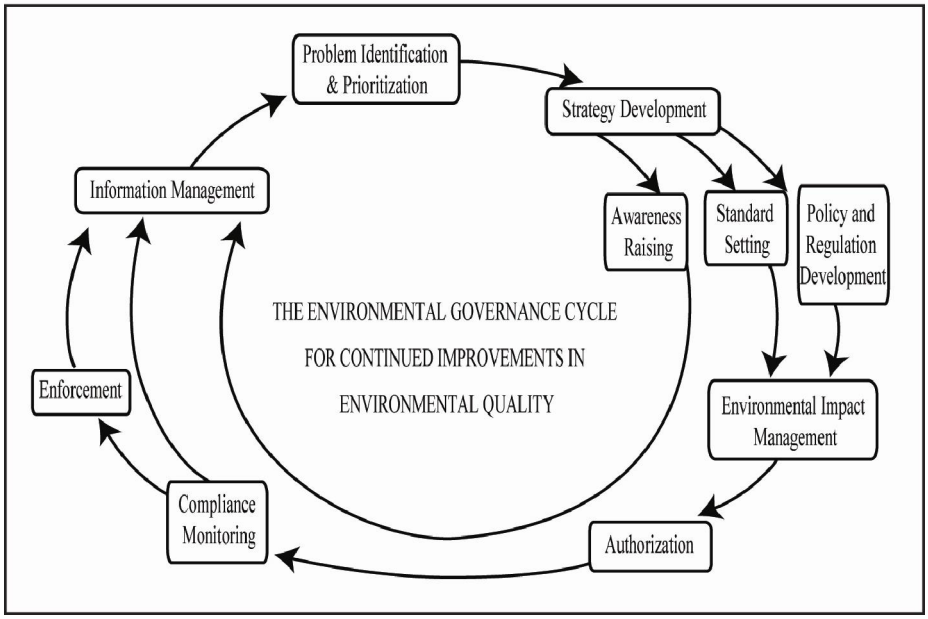
[32] Olowu D, "Environmental Governance Challenges in Kiribati: An Agenda for Legal and Policy Responses", *Law, Environment and Development,* 2007, p. 259; Available at: http://www.Leadjou rnal.org/ content/07259.pdf, [accessed on September 22, 2010].

[33] John Mugabe and Godber W. Tumushabe, *op. cit.* p. 29.

[34] *Ibid.*

Figure 2.2

The Environmental Governance Cycle



[Source: Department of Environment and Tourism of South Africa, 2007]

The Environmental Governance Cycle (Figure 2.3) recognizes the need for a gradual and continual process for assessing pollution and mitigation measure. By following this cycle, the central and local governments will be able to clearly demonstrate the need for more stringent local measures where these are necessary.

2.5 Environmental Management

Environmental management, as a part of the concept of environmental governance, has broad scope. The concept includes the relevant parts of policymaking, financial, technical and management considerations, combined in a balanced way, to address, or to manage, specific environmental problems.[35] Barrow's search for a concise definition was fruitless. However, he came up with some approaches to environmental management as follows:[36]

- It is an approach which goes beyond natural resources management to encompass the political and social as well as the natural environment;

[35] Institute of Environmental Management, *A Nepal Denmark Cooperation on Industrial and Urban Environment*, quoted in Ismar Borges de Lima, *Ibid.*

[36] C. J. Barrow, *Environmental Management: Principles and Practice,* Environmental Management Series (London and New York: Routledge, 1999), pp.1-6, quoted in Ismar Borges de Lima, *Ibid.*

- It includes the formulation of environmentally-sound development strategies;
- It involves the process of allocating natural and artificial resources so as to make optimum use of the environment unsatisfying basic human needs at the minimum, and more if possible, on a sustainable basis;
- It entails seeking the possible environmental options to promote sustainable development;
- It seeks to control all human activities which have a significant impact on the environment;
- It involves management of the environmental performance of organizations, bodies and companies;
- It includes a decision-making process which regulates the impact of human activities on the environment, in such way that human development will not be damaged.

Finally, it can be said that environmental management means managing our surroundings. To control our practices is called environmental management. It controls practices with codified policies. It manages things and beings according to precise prescriptions passed by the legislature into law.

2.6 Chapter Conclusion

While there is no generally-accepted definition of environmental governance, this Chapter proposes one, at least as a working definition for the purposes of this thesis. Environmental governance means the interaction of social systems to take, and act upon, collective decisions which concern the interaction of the social and natural environments.

Environmental governance is environmental maintenance. Environmental governance influences environmental outcomes. Environmental governance implies that all actions of governance should consider the impact of those actions on the environment. Environmental governance includes all levels of government and not only the State but also civil society and the private sector, interacting. Environmental governance requires an integrated policy framework.

There is an environmental governance cycle, including awareness raising, policy setting, environmental impact management, compliance monitoring, enforcement, information management and then identification of new problems for awareness raising. Recognizing the existence of that cycle allows us to use it purposefully and remedy any gaps in it.

Environmental governance is an essential ingredient in environmental management. Environmental management means managing our society's interaction with the environment by means of codified and enforced standards. Environmental management is a process of considering all available options, to develop strategies and allocate resources, in such a way as to make optimum use of the environment for human development: damaging neither the environment nor development.

Poor environmental governance starts as a local problem. The sewage not disposed of properly, the run-off of chemical fertilizer and industrial waste, the rubbish thrown into the river, from each city and village, is all carried downstream to destroy a nation's river. The solution has to come from local waste disposal strategies, local enforcement of laws against pollution and local recycling action. The illiterate farmer, using "slash and burn" strategies for agriculture to solve his immediate hunger problem, does not realize that he is only one among 1,000,000 farmers in the country who are destroying the nation's forest ecosystems and making a significant contribution to global warming. The solution has to be carried out locally, by educating the farmers and giving them workable, affordable alternatives to carry out agriculture for their food.

Therefore, the international concentration on world summits and national environmental commitments may be wrongheaded. More study and more action is needed concerning the role of local government and local communities in creating effective environmental governance that contributes to solution of global environmental problems. The global solution can be nothing more than the summation of all local solutions. Leaders and Parliamentarians writing and signing documents cannot change the environment. The old slogan "Think globally, act locally" has almost been forgotten: we need to recognize it a basic principle of environmental governance.

So, this is a study of local environmental governance in Bangladesh. Before changing the environmental governance system, which is not working effectively, we must understand it: and we do not. There has been little study in the literature of local environmental policy. Thus, the research questions in this study are framed to try to understand the present interaction of local government with environmental actors to produce local environmental governance: (a) finding the duties of local governments under current national environmental governance policy, (b) finding the extent to which local governments consider environmental issues in practice in carrying on their general governance activities, (c) finding the extent to which they try to create local environmental governance policies, for example on crucial issues like waste management and wetlands, (d) assessing the effectiveness of existing local government action on the environment, and (e) making recommendations to improve local environmental governance policies in Bangladesh.

Chapter 3
Urban-Local Government in Bangladesh

3.1 Introduction

Government is an abstract idea. Yet the services which it provides to the people are concrete: law and order, environment, education, roads, etc. In most cases, local government is the first port of call for a citizen who needs something. If his house is robbed, if his child needs to go to school, if he needs to travel on a good road, he does not run to the capital: he goes to his local government to find a policeman, a school or a plan for a new road. Only if local government cannot solve the citizen's problem does he start looking for a higher authority in another place.

This is true even in Bangladesh, where government is more centralized than in many countries. One of the most important reforms in the Local Government (Upazilla Parishads) Act 2009 was the deputing of staff from central Ministries to the local councils and the attempt to make such staff somewhat accountable to the local governments. The Ministries had always had their offices at least in District capitals but this was a big step toward making local governments a "one-stop shop". Many poor villagers, if they find no local service, simply give up rather than think of travelling to a District or national capital to consult with strangers.

In addition, many political scientists and political philosophers have emphasized the role of local government as a training ground for democracy. Local government is always, in all circumstances, considered as the important vehicle and only the means to provide state benefits and services to the local inhabitants.[1] It enables the local citizens to participate in collective endeavors and thus to learn how to temper individual ambitions with concern for others.[2] There are two types of local government institutions: rural local government institutions and urban local government institutions.

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[1] Mohammed Assaduzzaman, "Development Role of the Local Governance Institutions in Bangladesh: Empirical Overview", *Nepalese Journal of Public Policy and Governance,* Vol. xxiv, No.1, July, 2009*,* p. 99.

[2] Robert L. Bish and Eric G. Clemens, *Local Government in British Columbia*, 4th ed. (British Columbia: Union of British Columbia Municipalities, 2008), p. 1.

These institutions are widely recognized as the best ground in which people can learn the art of governance through their own experiences.

Almost every country has local governments. Local government is one of the micro-level organizations that plans micro-level development. It is a most necessary part of the State.[3] Central government is not able to manage all the problems and services in the nation alone. Local government can solve local problems in the local context of time, finance and physical constraints with minimum cost. Direct people's participation in the administrative structure of the State is encouraged in the local government system. Through this participation, people become aware about their responsibilities as citizens. At the urban level, planning and implementation of the policies and programs of the central government are finally executed. Implementation of development projects in urban areas, limited by the availability of resources, is more possible and easier with the involvement of local government. Urban local government can inspire urban people to join in the urban development activities implemented by the central government.

3.2 Local Government

Local government means the administration belonging to or connected with the people who live in a particular place or area. Local government is the system of government of a town or an area by elected representatives of the people who live there. It is grass root administration either in urban or town areas or in a remote place. It connects local residents and the central government.

Local government has been defined from different perspectives, at various times, by different scholars. Simply speaking, local government can be defined as the lowest tier of governance, which is responsible for managing local affairs. Stones states that local government is the vital part of the State, which deals with the matters of people of a particular locality.[4] Rao, more clearly, defines the nature of local government. To him, local government is the part of the government that deals with local affairs administered by authorities who are subordinate to the central government but elected independently of the

[3] Mohsin Uddin Ahmed, "Critical Issues on the Evolution of Urban-local government in Bangladesh with Special Reference to the City Corporation", *The Journal of Local Government*, Vol. 29, No. 2, (July-December, 2000), p. 109.

[4] P. Stones, *Local Government for Students* (London: McDonald and Evons, 1963), p. 11.

state authority.[5] In political terms, local government is concerned with the governance of specific local area, constituting a political sub-division of a nation state. In the performance of its functions, it acts as the agent of the State. In other words, the local government is an integral part of the political mechanism for governance in a country. As a body corporate with juristic personality, local government represents a legal concept.[6] Stewart categorically emphasizes the political identity of the local government and defines it as a political institution which is responsible for providing State services to the locality.[7]

These definitions clearly reveal some common features of local government such as: political and administrative local unit, service provider, autonomous body with decision-making authority etc. The United Nations (UN) incorporated these all features in a single definition:

> The concept of local self-government refers to a political sub-division of a nation or state which is constituted by law and has substantial control of local affairs, including the power to impose taxes or exact labor for prescribed purposes. The governing body of such an entity is elected or otherwise locally selected".[8]

Local government is defined essentially in terms of some attributes:

- its statutory status;
- its power to raise finance by taxation in the area under its jurisdiction;
- participation of the local community in decision-making on specified subjects and administration;
- the freedom to act independently from central control; and
- its general function, in contrast to the single-purpose character of many autonomous bodies.[9]

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[5] T. N. Shrestha, *The Concept of Local Government and Decentralization* (Kathmandu: Ratna Pustak Bhandar, 2000), p. 6, quoted in Mohammed Assaduzzaman, *op. cit*. p 102.

[6] M. A, Muttalib and Mohd. Akbar Ali Khan, *Theory of Local Government* (New Delhi: Sterling Publishers Private Limited, 1983), p. 2.

[7] J. Stewart, *Local Government: The Conditions of Local Choice*, p. 1. quoted in Mohammed Assaduzzaman, *op. cit*. 102

[8] Kamal Siddiqui, *Local Government in Bangladesh* (Dhaka: University Press Limited, 2005), p. 4, quoted in Mohammed Assaduzzaman, *op. cit*. pp. 102-103

[9] Pranab Kumar Panday, "Local Government in Bangladesh", *South Asian Journal*, p. 2; Available at: http://publicadministrationbd.blogspot.com/2011/03/, [accessed on March 18, 2012].

3.3 Constitutional and Legal Basis of Local Government in Bangladesh

In any democratic polity, local government is given legal recognition either by an Act of Parliament or by incorporation of relevant provisions in the Constitution.[10] Bangladesh's Constitution of 1972 clearly spelt out the legal basis and responsibilities of local government. Article 59, Chapter III of the Constitution states that, 'local government in every administrative unit of the Republic shall be entrusted to bodies composed of persons elected in accordance with law'. Article 60 of the Constitution states 'for the purpose of giving full effect to the provision of Article 59, Parliament shall, by law, confer powers on the local government bodies referred to in that article including power to impose taxes for local purposes, to prepare their budgets and to maintain funds.'

Thus, the legal basis of local government in Bangladesh is clearly spelt out in the Constitution. The Constitution, through its Article 59 of Chapter III, has ensured the devolution of power to local government bodies.[11]

3.4 Evolution of Urban-Local Government in Bangladesh

The evolution of urban-local government in the Indian subcontinent did not follow any specific laws or rules. It experienced dramatic changes in its nature based on the defining characteristics of the ruling regimes.

3.4.1 Ancient Period

There were ancient cities in Bangladesh which were built for different purposes. Some were developed as administrative and capital cities and some others as commercial and educational centers. Among the oldest ones, Mahastangarh, or Pundrabardhan, was the best organized city.[12] This city was built on the bank of the Karotoa, shaped as a half-circle.[13] This city existed in 300 B.C. and was chief administrative and international

[10] Mohammad Mohabbat Khan, 'Urban Local Governance in Bangladesh: An Overview', *Journal of Administration and Diplomacy,* vol. 4 (January-June, 1996), p. 1.

[11] Pranab Kumar Panday, Local government in Bangladesh, South Asian Journal, *op.cit*. p. 2.

[12] ASM Enayet Karim, *Bangladesher Shahar Bandar (Ports and Cities of Bangladesh)* (Dhaka: Bangla Academy, 1955), quoted in Subhas Chandra Biswas, *Accountability of Urban Governance in Bangladesh: Instittional Practices and Choice*, Unpublished PhD Dissertation (Institute of Bangladesh Studies, Rajshahi University, 2007), p. 105.

[13] Saifuddin Chowdhury et. al. (ed.) *Rajshahi: Barendra Ancholer Itihas (Rajshahi: The History of Barind***)** (Rajshahi Zila Parishad, 1998), quoted in Subhas Chandra Biswas, *Ibid.,* p. 106.

business centre for the region.[14] Other ancient cites of Bangladesh are Paharpur, Mainamati, Savar, Vikrampur, Kotibarsha, Sonargaon, Tilgram, and Ghoraghat.[15]

Little is known about the administration of the cities and towns of ancient Bengal. The stone inscriptions of Mahasthangarh indicate that parts of Bangladesh were included in the Gupta Empire.[16] During Gupta rule, the Empire was divided into units such as *Bhukti, Vishay, Mandal, Beethi,* and *Gram*.[17] The *Bhuktis* and *Vishays* were said to correspond to the Divisions and Districts of modern Bangladesh.[18] The Governor of a *Bhukti (*called Uparik or Uparik Moharaja) was appointed directly by the Emperor, and the Governor of a *Bhukti* appointed the District officer called *Kumaramatya* or *Vishayapati* (but in some cases the appointment seems to have been made by the Emperor).[19]

An administrative council was set up at each level of government. Historians believe that members of the council were selected either by the Emperor or by his representatives in the provinces, divisions, etc. The functions of the administrative units were collection of land tax revenue, maintaining law and order, regulation of trade and commerce, supervision of lower administrative units, etc.[20]

The eastern and southern regions of modern Bangladesh came to be ruled by a number of independent kings during the 6th century AD. In the middle of 8th century AD, a strong central government was established in Bengal with the emergence of *Pala* rule. The *Palas* ruled Bengal for nearly four centuries. The *Sena* kings followed *Pala* rule. During these two regimes, no significant changes took place in the character of local administration. The local government that existed was not local self government but a local extension of the central authority.[21]

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[14] AKM Jakaria, *Bangladesher Prachin Kirti (Ancient Heritage of Bengal)* (Dhaka: Bangladesh Shishu Academy, 1995), quoted in Subhas Chandra Biswas, *Ibid.*

[15] Sayed Rafiqul Alam Rumi, "Nagar Bastir Utpatti O Prasar (Growth and Development of Urban Settlement)", quoted in Moudud Elahi and Sayed Rafiqul Alam Rumi (ed.), *Nagar Bhugol: Samprotik Dhara (Urban Geography: Recent Trend)* (Dhaka: Delta Books, 2005), p. 46.

[16] Kamal Siddiqui (ed)., *Local government in Bangladesh* (Dhaka: University Press Limited, 2005), p. 35.

[17] *Ibid.*

[18] *Ibid.*

[19] *Ibid.*

[20] *Ibid.*

[21] *Ibid.*

3.4.2 Medieval Period (1204-1765)

The medieval period coincides with the advent of Muslim rule in the South-Asian Sub-continent. According to Abul Fazal, there were about 300 towns at the end of the 16th century. About 200 of them were quite large.[22] Al-Beruni and Ibne-Batuta mentioned about 50 important urban centers during this period with Chittagong being the most eastern one. According to Ibne-Batuta, a few capital cities were also established by the rulers of this period. Sonargaon was one of them. Dhaka and Chittagong emerged as important trade centers in this region.[23]

The *Mughals* are the pioneers of developing urban governance in the Indian sub-continent and in Bangladesh as well.[24] They developed the office of *Kotwal* as the cornerstone of municipal organization during this period.[25] The *Kotwal*, a person of high status, was appointed under a *Sanad* of the Emperor. He was the Chief Executive Officer of the town and wielded with wide-ranging powers including magisterial, police and fiscal powers. His first responsibility was to maintain law and order[26] and provide civic amenities.[27] Each town was divided into a number of Wards or *Mahalla.*[28] The *Kotwal* appointed a headman or *Mir Mohalla* for every Ward. *Mir Mahallah* maintained a register for houses and roads, cemeteries, slaughter-houses and sweeper colonies.[29] He controlled the markets, checked weights and measures and supervised local prices as well as levied local taxes, market dues and transit duties.[30]*Kotwal* was assisted by two officers namely *Kazi* and *Mahatasib*. *Kazi* was a judicial officer while *Mahatasib* was assigned to prevent illegal practices.[31] The *Mughal* system of urban governance lacked mechanisms of people's participation. It was an extended form of the central authority to local areas.[32]

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[22] Qazi Azizul Moula, "Urbanization and Morphology of Dhaka", *Journal of the Asiatic Society of Bangladesh*, vol. 48, no. 1 (June, 2003), p. 151, quoted in Subhas Chandra Biswas, *op. cit.* p. 107.

[23] *Ibid*.

[24] Mohammad Mohabbat Khan, "Urban-Local Governance in Bangladesh: An Overview", quoted in Nazrul Islam and Mohammad Mohabbat Khan (ed.), *Urban Governance in Bangladesh and Pakistan* (Dhaka: Center for Urban Studies, 1997), p. 8.

[25] Kamal Siddiqui(ed.), *op. cit*., p. 38.

[26] *Ibid.*

[27] Subhas Chandra Biswas, *op. cit.,* p. 107.

[28] *Ibid.*

[29] Kamal Siddiqui (ed.), *op. cit*., p. 38.

[30] *Ibid.*

[31] Kamal Siddiqui (ed.), *Local Government in South Asia: A Comparative Study on Bangladesh* (Dhaka: University Press limited, 1992), p. 17, quoted in Subhas Chandra Biswas, *op. cit*., p. 107.

[32] *Ibid.*

3.4.3 British Period (1766-1947)

Western European nations helped to develop modern types of towns in the sub-continent. The Portuguese first established port towns, Goa in 1510 and Bombay in 1532.[33] The Dutch built Machilipatnam in 1605 and Nagapattinam in 1658 and the French established Pondicherry in 1673 and Chandernagore in 1690.[34] Organized urban governance in Bangladesh was introduced by the *Mughals* but this system acquired a more-representative character during British period.

The first Municipal Corporation was set up in Madras in 1687. This body was designed on the pattern of an English Borough and consisted of three elements: Mayor, Alderman and Burgesses.[35] The Charter Act 1793 was the first law regarding municipal administration enacted by the British Parliament, applicable only to the three Presidency towns: Calcutta, Madras and Bombay.[36] The Act provided for the appointment of Justices of the Peace by the Governor to assess city houses and land, the appointment of Town *Chaukidars* and for repair of roads.[37] Dhaka was the first town in Bengal where, in 1813, taxation for the provision of *Chaukidars* was imposed. This taxation was subsequently extended to other towns of Bengal. Government imposed Tk 2 tax on any one assessee, monthly, under the Regulation 15 of 1837.[38]

The Bengal Regulations on Local Government was introduced in the year 1842. This was the introduction of urban local government through imposed regulation.[39] Act XV of 1842 was enacted to create municipalities in Bengal. This Act gave the householders of the concerned town the opportunity to create a municipality if two-thirds of them agreed to do so. This Act was considered a dead one as no municipality was created under it.[40]

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[33] Qazi Azizul Moula, "Urbanization and Morphology of Dhaka", p. 152, Subhas Chandra Biswas, *op. cit.,* p. 108.

[34] *Ibid.*

[35] Kamal Siddiqui (ed.), *op. cit*., p. 33.

[36] Kamal Siddiqui, Archana Ghos and Madhulika Mitra, "The Evolution of Governance Arrangement in Kolkata" quoted in Kamal Siddiqui (ed.), *Mega City Governance in South Asia: A Comparative Study* (Dhaka: University Press Limited, 2004), pp. 46-49.

[37] Kamal Siddiqui (ed.), *Local government in Bangladesh*, p. 49.

[38] *Ibid.*

[39] Mohsin Uddin Ahmed, *op. cit*., p. 112.

[40] *Ibid.*

According to the Municipal Act 1850 powers to create municipalities were retaken by the Government. Under this Act two municipalities were established in Bengal. The Town Police Act 1856 empowered the District Magistrate to appoint a *Panchayet* in the town. This *Panchayet* did assessment of tax and spent this fund for the payment of *Chaukidars*, conservancy, town improvement and street lighting. Under this Act, 64 Municipalities were formed in Bengal where this *Panchayet* system of administration was introduced.[41] The District Municipal Improvement Act 1864 provided each municipality a Municipal Body' consisted of the seven nominated members from the resident of the municipality including, the Divisional Commissioner, the Magistrate and the Executive Engineer. Later on, by an amendment in 1867, the Superintendent of Police was also included in this 'Municipal body'. Tax was the principal source of income of the municipality which could go up to 7.5 percent of the value of holdings.[42] This Act empowered the municipal body to levy and collect tax on animals, carts and carriages. Maintenance of town police, roads, conservancy, control of offensive trades and vaccination were its functions.[43]

The District Town Act 1869 included provision for forming 'Town Committees.' This Committee was constituted with five persons, of which not more than one-third could be government officials. The Committee appointed its Chairman and Vice-Chairman annually.[44]

The Local Government Act of 1873 provided for election of the two-thirds of the members of Municipal Bodies established under the Act of 1864. The Vice-Chairman of the municipal body was elected and got a salary from the municipality.[45]

Government brought in some reforms in the Local Government Acts of 1876 (No IV) and 1878 (No. VII). These Acts categorized local bodies into four classes under four laws. Those governed by the Act of 1864 became 1st class municipalities. Those governed by the Act of 1868 became second class municipalities. Those towns which were still under Act XX of 1856 became unions. Those local bodies still under the Act of 1850 became stations.[46]

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[41] F.R.B. Collier, *The Bengal Municipal Manual* (Calcutta: Thaker Spink and Co., 1905), p. 2.
[42] Kamal Siddiqui (ed.), *Local government in Bangladesh,* p. 50.
[43] *Ibid.*
[44] *Ibid.*
[45] *Ibid.*
[46] B.P. Singh Roy and S.M. Bose, "The Bengal Municipal Act 1932" (Calcutta: M.C. Sarker and Sons Ltd, 1934) quoted in Monoranjan Rajbangshi, "Growth and Development of Municipal Institutions in Bangladesh", *Journal of the Asiatic Society of Bangladesh*, Vol. 37, No. 2, December 1992, p. 32.

The 1878 Act provided additional power to the first class municipalities. This law gave power to the first class municipalities to take over the cleaning of privies and to levy a rate for this purpose.[47] In 1880, responsibilities were given to municipalities to carry out compulsory vaccination program.[48]

The Municipal Taxation Act 1881 (Act No. XI of 1881) was prescribed to control the tax collection from the municipal areas. Collected tax was considered as government revenue. Tax collection sectors were also prescribed in the Act as a Schedule. Holding tax and collection of tolls were imposed.[49]

Lord Ripon, the enthusiastic Liberal Viceroy, advocated self-reliant local government. He brought in some reforms and adopted a new resolution in 1882. The prime aim of this reform was to involve local people in the affairs of administration both in urban and rural councils. In order to establish local-self government in Bengal, the Bengal Municipal Act 1884 was passed during the enacted. The main features of this Act were the provisions for the election of two-thirds of the Commissioners, Chairman and Vice-Chairman by ratepayers. Municipalities were given freedom in selecting their representatives and conducting their own business but the District Magistrate had power to control the administration.[50] However, Ripon's endeavor to reform local government failed in almost every respect.[51]

The Local Government Act 1894 (No. IV) laid the foundation for Sanitary Boards. It also provided for preparation and implementation of water supply and sanitary projects.[52] The Local Government Act 1896 (No. II) extended the power of municipalities to spend funds on some new welfare services such as libraries, maternity centers and care of animals.[53]

The Liberal Government of 1906-1922 created a Royal Commission on Decentralisation, in 1907, to enquire into the financial and administrative relations of the Government of

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[47] S.D Khan, "Place of Municipality in Socio-Political Structure of Pakistan", M A Hussain Khan (ed.), *Problems of Municipal Administration* (Dhaka: National Institute of Public Administration, 1967), p. 57.

[48] *Ibid*.

[49] Mohsin Uddin Ahmed, *op. cit*., p. 113.

[50] Monoranjan Rajbangshi, "Growth and Development of Municipal Institutions in Bangladesh", *Journal of the Asiatic Society of Bangladesh*, Vol. 37, No. 2, (December, 1992), p. 33.

[51] Hugh Tinker, *The Foundation of Local Self-Government in India, Pakistan and Burma* (Bombay: Lalvani Publishing House, 1967), p. 57.

[52] Kamal Siddiqui (ed.), *Local government in Bangladesh*, p. 52.

[53] *Ibid*.

India and the provincial governments. The Commission considered the development of local self-government as an aspect of administrative devolution.[54] The Commission put some recommendations but those recommendations were not implemented because of the First World War (1914-1918).[55]

Viceroy Lord Hardinge issued a resolution on local government in 1915. The resolution prescribed that the Government of India would not impose regulations on the Provincial Governments about local government matters and Provincial Governments would help to develop local government institutions.[56]

However, local self-government did not achieve any significant progress at this time, as the control over resources and sources of taxation remained in the hands of the Government of India. The Montague-Chelmsford Report of 1918 tried to resolve this dichotomy.[57] The Government of India Act, 1919 transferred authority to the popularly-elected Ministers of the Provincial Governments to look after matters of urban and local government. Elected Ministers of the respective Provinces formed elected Councils for towns. Elected Chairmen of the Councils were given executive authority with a view to making the local bodies self-reliant.[58]

Development of local government suffered a setback during 1920s and 1930s due to the independence movement. Nationalist leaders used the local bodies as platforms for their political movement.[59] The Bengal Legislative Council passed the Bengal Municipal Act, 1932 which was considered one of the best statutes on local government in South Asia.[60] Four-fifths of the Commissioners of Dhaka and Chittagong municipalities and three-fourths of the commissioners of other municipalities were elected by the people of the respective municipalities. Women were given voting rights, as well as the right to stand in elections. Other nominated members of the municipalities were from different sections of the community: minority people, businessmen etc.. Chairmen and Vice-Chairmen

[54] The Royal Commission was presided over by C.E.H. Hobhouse, Under Secretary of State for India. The other five members were senior I.C.S officers- all from Bengal, Madras and Bombay. Romesh Chandra Dutt was the only Indian Member of this committee.

[55] Monoranjan Rajbangshi, *op. cit*., p. 33.

[56] *Ibid.*

[57] *Ibid.,* p. 34.

[58] *Ibid.*

[59] *Ibid.*

[60] *Ibid.*

were elected by the Commissioners of the Municipalities. Authority was given to the elected Chairman by the District Magistrate and Divisional Commissioner[61] to control the municipality.

Modern Municipalities were introduced by the colonial British rulers. Over time, elections were extended but power remained in the hands of the civil servants. Municipalities were never fully democratically-elected under the British. Suggestions and views of Collectors of the districts and Divisional Commissioners of the Divisions were always taken more seriously by the colonial rulers. Officers under the colonial regime were always afraid that complete equality of individuals in local governance might accentuate divisions in the society on the basis of caste, religion and wealth. Extreme divisions among the Hindus, due to the caste system, brought the British officers to this conclusion. Moreover, there was fear of exclusion of the Muslims if all members were to be elected, as Hindus had huge majorities in the population of most of British India. Therefore, there was a dichotomy in thinking about governance of British India: the politicians in London may have wanted to make colonial government in India fully independent and self-reliant but the colonial officers did not let it go that far.

Consequently, representatives who became Chairmen and Vice-Chairmen of the municipalities were privileged, educated and wealthy members of the elites of society. Yet local government did become a kind of school for democracy. Local leaders initiated their leadership from these types of local institutions and afterwards they became great leaders in Indian politics. As for example, Sir Surendranath Banarjee was the first Bengal Minister of Local Self-Government, Nawab Khaja Nazimuddin first made his reputation as Chairman of Dacca Municipality (1922-1929) and Sir Sikander Hyat Khan had been the President of Hassan Abdal Municipality.[62]

3.4.4 Pakistan Period (1947-1971)

At the time of creation of Pakistan in 1947, East Pakistan inherited 45 municipalities from East Bengal and four municipalities from Assam. Municipalities from East Bengal were administered under the Bengal Municipal Act, 1932 and those municipalities around

[61] *Ibid.*
[62] Hugh Tinker, *op. cit*., p. 144.

Sylhet were administered according to the Assam Municipal Act of 1923.[63] The United Front Ministry brought some significant changes in several laws regarding local government in the Province.[64] The amendments were as follows;

i) Nomination, as well as reservation, of elected seats for the minority communities, in all local bodies, were abolished.

ii) All local government bodies were to be completely elected.

iii) The members of the local government bodies were to be elected on the basis of universal adult franchise, so all people of 21 years of age or above had voting rights.

iv) Introduction of symbols in voting, to supplement written ballots, with secret ballot.

v) Appointment of one or more stipendiary Magistrates as Municipal Magistrates for the trial of specific offences under the election law.

However, these amendments remained only on paper. Before any election could take place, Martial Law was declared in the country in October, 1958.[65] The military Government promulgated the Basic Democracies Order, 1959. To keep all municipalities in line with the Basic Democracies Order, Government promulgated the Municipal Administration Ordinance, 1960 repealing all laws relating to urban and rural local bodies in Pakistan.[66]

In the new enactment, 28 out of the 56 Municipalities, with a population of 15,000 or below, were declared towns A Town Committee was set up in each town in accordance with the Basic Democracies Order, 1959. The remaining 28 Municipalities were administered according to the provisions of the Municipal Administration Ordinance, 1960. A Municipal Committee, with both elected and appointed members, was formed for each of the Municipalities. In 1962, a new Municipality was created and with this one, the number rose to 29. Out of 29 Municipalities, only 5 had full-time Chairmen and the rest were headed by either Sub-Divisional Officers or Additional Deputy Commissioners.[67]

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[63] *Ibid.*
[64] *Ibid.*
[65] *Ibid.*
[66] Kamal Siddiqui (ed.), *Local Government in Bangladesh*, p. 61.
[67] *Ibid*.

The Basic Democracies Order 1959 provided guided democracy in the local government. Exclusion of common citizens from the process of governance in the local institutions was a obstacle to making these institutions self-reliant.[68]

3.4.5 Development of Urban-Local Government in Bangladesh

Trend of Urbanization

Bangladesh has experienced rapid urban expansion since her independence. The population census report of 1961 showed that the urban population was only 2.6 million. After independence, it more than doubled, to 6.0 million. in 1974. Table 3.1 presents the urban and rural population levels and trends in Bangladesh from 1961 to 2001.

Table 3.1

Total Urban and Rural Population Levels and Trends in Bangladesh (1961 to 2001)

Year	Total population (million)	Growth rate %	Urban population (million)	Urban %	Growth rate (Urban) %	Rural population (million)	Rural %	Growth rate (Rural) %
1961	55.2	-	2.6	4.8	-	52.6	95.20	-
1974	76.4	2.5	6.0	7.9	6.6	70.4	92.10	4.3
1981	89.4	2.4	14.1	15.7	10.6	77.8	84.30	6.1
1991	111.45	2.17	22.45	20.15	5.4	89.0	79.61	1.5
2001	129.25	1.48	28.8	23.39	4.2	100.44	76.61	1.3

[Source: BBS, Population Census, 1981, 1991, and 2001]

The 6.0 million urban population in 1974 became 28.8 million in 2001. Consequently, urban centers grew remarkably. In 1961, Bangladesh had only 78 urban centers. Bangladesh had 108 urban centres in 1974. Within a decade after 1974, the number of urban centers reached 491. Table 3.2 shows the number of urban centers by size in 1961 to 2001.

[68] Subhas Chandra Biswas, *op. cit.,* p. 116.

Table 3.2

Number of Urban Centers by Size (1961-2001)

Size of urban places	1961	1974	1981	1991	2001
All sizes	78	108	491	522	522
Above one million	-	1	2	2	3
100,000-999,999	4	5	14	23	23
25,000-100,000	20	37	66	92	117
Less than 24,999	54	65	409	405	379

[Source: BBS, 2001, and Subhas Chandra Biswas, *op. cit*., 2007]

Development of Statutes and Legal Framework

After the independence of Bangladesh in 1971, it was of great importance to strengthen the local-self government bodies. This was necessary for ensuring rural and urban development. However, almost nothing was done in this regard, except for changing the names and tiers of local government bodies.

Soon after independence, all local government bodies, except the Divisional Councils, were dissolved under Presidential Order No. 7 in 1972. An administrator was appointed in each of the Municipalities.

Government promulgated the Bangladesh Local Government (Union Parishads and Paurashavas) Order 1973. In this Order, the names of the local government bodies were changed. Union Councils were changed to Union *Panchayat*, which later reverted to Union *Parishad*. Thana Councils became Thana Development Committees. District Councils were named City (*Zilla*) Boards or District Boards (Talukdar, 2009).[69] Town Committees were named *Shohor* ("Town" in Bengali) Committees and Municipalities were named City Assemblies (*Nogor Panchayet*).[70] Again, the municipalities came under the control of Municipal Administration Ordinance 1960.

[69] Mohammad Rafiqul Islam Talukdar, *Rural Local Government in Bangladesh* (Dhaka: Osder Publications, 2009), quoted in Mohammad Shahjahan Chowdhury, "Urban-local government and Environmental Management in Bangladesh: A Study on Chunarughat Paurashava", *Bangladesh Development Research Working Paper Series* (January, 2012), p. 21.

[70] Emajuddin Ahmad, *Bangladesh Lok Proshashon* (Dhaka: Anonna Publications, 2012), quoted in Mohammad Shahjahan Chowdhury, *Ibid.*

The military Governments of 1975-1990 carried out a periodic renaming of the city councils. The process was to change their names to "*paurashava"* (General Assembly) in 1977 and later to City Corporations in the 1980s. In 1977, Dhaka Municipality was renamed Dhaka *Paurashava* under the *Paurashava* Ordinance 1977. In 1983, the Paurashava was upgraded to a City Corporation in the Dhaka City Corporation Ordinance 1983.

Chittagong Municipality was established in 1864 under the Bengal Municipal Act 1864. The municipality was renamed Chittagong *Paurashava* in 1977 under the *Paurashava* Ordinance 1977 and City Corporation under the Chittagong City Corporation Ordinance 1982.

Rajshahi Municipal Board was established in 1876 under the Bengal Municipal Act 1864. In 1960 and 1977, Rajshahi Municipal Board was upgraded to Rajshahi Municipality and Rajshahi *Paurashava* under the Municipal Administration Ordinance 1960 and Paurashava Ordinance 1977, respectively. After 10 years, in 1987, Rajshahi *Paurashava* was renamed Rajshahi City Corporation under the Rajshahi City Corporation Ordinance 1987.

Khulna Municipality was established in 1884 under the Bengal Municipal Act 1884 (Act No. iii of 1884). In 1960, the municipality was termed as Khulna Municipal Committee under the Municipal Administration Ordinance 1960, Khulna *Paurashava* in 1977 under *Paurashava* Ordinance 1977 and Khulna City Corporation in 1986 under KhuIna City Corporation Ordinance 1986.[1]

Sylhet Municipal Board was established in 1867. At 9th April 2001, the Municipal Corporation of Sylhet was established as a City Corporation. Barisal Municipality was established in 1957. It became Barisal City Corporation in 2000.

Table 3.3

Evolutionary Trend of Statutes on Urban-Local Government

Serial No.	Name of the Statutes
01.	The Charter Act1793
02.	The Conservancy Act 1842
03.	The Municipal Act 1850
04.	The Town Police Act 1856
05.	The District Municipal Improvement Act 1864
06.	The District Town Act 1869
07.	The Local Government Act, 1873
08.	The Local Government Acts (Act IV) 1876 and (Act VII) 1878
09.	The Municipal Taxation Act 1881 (Act No. XI of 1881)
10.	Lord Ripon's Resolution 1882
11.	The Bengal Municipal Act, 1884
12.	The Local Government Act of 1894 (Act IV of 1894)
13.	The Local Government Act of 1896 (Act II of 1896)
14.	The Montague-Chelmsford Report of 1918
15.	The Government of India Act, 1919
16.	The Assam Municipal Act, 1923
17.	The Bengal Municipal Act, 1932
18.	The Municipal Administration Ordinance, 1960
19.	The Bangladesh Local Government (Union *Parishads* and *Paurashavas*) Order 1973
20.	The Paurashava Ordinance 1977
21.	The Chittagong City Corporation Ordinance 1982
22.	The Dhaka City Corporation Ordinance 1983
23.	The KhuIna City Corporation Ordinance 1986
24.	The Raishahi City Corporation Ordinance 1987
25.	The Local Government (*Paurashava*) Act 2009
26.	The Local Government (City Corporations) Act 2009

The Government enacted Local Government (City Corporations) Act, 2009, which is a consolidation of existing Acts and Ordinances related to City Corporations in Bangladesh. Presently, all the City Corporation act under this Local Government (City Corporation) Act, 2009. Under this Act, recently a number of *Paurashavas* (single or in combination of two or three) have been upgraded to the status of City Corporations. These include

Narayanganj (with Siddirgonj and Kadam Rasul *Paurashavas* amalgamated), Comilla. Gazipur (with Tongi *Paurashava* amalgamated) and Rangpur. Elections of newly-declared City Corporations have already been carried out.

The most recent development in the governance of Dhaka City has taken place with passing of the Local Government (City Corporation) Amendment Act 2011. (Daily Star, 2 December, 2011). The Amendment has caused the division of Dhaka City Corporation into two city corporations: North Dhaka City Corporation and South Dhaka City Corporation. The incumbent Mayor, who was in power for over 9 years was removed following the Amendment Act. An Administrator was appointed for each of the two City Corporations and elections were held for a Mayor and Council in each in 2015.

3.5 Structure of Local Government

3.5.1 Administrative Structure of Central Government

The Constitution of Bangladesh provides for a unitary and Parliamentary system of government. The President is the head of the state and the Prime Minister is the head of the Government. The Prime Minister is the Chief Executive of the country. The President appoints the Prime Minister, a Member of Parliament who commands the support of the majority of the Parliament. The Prime Minister is assisted by a Council of Ministers, responsible to him/her, in the discharge of his/her duties.

For ensuring smooth functioning of administration, the whole country is divided into 7 administrative Divisions (Dhaka, Chittagong, Khulna, Rajshahi, Barisal, Sylhet and Rangpur) and 64 Districts. A Divisional Commissioner heads a Division while a District is managed by a Deputy Commissioner (DC).

After the national level, the Divisional level is considered the highest tier of administration. The role of the Divisional Commissioner is to supervise the activities of Departments and agencies in the Division. The Division office of each Department has direct linkage with its national office. In addition to his supervisory role, the Divisional Commissioner also coordinates the activities of the District administrations in the Division.[71]

[71] Pranab Kumar Panday, "Impact of Local Government Reforms on Women's Economic Freedom in Bangladesh," a research report submitted to Dean, Faculty of Social Science, Universiy of Rajshahi, 2011, pp. 17-18.

From the very beginning, the Districts (64) have been considered as the focal point in the local government administrative system in Bangladesh. The DCs are considered as sole authorities in District administration. Below the Districts, there are *Upazilas* (482) (previously known as *Thanas*) each of which is headed by an *Upazila Nirbahi* Officer (UNO).[72] Besides, there are offices of the Ministries at the Divisional and District capitals in *Upazilas* and, sometimes, in Unions.[73]

3.5.2 Tiers of Local Government

There are, at present, two types of local government institutions in Bangladesh: one for the rural areas and the other for the urban areas. For the Chittagong Hill Tracts, there is another special type of local government. The details have been discussed below.

Rural-Local Government

In rural areas, three levels of local government exist, but, unlike in urban areas these are hierarchical in nature rather than alternative in structures.[74] Zila *Parishad* (ZP)/District Council (61) is placed at the top of the rural-local government hierarchy. Below the ZP, there are 482 Upazila *Parishads* (UZP)/Sub-district Councils. Union *Parishad* (UP)/Union Council is the third tier of rural-local government. There are currently 4,498 Union *Parishads*, but the number is changing frequently. Below the UP, there was another local government tier, named *Gram Sarker*/Village Government. Head of a *Gram Sarker* was the UP member of the Ward. This system was legislated in 2003 but rejected by the High Court. Then it was cancelled by the Caretaker Government in 2008.

Urban-Local Government

Like the rural-local government, urban areas have a separate set of local governments. There are two distinct categories of urban-local government bodies in Bangladesh: City Corporations and *Paurashavas* (Municipalities). There are eleven City Corporations, namely, Dhaka North, Dhaka South, Chittagong, Rajshahi, Khulna, Sylhet, Barishal,

[72] During 1982-1990, 460 of the *Thanas* were upgraded to *Upazilas* or *Sub-Districts*. With the abolition of the Upazila system in 1991, the *Upazila* Regional Administrative System reverted to the earlier *Thana* structure. Finally, *Upazila Parishad* has been reintroduced through enactment of the Local Government (*Upazila Parishad*) Act, 2009.

[73] Pranab Kumar Panday, *Ibid.,* p. 18.

[74] *Ibid*., p. 19.

Narayanganj, Rangpur, Comilla and Gazipur. All of these have been functioning under the Local Government (City Corporations) Act, 2009. Elected Mayors and Councilors rule the City Corporations. The second category of urban-local government is *Paurashava*, run by elected Mayor and Commissioners. There are currently 398 *Paurashavas* which are classified into- A, B, and C, depending on the amount of revenue they generate.

In addition, there are also some urban centers that are under Military Cantonment Boards. The City Corporations and *Paurashavas* are true urban-local governments. A large number of urban centers is administered under the Union *Parishad* system (rural local government). Some urban centers have a fairly large population, but have not yet been declared a municipality, and are, therefore, under UP management.[75]

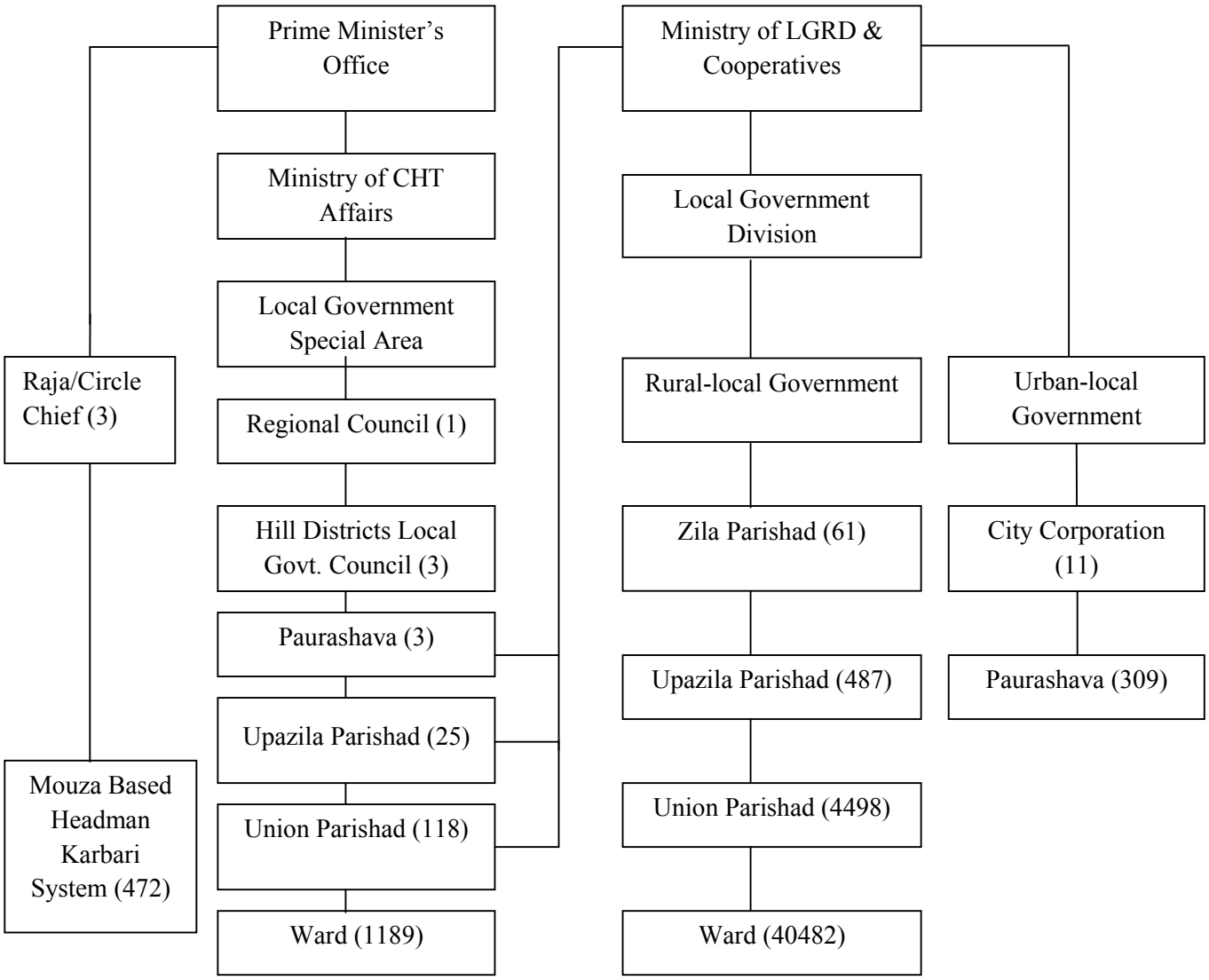
Special Type of Local Government

Local government institutions for the Chittagong Hill Tracts (CHT) are different from those of the other parts of Bangladesh. The present systems of local government for the three Hill Districts (Rangamati, Bandarban and Khagrachari) are a bit complex. After the Peace Accord of 1997, between the central Government and the tribals, the Government established a Ministry of CHT Affairs and CHT Regional Councils. Government also reorganized the Hill District Local Government Councils into Hill District Councils. Similarly, the CHT Development Board, established in 1976, have been remodeled and placed under the CHT Regional Council. The following matrix shows the existing structure of local government in Bangladesh.

[75] Pranab Kumar Panday, and Ishtiaq Jamil, "Policy Making in Urban Bangladesh: Whose Domination?" *Nepalese Journal of Public Policy and Governance*, Vol. xxvii, No.4, December, 2010, p. 20.

Figure 3.1

Existing Structure of Local Government in Bangladesh



[Source: Pranab Kumar Panday, "Impact of Local Government Reforms on Women's Economic Freedom in Bangladesh," a Research Report submitted to Dean, Faculty of Social Science, Universiy of Rajshahi, 2011, p. 26.]

3.5.3 Composition of Local Government

The ZP exists, in law and on paper, without elected representatives. Thus, despite its increasing power to raise revenue, ZP remained as merely a government functionary.[76]

[76] Pranab Kumar Panday, and Ishtiaq Jamil, *op. cit*., p. 20.

The newly-constituted UZP consists of an elected Chairman and two Vice Chairmen (one male and one female) and all elected chairmen of UPs and Mayors of the *Paurashavas*, with the UNO serving as the 'Principal Executive Officer'(*Mukkha Nirbahi*). In addition, one third of the elected women members of UPs and *Paurashavas* are also members of the UZP.

The UPs, *Paurashavas* and City Corporations are elected bodies composed of a Chairperson/Mayor, one Member from each Ward and one-third women Members or Councilors from reserved seats.

UP Chairmen and *Paurashava* and City Corporation Mayors are directly elected by popular vote of the entire constituency, Ward Members/Councilors are elected by their respective constituencies. In addition, there are reserved seats for women in *Paurashavas* and City Corporations.[77]

The Chairmen/Mayor and Members/Councilors of the local government bodies are paid such *honoraria* as may be prescribed by the Government. The term of every Local Government Institution (LGI) is a period of five years, commencing on the day of its first meeting after approval of its constitution. An LGI holds its first meeting on such date, not later than thirty days from the day on which the names of its Chairmen/Mayor and Members/Councilors are notified in the official Gazette, as may be appointed by prescribed authority. Before he/she takes office, every Chairman/Mayor and every Member/Councilor of a LGI, takes an oath promising to bear true faith and allegiance to Bangladesh and that he/she will faithfully discharge duties upon which he/she is about to enter.

3.6 Rajshahi City Corporation (RCC)

3.6.1 Origination of RCC

Rajshahi is the fourth largest city of Bangladesh, with a semi-cosmopolitan nature. It is the largest city in the northern region of Bangladesh. The Rajshahi City Corporation started its functions on the first day of April 1876 as Rajshahi *Paurashava*. An eight-member town committee was formed to run the activities of the municipality. The Principal of Rajshahi College (one of the oldest colleges), Mr. Har Govinda Sen, was the

[77] *Ibid.*

Chairman of the Town Committee.[78] All members of the committee were nominated by the Governor. The District Magistrate, Sub-divisional Chief and the Chief Medical Officers were the *ex-officio* members of the Town Committee. Later, provision was made for the election of Chairman and Vice-Chairman by voting by the taxpayers within the jurisdiction of the *Paurashava*.[79]

In 1884, as per section 3 of the Municipal Act 1884, a Commission was formed comprising twenty-one Commissioners.[80] Among them, fourteen were elected and seven were nominated. For the effective delivery of urban services, eight urban committees were formed in 1930 and were responsible for administration, finance, manpower, light, water, sanitation, health and education. Decisions were taken in the *Parishad* meeting based on the recommendations of the various committees. Each committee was formed for a one-year term and the whole urban area was divided into seven Wards.

The Government appointed an Administrator for Rajshahi *Paurashava*, dissolving the municipal committees, on 5th August 1958. This was a part of the aftermath of the Army coup in Pakistan led by Gen Mohammed Ayub Khan. Until 18th February 1974, government officials acted as the administrators of the city. On 13th August 1987, Rajshahi *Paurashava* was upgraded to *Pauro* Corporation and on 11 September of the same year, *Pauro* Corporation was changed to City Corporation. The first Mayoral election of RCC was held on 30th of January 1994.[81]

3.6.2 Legal Framework, Composition and Structure of RCC

The present legal framework of the RCC is provided by the Local Government (City Corporation) Act 2009 and subsequent amendments. Apart from this, there are other rules, by-laws, regulations and standing orders. The total area under the RCC is divided into 30 wards to elect 30 Ward' Commissioners and 10 Women Commissioners (one-third of the Commissioners).

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[78] Rajshahi City Corporation (RCC), *Brief History of RCC* (Rajshahi: RCC, 2006), p. 1.
[79] Pranab Kumar Panday, and Ishtiaq Jamil, *op. cit*., p. 22.
[80] Rajshahi City Corporation, *op. cit*., p. 2.
[81] Pranab Kumar Panday, and Ishtiaq Jamil, *op.cit*., p. 22.

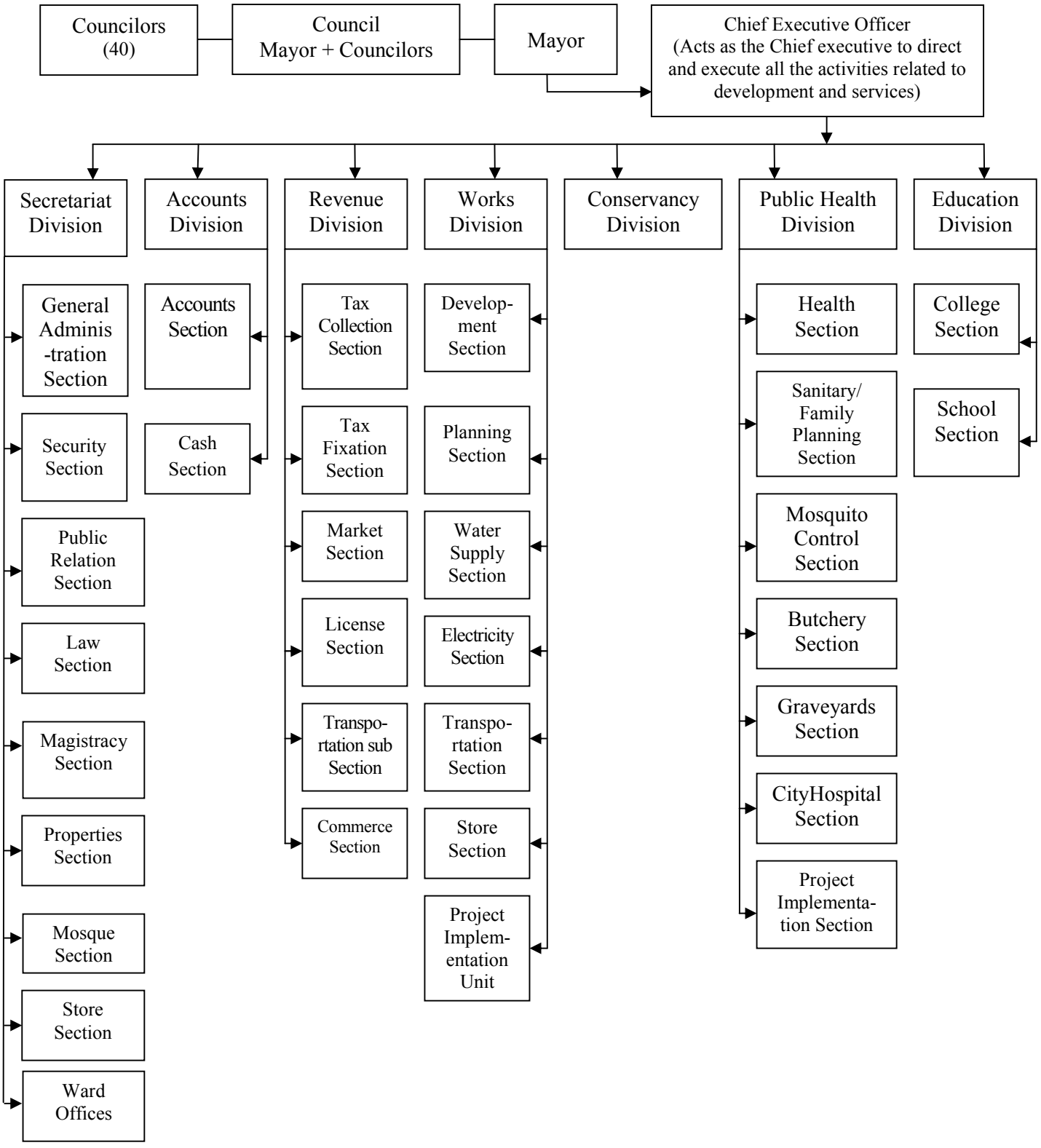
The RCC is headed by the Mayor, who is directly elected by the inhabitants of the city. As head of the Corporation, all powers rest with the Mayor. It is entirely up to the Mayor to decide how much or what power he will delegate to the lower levels. He can also overrule the decisions taken in the Corporation meetings.

The RCC is required to form 14 standing committees to deal with different activities.[82] With the prior approval of the Government, the Corporation may also constitute additional Standing Committees, for such purposes as it thinks fit. A Standing Committee is required to consist of not more than six members, elected by the Councilors from among themselves. No Councilor is allowed to be the member of more than two Standing Committees at the same time. However, the Mayor is member of all the Standing Committees. A Standing Committee is to elect one of its members as Chairman and another as Vice-Chairman. The concerned Department Head acts as the Secretary of each Standing Committee.[83] The following figure 3.2 shows the organizational structure of RCC.

[82] *Local Government (City Corporation) Act, 2009,* Sections 50 (1) & 50 (2).
[83] Pranab Kumar Panday, and Ishtiaq Jamil, *op. cit*., p. 22.

Figure 3.2

Organizational Structure of Rajshahi City Corporation



[Source: Rajshahi City Corporation, 2012]

3.6.3 Functions of RCC

According to 3rd *Tafsil*/Schedule (Article 41) of Local Government (City Corporation) Act 2009, the functions of RCC have been categorized as 'compulsory' or 'optional', but the functions have not been listed under the heading of each category. For distinction of such functions, the use of the term 'shall' for some functions and 'may' for others in the Act may be taken as a criterion of categorization. Although the City Corporations are empowered to perform a wide range of functions, in practice, they are not able to carry out many.. The cities suffer acute shortage of funds caused by poor collection of taxes, non-realization of subsidies loss of taxes on State property and taxes from semi-government establishments for many years, and insufficient grants from the central government.[84] List of the current functions of the RCC follow.

Compulsory Functions

The compulsory functions of the RCC include:

- Fixing and collection of landholding taxes;
- Construction and maintenance of roads, bridges and culverts;
- Removal, collection and disposal of refuse wastes and rubbish;
- Provision and maintenance of street lights;
- Licensing of premises, rickshaws and rickshaw vans and other means of public transport;
- Maintenance of public streets and provision of watering them;
- Provision and regulation of water supply;
- Construction and maintenance of public markets/ shopping centers;
- Plantation of trees on the road sides;
- Regulation of unsanitary buildings;
- Preventions of infectious diseases and epidemics;
- Registration of births, deaths and marriages;
- Provision and maintenance of slaughter houses;
- Provision and maintenance of drainage;
- Control over erection and re-erection of buildings;
- Provision and maintenance of graveyards and cremation grounds;
- Control over traffic and public vehicles, etc.

[84] M. G. Murtaza, *Urban Governance in Bangladesh*, quoted in *Pranab Kumar Panday, and Ishtiaq Jamil, op. cit*., p. 23.

Optional Functions

The optional functions of the RCC include:

- Inspecting for adulteration and hygiene of publicly-sold foods and drinks;
- Control over private markets and shopping centers;
- Maintenance of educational institutions and provision of stipends to meritorious students;
- Provision of floods and famine relief;
- Provision and maintenance of parks, gardens and playgrounds;
- Establishment of welfare homes, orphanages and prevention of begging;
- Establishment of public dispensaries;
- Provision of public toilets;
- Establishment of veterinary hospitals;
- Registration of cattle sales and improvement of livestock;
- Celebration of national holidays;
- Reception of distinguished visitors/ persons;
- Establishment of public libraries and reading rooms;
- Promotion of community development schemes;
- Naming of roads and numbering of houses, etc.

3.6.4 Policy-Making Process of RCC

I. Policy Sub-system: Actors Involved

Three types of actors are involved in the policy sub-system of RCC. These are State, Civil Society and Corporation *Parishad*.

State

The **S**tate does not have any direct influence on the policy-making process of RCC but can exert indirect influence, as the RCC depends fully on central government grants for its development budget. Besides, it can also exert influence through its own political party and the Minister of Local Government.

Civil Society

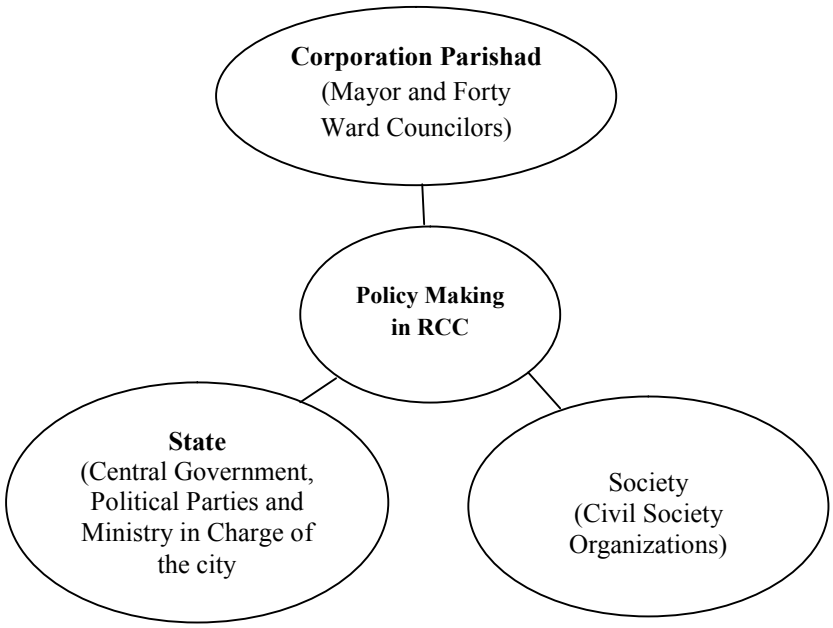
Civil society has limited or no influence in the policy-making process of RCC. There is no formal mechanism to include civil society organizations in the policy-making process.

Corporation Council (*Parishad*)

The Local Government (City Corporation) Act 2009 confers policy-making power to the Corporation Council. According to the Act, every matter related to the development of RCC has to be approved by the Corporation *Parishad*. The existence of the actors in the policy sub-system may be depicted by the following figure:

Figure 3.3

Policy Sub-system of RCC



[Source: Pranab Kumar Panday, and Ishtiaq Jamil, *op. cit*., p. 25.]

The above figure shows a mapping of the policy sub-system of RCC. It can be said that, although three actors are involved in the policy process, it is mainly dominated by the Corporation *Parishad*. The State, through several mechanisms, tries to exert an indirect influence on the policy process and sometimes becomes successful. However, civil society cannot influence the policy process as they suffer from weak a organizational base at Rajshahi.

II. Decision-Making Process of RCC

All decisions of the City Corporation are made in the Corporation *Parishad* which is composed of the Mayor and forty Ward Councilors. The Corporation must hold meetings at least once in a month. Its meeting is presided over by the Mayor. In the absence of the Mayor, a Councilor is elected from among the members present for this purpose. The meeting may be convened by the Mayor at any time. Other meetings may be convened by written petition from two-thirds of the Councilors. No Council decisions can be taken unless the required *quorum* of one-third of the total Members is present. A decision is the decision of the Council if supported by the majority of the Members present in the *quorum* meeting. Each Member has one vote. Only in the case of tie may the Chairman use his casting vote.[85]

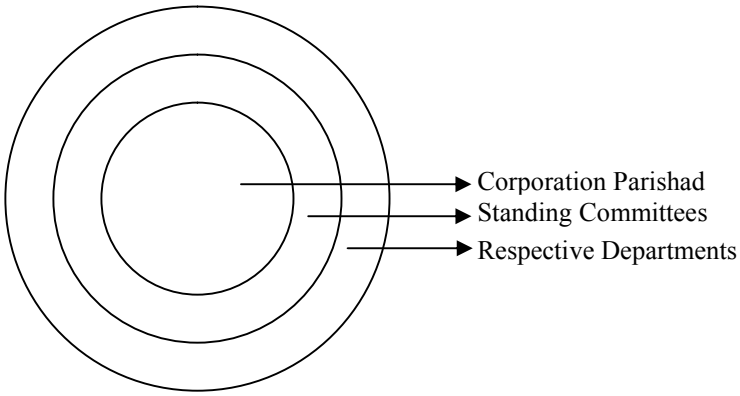
The RCC does not have clear-cut sector-wise policies like health policy, education policy, infrastructure policy, etc. They undertake various projects for the development of different sectors. For example, for the development of the infrastructure of RCC, they undertake several projects at the beginning of each financial year. They do not, however, call all these projects "infrastructure policy". They take decisions on various projects proposed by the city Departments.

During the latter part of the financial year, every Department proposes projects for the forthcoming financial year. The normal process is that each Department places proposals before the concerned Standing Committee. The Standing Committee considers the proposals and recommends those considered worthy to the Corporation *Parishad*. Any proposal approved by the majority vote of the *Parishad* will be adopted and included in the Corporation Budget. The total policy-making process of RCC is depicted in the following Figure 3.4.

[85] M.S. Rahman, "Challenges to the City Government in Bangladesh: A Case to Rajshahi City Corporation," *The Journal of Local Government,* Vol. 18, No. 1, quoted in Pranab Kumar Panday, and Ishtiaq Jamil, *op. cit*., p. 26.

Figure 3.4

Policy Making Process of RCC



[Source: Pranab Kumar Panday, and Ishtiaq Jamil*, op. cit.* p. 26]

The above discussion depicts the formal decision-making process of RCC. In practice, however, the whole decision-making process is dominated by the Mayor. The Mayor's preferences are usually approved at the Corporation *Parishad* meeting.

3.7 Chapter Conclusion

The present form of urban local government in Bangladesh is a product of history, embodied in a series of laws from 1792 to 1932. The British established modern urban local government institutions, such as municipalities, in British India. They developed rules and regulations over the years to give these institutions their modern shape. However, local governments were not democratically-representative until the independence of Bangladesh.

Presently, Bangladesh has three types of local government: rural local government; urban local government and special local government for the hill districts. The rural-local government represents a hierarchical system comprising three tiers: Union *Parishad*; *Upazilla Parishad* and *Zilla Parishad*, while the urban-local government consists of *Paurashavas* and City Corporations. Urban-local governments in Bangladesh have democratic character and constitutional shapes. Regular elections in the City Corporations and Paurashavas give them strength as self-reliant local government.

All the *Paurashavas* are now functioning under the Local Government (*Paurashava*) Act, 2009, whereas City Corporations are being governed by the Local Government (City Corporation) Act, 2009. RCC is one of the eleven City Corporations in Bangladesh. According to the legal framework, it is empowered to perform a wide variety of environmental activities. However, as with most issues in Bangladesh local government, the City Corporations are limited in the functions which they can actually perform, due to resource constraints in an inefficient tax and revenue-generation system.

In theory, State, civil society and Corporation Council are involved in the policy-making process of RCC. Actually decisions are taken by the Corporation Council, in practice dominated by the Mayor. The State is in a position to strongly influence decisions, by its position as the major source of development funds for the city, through its political Parties which are in practice (and now also in law) represented in the Mayor and Council and through its Ministry of Local Government. However, it does not use this potential in any systematic way. Civil society is weakly developed in Rajshahi City Council and has no strong political base.

The Constitution (Article 59) requires representative local government institutions at all four tiers below the centre. However, only at the Union level has representative local government persisted without interruption since Bangladesh has been created. The second tier *Upazila* (Town) was first introduced in 1982 and continued up to 1990. Then it was abolished and recreated only in 2009. The *Zilla Parishad* (District Council) commenced in British India in the 1800s. Yet it was not democratized until elections in 2014. A Divisional level LGI has never even been an issue in Bangladesh, although there was an undemocratic LGI at Divisional level when the country was part of Pakistan, under the Basic Democracy scheme, in the 1960s.

Chapter 4
Regulatory Framework of Urban Environment in Bangladesh

4.1 Introduction

Environmental regulation in Bangladesh has a very recent history. Only a few laws with environmental provisions have been in effect since the early nineteenth century. The Constitution of Bangladesh does not explicitly provide any right to a healthy environment as a fundamental right. However, it has been recognized that every citizen has the right to protection from "...action detrimental to the life, liberty, body, reputation or property unless these are taken in accordance with law"[1] and "no person shall be deprived of life or personal liberty save in accordance with law."[2] These two articles together incorporate a fundamental 'right to life'.

Does the right to life include the right to a healthy environment? The Supreme Court of Bangladesh dealt with the matter in a positive fashion. The High Court Division, in the case of Dr. Mohiuddin Farooque vs Bangladesh and Others[3], stated that the right to life includes the right to fresh air and water, and a situation beyond mere existence, in which one can a expect normal longevity of life. On appeal, the Appellate Division in the same case[4] decided that:

> Article 31 and 32 of our Constitution protect the right to life as a fundamental right. It encompasses within its ambit, the protection and preservation of the environment, ecological balance, freedom from pollution of air and water and sanitation, without which life can hardly be enjoyed. Any act or omission to the contrary is violative of the said right to life.

However, to meet the constitutional obligation of ensuring the right to life, it is the primary duty of the State to protect the environment from degradation. So, the Government of Bangladesh has taken initiatives for the improvement of public health, as well as protection

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[1] *The Constitution of the People's Republic of Bangladesh* (2011), Ministry of Law, Justice and Parliamentary Affairs, Article 31.

[2] *Ibid.*, Article 32.

[3] Mohiuddin Farooque v Bangladesh and others [1996] 48 DLR 438.

[4] Mohiuddin Farooque v Bangladesh and others [1997] 49 DLR (AD).

and improvement of the environment, through institutional and legislative measures. There are some public, private and civil society institutions in Bangladesh upon which direct or indirect responsibilities for the overall environment are vested. At the same time, there are about 200 laws which have relevance to environmental issues.

Among them, the Bangladesh Environment Conservation Act 1995 (BECA) is the major piece of environmental legislation. The BECA, to some extent, recognized the Rio Principles of precaution, polluter's pays and people's participation. The BECA replaced the earlier Environmental Pollution Control Ordinance 1977 and added a new dimension to environmental management.

However, new policies and legislation, including BECA, did not bring about a favorable situation to ensure environmental good governance in Bangladesh. The main obstacle can be identified as the pre-existing sectoral laws and policies, remaining from the colonial period. Lack of coordination and the absence of a comprehensive approach, regarding the various sectors of the environment, worsen the situation.[5]

4.2 Regulatory Framework of the Environment at City Corporation Level

It is well-recognized, in the study of governance, that sound policy and effective governance are closely-related. Protection of the environment is attempted by a legal and regulatory framework in Bangladesh. This paper explores the policy options for governing the environmental issues like solid waste management, water body conservation and environmental issue considerations of development projects, in urban-local government, particularly at the City Corporation level.

4.2.1 Institutional Framework

The Government of Bangladesh, like the Governments of all other developing and developed countries, in pursuance of the Stockholm Mandate, actively participated in the worldwide evolutionary process of protecting the global environment.

[5] WASPA Asia Report, *Review of Regulations on Wastewater and its Reuse in Agriculture in Rajshahi City Area,* Bangladesh (2007), p. 25.

As a result, the first Water Pollution Control Ordinance was promulgated in 1973, followed by the promulgation of the Environment Pollution Control Ordinance in 1977.[6] In 1983, the Department of Pollution Control was upgraded into the Department of Environment and Pollution Control. The DEPC was further renamed and structured as the Department of the Environment (DoE), when a separate ministry, named the Ministry of Environment and Forests (MoEF), was formed in 1989.

Presently, the MoEF has been charged with formal responsibility for the environment Many other governmental, non-governmental and civil society institutions have direct or indirect involvement in managing or shaping the environment sector. These institutions have their own policy and program frameworks, which provide the basis for addressing fundamental issues of environmental governance in Bangladesh.

a. National Level Institutions

i. National Environment Council

GoB formed a National Environment Committee (NEC), headed by the Prime Minister, in 1997. It consists of members from concerned Ministries. This Committee provides some guidelines to the sectoral Ministries/agencies for environmental conservation, mitigation and adaptation. Terms of Reference of the NEC are as follows:

- To analyze the implementation of environmental policies and environmental programs;
- To take necessary action for implementing the decisions taken in the UN Conference for Environment and Development;
- To identify inter-Ministerial problems for the implementation of environmental policies and provide necessary direction; and
- Other environmental matters.

ii. Executive Committee for National Environment Council

The Executive Committee of the National Environment Council (ECNEC) has been formed in 1995. The ECNEC is headed by the Minister of the MoEF. The main responsibility of this Committee is to provide necessary support to NEC. The terms of reference of ECNEC are as follows:

[6] Salahuddin M. Aminuzzaman, "Environment Policy in Bangladesh: A Case Study of An Ambitious Policy with Implementation Slag ", Paper presented to South Asia Climate Change Forum, organized by Monash Sustainability Institute, Monash University, Australia, 5 - 9 July, 2010.

- To analyze and review the programs of Ministries prepared for implementing the Bangladesh Environment Policy;
- To provide necessary suggestions for the amendment of other policies for proper implementation of environment policy;
- To take necessary action on environmental problems crossing Ministerial jurisdictions and present the issues to the NEC if necessary; and
- Other environmental issues.

Both the NEC and ECNEC are very important higher-level institutions that are responsible for providing guidance on matters of national environmental management. Some believe that these two Councils do not meet regularly enough or play an active-enough.[7]

Besides these two Environmental Councils, at the Divisional level, there are Divisional Environment Committees, chaired by the Divisional Commissioner, with representation from all other government institutions are supposed to deal with environmental issues at the local level. However, these institutional arrangements are yet to be fully functional.[8]

iii. Ministry of Environment and Forest

The Ministry of Environment and Forest (MoEF) is a modal ministry, established in 1989, with the prime responsibility of formulating appropriate plans and programs. MoEF coordinates activities for protection and improvement of the environment. It is also responsible for reviewing and monitoring the impact of development initiatives on the environment. It monitors local governments' performance for compliance with environmental rules and regulations. It works with other ministries to ensure that environmental concerns are given due recognition in their development programs.[9] It implements its policy guidelines, mainly through the DoE and Forest Department. The following figure (4.1) shows the institutional framework of environmental governance in Bangladesh.

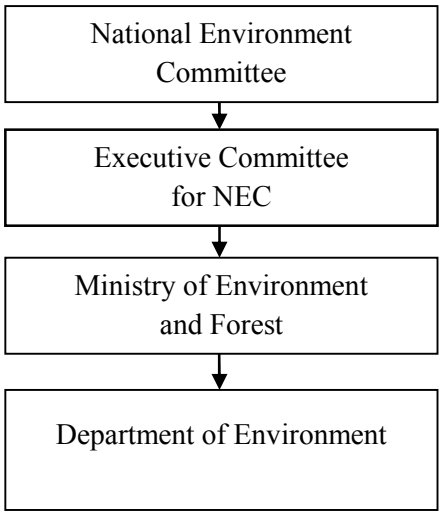
[7] Khandaker Mainuddin, "Environmental Governance in Bangladesh", p. 138; Available at: http://pub.iges.or.jp/modules/envirolib/upload/817/attach/eng_part3.pdf, [accessed July 20, 2013].

[8] Salahuddin M. Aminuzzaman, *op.cit*. p. 7.

[9] *Ibid*.

Figure 4.1

Hierarchy of Environmental Governance Structure



[Source: DoE, Annual Report 2007, p. 20.]

Institutional capacity of the MoEF and other concerned ministries still remains weak. It is acknowledged in the NEMAP document that neither the fledgling Ministry of Environment and Forest nor its Department of Environment has developed the institutional capacity to tackle the problems of environmental management and protection substantially.[10]

iv. Department of Environment

The Department of Environment (DoE), headed by the Director General (DG), under the MoEF, is the regulatory body responsible for enforcing the environmental laws and rules. The DG is supported by a contingent of technical and non-technical staff at the headquarters at Dhaka, as well as at the divisional headquarters.[11] The mandate of the Department includes: assessment and monitoring of tasks, such as on-site surveillance of environmental improvement components of development projects; promoting environmental awareness through public information programmes; controlling and monitoring industrial pollution; and environmental impact assessment. The Department also formulates guidelines for line agencies involved in activities affecting air quality, soil and water conservation, forestation, wildlife, critical habitats, fisheries and other natural resources issues.

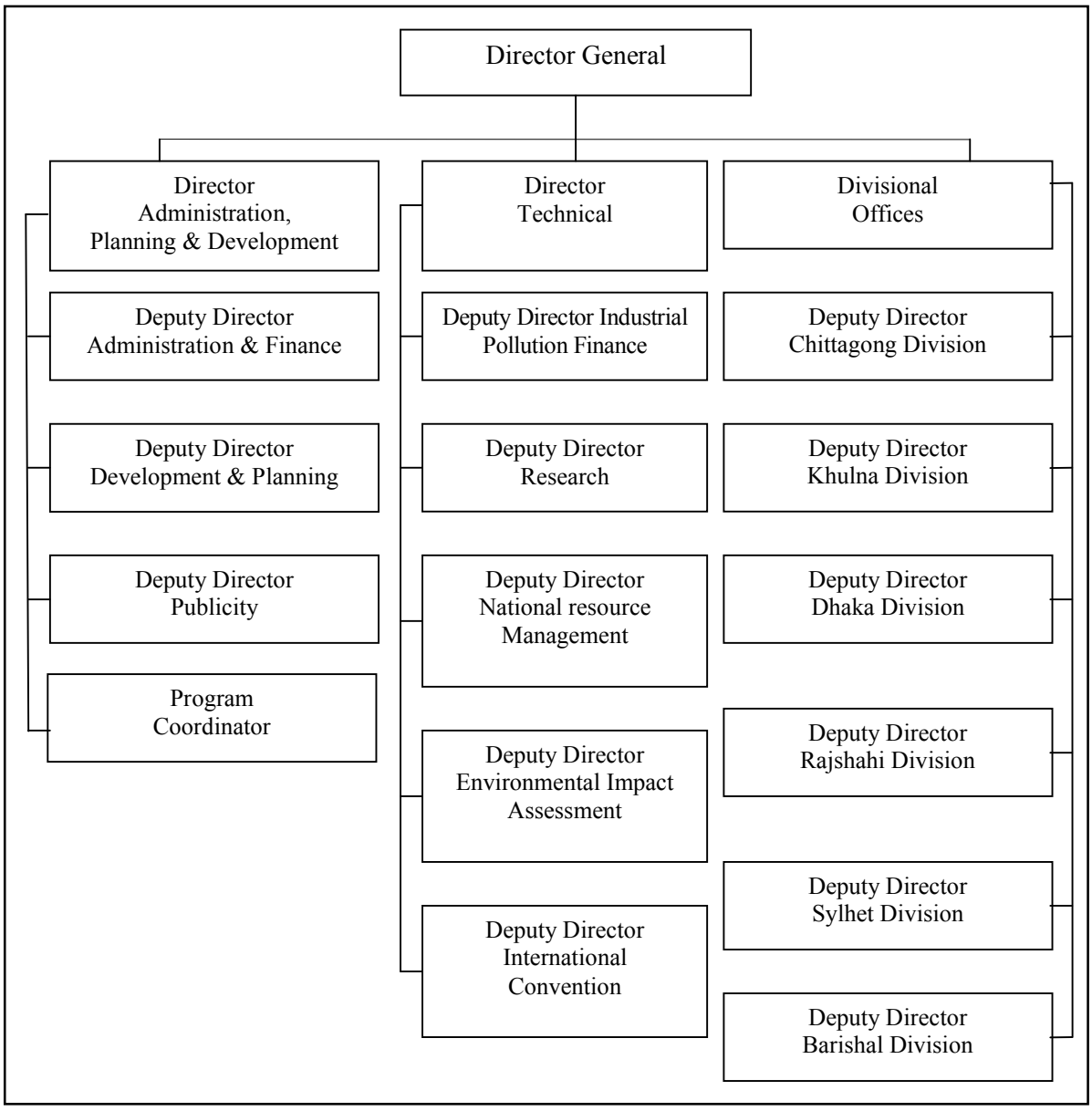
[10] *Ibid.*

[11] Khandaker Mainuddin, *op. cit*., p. 137.

DoE has the legal authority to declare any ecosystem an Ecologically Critical Area (ECA): so far 8 ECAs have been declared. However, the management of declared ECAs has not been resolved. DoE has been unable to respond consistently to complaints, largely due to lack of well-positioned field resources.[12]

Figure 4.2

Organizational Structure of the Department of the Environment



[Source: DoE, Annual Report, 2007, p. 23]

[12] Salahuddin M. Aminuzzaman, *op. cit*. p. 7.

The DoE has a head office in Dhaka and six Divisional Offices located in Dhaka, Chittagong, Khulna, Bogra, Barisal and Sylhet, which carry out enforcement activities supported by laboratory analysis. For the purposes of implementing its activities, it has two main functional areas: Administration, Planning and Development; and Technical. Each area is headed by a Director. There are four units under Administration, Planning and Development and five under Technical. Each unit is headed by a Deputy Director or equivalent.

The activities of DoE are organized into six core areas of: planning and development; documentation; compliance and enforcement; environmental awareness; laboratory analysis; and environmental clearances and environmental impact assessment processing.[13]

v. Local Government Division of the Ministry of LGRD and Cooperatives

All the Municipalities and City Corporations work under the Local Government Division (LGD) of Ministry of LGRD and Cooperatives. All the Rules and Regulations, Acts, Ordinances and Government Orders regarding the issues of Municipalities and City Corporations are prepared and then disseminated by LGD. In recent years, the Ministry has published two important Acts, e.g. Local Government (City Corporation) Act, 2009 and Local Government (Paurashava) Act, 2009. These Acts are almost identical and provide little guidance regarding environmental conservation.

vi. Planning Commission

The Planning Commission of the Ministry of Planning is in charge of preparation and funding of the Five-Year Plans, under which development programs and projects are formulated across sectors. The Ministry also controls the funding allocation of individual ministries responsible for implementing specific projects under the 5-Year Plan. The Planning Commission has the authority to deal with environmental impact assessment procedures during approval of development projects. It also supervises and coordinates cross-sectoral and inter-ministerial activities affecting the use of natural resources and the environment.

[13] Sharfun Ara, Nubia Sandoval, Md. Maksudul Amin and Alexandra Clemett, "Institutional Analysis for Wastewater Agriculture and Sanitation in Rajshahi, Bangladesh: Wastewater, Agriculture and Sanitation for Poverty Alleviation in Asia (WASPA Asia) Project, June 2007, p. 31.

b. Local Level Institutions

i. Department of the Environment, Rajshahi

The Department of the Environment (DoE) office in Rajshahi is located in the Upashahar area of the city. It has no separate departments but staff members have specific roles and designations which cover various required activities. The Rajshahi Divisional office of DoE is located at Bogra. A Director is allocated to the Rajshahi Division followed by a Deputy Director (Technical) and two Assistant Directors (Technical) with 10 technical staff including Monitoring Officers, Laboratory Chemists and Technicians.

ii. Rajshahi Development Authority

The Rajshahi Development Authority **(**RDA), headed by an appointed government official, functions under the Ministry of Housing and Public Works. The Authority formulates and supports the implementation of development plans and schemes in a 364 square kilometer area, covering both Rajshahi City and its adjacent area. The RDA is mandated to work in collaboration with RCC, the Bangladesh Water Development Board and the Local Government Engineering Department (LGED) to ensure the implementation of plans. The official role of RDA is to implement, prepare, monitor and evaluate plans, in which implementation relates to the acquisition of land and the provision of Clearance Certificates for that land. The RDA also directly implements a limited number of projects with funding from the Government of Bangladesh. The RDA's main responsibility is

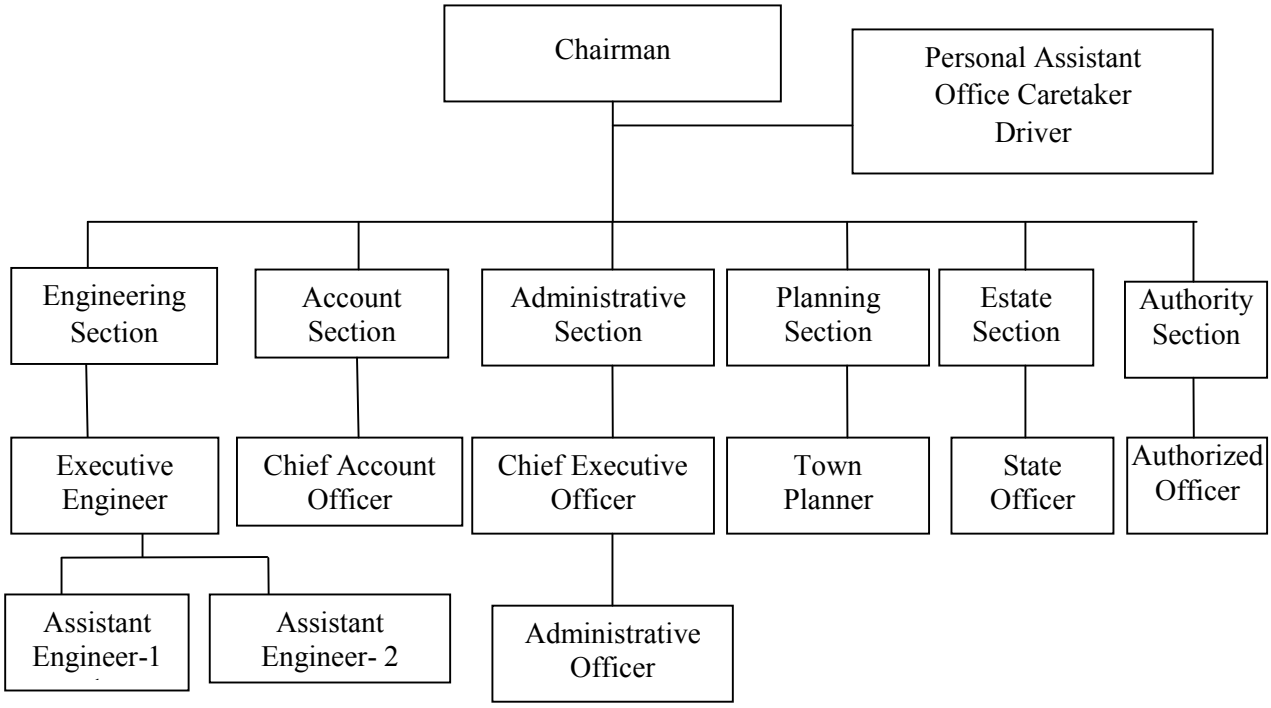
The RDA undertook the preparation and implementation (with partners) of the Rajshahi Metropolitan Development Plan (RMDP) (2004-2024). This Plan includes future roads, drainage and water supply systems, distribution of educational institutions, health services, public open and recreational spaces, industrial establishments, commercial centers and lands. The RDA is also responsible for preparing master plans in-line with the general development plan, indicating land use zoning and land reservations, water supply, sewerage and drainage (including approval for septic tanks), roads, highways, traffic circulation, community planning, housing, slum clearance and slum improvement.

The current RMDP has been designed by RDA to serve the needs of the Rajshahi City area from 2004 to 2024. The RMDP package consists of a Strategic Plan, Structure Plan or General Development Plan, Functional Master Plan and Detailed Area Plan (GoB 2004). The Plan has been designed by RDA and was approved by the relevant institutions including RCC, Bangladesh Water Development Board, and LGED, which are responsible for its implementation in their respective jurisdictions and technical fields. The Plan acts as a Road Map for the future development of the city. For example, RCC is responsible for the implementation of road construction, drainage maintenance and operation and the water supply sections of the Plan within the RCC area.

The organizational structure of RDA is such that there are six sections (Figure 4.3). The responsibilities of these sections include:

Figure 4.3

Organizational Structure of RDA



[Source**:** Rajshahi Development Authority, 2012]

- **Engineering**- implementing, monitoring, evaluating and acquiring land for development projects.
- **Accounting**- billing and accounts related responsibilities.

- **Administration**- maintaining rules for proper implementation, administration and services, taking action against individuals or organizations that do not comply, and recruitment.
- **Planning**- developing the Master Plan for RDA and ensuring its implementation. They provide land clearance certificates and are also responsible for determining how land is used and by whom. For land obtained and used by RDA, the application process for a land clearance certificate is undertaken in the same manner however the approval of these certificates is given by the District Commissioner of GoB, not by RDA itself.
- **Authority**- building plan approvals. (For RDA's own Building Plans, approval is made by the District Commissioner of GoB.
- **Estate**- revenue collection of RDAs personal assets including bus and truck terminals and markets. They are also responsible for providing allotment to different residential areas.

iii. Rajshahi City Corporation

Rajshahi was a Paurashava (Municipality) under the Paurashava Ordinance. Rajshahi became a City Corporation in 1987 (Rajshahi City Corporation Ordinance 1987). The Rajshahi City Corporation Ordinance 1987 was repealed, like that of all City Corporations, by the Local Government (City Corporations) Act 2009. As a result of that Act, all City Corporations are now under the same law.

Rajshahi City Corporation (RCC) is one of the key government institutions charged with environmental governance in the city. It has a mandate to ensure effective environmental governance in the city through construction and maintenance of roads, bridges and culverts; collection and disposal of refuse; maintenance of pubic streets; plantation and maintenance of trees on road sides, provision and maintenance of slaughter houses; provision and maintenance of drainage; provision and maintenance of public urinals and latrines; considering environmental issues while planning and implementing development projects; eradication of mosquitoes; and the provision of other health services to the city residents.

As a general principle, having many agencies doing the same work or making policy on the same issue is not a good practice. It is a recipe for inconsistent policies or policies which frustrate one another. The most efficient policymaking concentrates responsibility for one problem or issue in one policymaking institution, which then produces consistent and compatible policies, with responsibility for results.

Logically, all of the institutions described in this section as dealing with the environment should be consolidated into the Department of the Environment. It is our hypothesis that the current hotchpotch would be expected to limit the effectiveness of environmental policy. We will use the data from the case study of Rajshahi to affirm or reject this hypothesis.

4.2.2 Legal Framework

Bangladesh has adopted many initiatives for the regulation and conservation of environmental resources and to protect the environment from pollution. To cope with environmental pollution, Bangladesh, especially since 1990, has enacted many laws.

Presently, there are around 200 different Acts and Ordinances in Bangladesh for regulating environment. Among them, the Environment Policy 1992, Environment Action Plan 1992, the Bangladesh Environment Conservation Act 1995, the Bangladesh Environment Conservation Rules 1997, the Environment Court Act 2000 along with some amendments, etc. are the most noteworthy. The Local Government (City Corporations) Act 2009 gives city corporations a supervisory role to protect the environment within their boundaries.. However, among the existing environmental rules and regulations in Bangladesh, not all are relevant to this study. The relevant ones are summarized below.

i. The Environmental Policy, 1992

The National Environmental Policy is the basic policy for sustainable management of the environment in Bangladesh. The objectives of the National Environment Policy are:

(1) to maintain ecological balance and overall development through protection and improvement of the environment;

(2) to protect the country from the danger of natural disasters;

(3) to identify and regulate activities which pollute and degrade the environment;

(4) to ensure environmentally-sound development in all sectors;

(5) to ensure sustainable, long term and environmentally sound use of all national resources; and

(6) to actively remain associated with all international environmental initiatives to the maximum possible extent.

The policy has covered all geographical regions and 15 development sectors like agriculture, industry, health, energy, water, land, forest, fisheries, marine, transport, housing, population, education and science. Some issues of the Environment Policy relevant to the present study are mentioned here in brief.

- Corrective measures will have to be adopted against polluting industries in phases.[14] There will be Environmental Impact Assessments (EIAs) for all new industries both in public and private sectors.[15] At the same time, wastage of raw materials in industries will be rationally controlled and their sustainable use will be undertaken.[16]
- Activities which are adverse to public health, including development activities, in the country will be eradicated[17] to develop a healthy environment in rural and urban areas.[18] Healthy workplaces for workers will be assured.[19] Measures will be taken to control adverse environmental impact of completed water resource development and flood control projects.[20]
- The rivers, canals, ponds, lakes, haors, baors and all other water bodies and water resources will be kept free from pollution.[21] There will be confirmation of sustainable, long term, environmentally sound and scientific exploitation and management of the underground and surface water resources.[22] Above all, EIA will have to be done before undertaking projects for water resources.[23]

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[14] *The National Environment Policy, 1992*, Article 3.1.3.
[15] *Ibid.*, Article 3.1.4.
[16] *Ibid.*, Article 3.1.5.
[17] *Ibid.,*, Article 3.3.1.
[18] *Ibid.,* Article 3.3.2.
[19] *Ibid.*, Article 3.3.5.
[20] *Ibid.*, Article 3.5.4.
[21] *Ibid.*, Article 3.5.5.
[22] *Ibid.*, Article 3.5.6.
[23] *Ibid.*, Article 3.5.7.

- Conservation and expansion of forest zones, conservation of wildlife and biodiversity, and conservation of wetlands are recognized as priority areas for action.[24]Appropriate environment will be provided for the conservation of fisheries and livestock. Activities that diminish the wetlands as natural habitats of fish will be stopped and rehabilitative measures to protect them will be encouraged.[25]
- Road, rail, air and water transport systems should be operated without polluting the environment. EIA is required before undertaking any projects in these sectors.[26] Environmental considerations will be consolidated into all housing and urban planning activities and research.[27] Housing and urban development schemes having adverse impacts on the local and overall environment will be terminated.[28]

ii. The National Environment Management Action Plan 1992

Under the Environment Policy 1992, it was necessary to draw a specific Action Plan to achieve the objectives of the policy. To implement the recommendations of the National Environment Policy, the National Environment Management Action Plan (NEMAP) was undertaken. There were many sector-wise Action Plans for implementation. Among them, the related ones are mentioned here.

- New industries proposing to use hazardous and/or poisonous wastes are prohibited;
- Recycling will be encouraged to reduce waste;
- Waste discharge in rivers, canals and all other water bodies from industries, Municipalities and agricultural or other sources will be regulated stringently through enactment and implementation of appropriate laws;
- Open trucks will not be allowed to collect transport or dump garbage during the day time in urban areas;
- Necessary steps will be taken to protect the environment and public health from the adverse impact of all sorts of waste materials;

[24] *Ibid*., Article 3.7.1.
[25] *Ibid.*, Article 3.8.2.
[26] *Ibid.*, Article 3.12.3.
[27] *Ibid.*, Article 3.12.1.
[28] *Ibid.*, Article 3.12.3.

- Treatment of domestic and industrial waste before discharging in rivers, wetlands or other water bodies will be strictly enforced;
- The MoEF will coordinate implementation of environmental programs and it will update the Environment Policy and Action Plan when it is necessary.

iii. The Bangladesh Environment Conservation Act, 1995

The Bangladesh Environment Conservation Act (BECA), 1995, came into force on 16 February 1995. This Act replaced the Environmental Pollution Control Ordinance 1977, and presently establishes the framework for environmental arrangement. It provides provisions for the conservation of the environment, improvement of environmental quality, and control and mitigation of the pollution of the environment. To follow the present needs, and to specify and address different sections, this Act has been amended three times, i.e. in 2000, 2002 and 2010. The provisions of this Act related with the present study have been summarized as follows:

Establishment of the DoE

- For carrying out the purposes of this Act, the Government has established a Department called the Department of Environment (DoE) headed by a Director General (DG).[29]

Power and Functions of the Director General

- For the conservation of the environment, improvement of environmental standards and for the control and mitigation of environmental pollution, DG may take necessary measures, as he considers necessary and expedient. He may issue necessary directions in writing to any person or organization for the discharge of his duties under this act.[30] The direction made by the DG may provide for the closure, prohibition, or regulation of any industry, initiatives or processes, and the person shall be bound to comply with such direction.[31]

[29] *The Bangladesh Environment Conservation Act 1995(Amended 2002),* Section 3 (1).
[30] *Ibid.*, Section 4 (1).
[31] *Ibid.*, Section 4 (3).

Declaration of Ecologically Critical Area

- The Government may, by notification in the official Gazette, declare an area as ecologically or environmentally critical, or under threat of being critical as a result of environmental degradation.[32]

Restriction Regarding Hazardous Waste

- Government, by rules, can control hazardous waste generation, processing, storing, loading, supplying, transporting, import, export, disposal, dumping, etc. with a view to preventing environmental damage.[33]

Restriction regarding Water Bodies

- Water bodies which are marked cannot be filled or changed. For cases of indispensable national interest, restrictions regarding wetland may be relaxed by clearance certificate from the Department.[34]

Remedial Measures for Injury to Ecosystem

- The DG, making a proper assessment of the harm caused to ecology by certain activity, may direct the concerned person (s)/agencies/organizations to take corrective measures and enforce compliance.[35]

Complain and Hearing by the DG

- If any person complains to the DG that he/she is affected or likely to be affected because of pollution or degradation of the environment, the DG may hold public hearing and take necessary measures.[36]

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[32] *Ibid.*, Section 5 (1).
[33] *Ibid.*, Section 6 (c).
[34] *Ibid.*, Section 6 (e).
[35] *Ibid.*, Section 7.
[36] *Ibid.*, Section 8 (1).

Discharge of Excessive Environmental Pollution

- In the case where emission or effluent cause by an accident or any other unforeseen activity or event exceeds the amount specified by rules, the persons or agencies are responsible for such an accident or unforeseen activity or event. The persons or agencies responsible or the person in charge of the place at which such discharge occurs shall be bound to render assistance and cooperate to control or mitigate such emission or effluent as required by the DG.[37]

Environmental Clearance Certificate (ECC)

- No industrial unit or project shall be established or undertaken without obtaining an ECC in the manner prescribed by rules, from the DG.[38]

Formulation of Environmental Guidelines

- The government may, by notification in the official Gazette from time to time, formulate and publish environmental guidelines relation to the control and mitigation of environmental pollution, conservation and improvement of the environment.[39]

Penalties

- For violation of a provision or for non-compliance of a direction, or for the activities specified in the table under section 15(1) the penalty mentioned there will be imposed.[40] Different penalties (imprisonment or fine or both) are scheduled for violation or non-compliance of the order of the authority in the Act. The following Table 4.1 shows the penalty measures of the Act:

[37] *Ibid.*, Section 9 (1).
[38] *Ibid.*, Section 12.
[39] *Ibid.*, Section 13.
[40] *Ibid.*, Section 15 (1).

Table 4.1

Penalty Measures mentioned in BECA, 1995

Description of Offences	Penalties that may be imposed
Non compliance of a direction issued under sub-section (2) or (3) of section 4	Imprisonment not exceeding 10 years or fine not exceeding Tk. 10 lac (1,000,000Tk) or both.
Violation of sub-section (2) by continuing activities or processes or by initiating activities or processes, prohibited under sub-section (1) of section 5 in an area declared as an ecologically critical area	Imprisonment not exceeding 10 years or fine not exceeding Tk. 10 lac or both.
Violation of sub-section (c) and (e) of section 6 (hazardous waste generation, processing, storing, loading, supplying, transporting, import, export, disposal, dumping, etc. and fill or change of water bodies)	In case of first offence, a fine not exceeding Tk. 2 lac or an imprisonment not exceeding 2 years, or both; in case of second offence not exceeding Tk. 2 lac and in case of each subsequent offence, an imprisonment not exceeding 2 years or fine not exceeding Tk.10 lac or both.
Non-compliance of a direction issued under sub-section (1) of section 7	Imprisonment not exceeding 10 years or fine not exceeding Tk.10 lac (one hundred thousand) or both.
Violation of sub-section (1) or (2), or failure to take remedial measures in accordance with sub-section (3) of section 9	Imprisonment not exceeding 10 years or fine not exceeding Tk. 10 lac or both. Provided that where a lower penalty is fixed by rules for violation of section 9 (1), that penalty shall be applicable.
Violation of section 12	Imprisonment not exceeding 3 years or fine not exceeding Tk. 3 lac or both.
Violation of any other provision of the Act or a direction issued under the rules or obstructing the DG or a person authorized by him in discharging his duties or intentionally delaying the discharge of such duty.	Imprisonment not exceeding 3 years or fine not exceeding Tk. 3 lac or both.

Claim for Compensation

- Where a person or a group of persons or the public suffers a loss due to violation of a provision of the Act or the rules made there under or a direction issued under section 7, the DG may file a suit for compensation on behalf of that person, group or the public.[41]

Cognizance of Offence and Claim for Compensation

- No court shall take cognizance of an offence or receive any suit for compensation under this Act except the written permission from the DG or authorized person.[42]

Delegation of Power

- The government or the DG may delegate his power to any other officer of the Department under this Act.[43]

The Act appears comprehensive and the penalties are formidable. The Director-General even has power to stop any lawsuit or prosecution under the Act by withholding his consent. This should be enough to stop pollution. Therefore, one of the matters which will be considered in the case study of Rajshahi is whether or not this Act has stopped pollution and, if not, why not.

iv. The Environment Conservation Rules 1997 (Amended in 2003)

The Environment Conservation Rules (ECR), 1997 were made by the Government under the power conferred by section 20 of the BECA 1995. After the creation of the Rules, the BECA became fully operative.

Key features of the ECR

- In the Rules, criteria are set out for declaring ecological areas, standard forms are decided, fees are fixed, and Environmental Quality Standards (EQS) are established for air, water, sound, odor, emission from vehicle, factory, and effluent from industry. All standards are specified in Schedules 2 to 8 of the Rules. For controlling smoke emission of vehicles, catalytic converters oxidation catalysts or diesel particulate filters and other devices are approved in the Rules.

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[41] *Ibid.*, Section 15 (a).
[42] *Ibid.*, Section 17.
[43] *Ibid.*, Section 19.

- Location Clearance Certificates (LCC) and Environment Clearance Certificates (ECC) are compulsory for all industrial and other projects. Total industries or projects have been classified into four categories based on their location and impacts on the environment. These are: Green, Orange-A, Orange-B and Red.
- Land filling by industrial, household and commercial wastes is classified as "Red Category," which includes most harmful or dangerous industrial units and projects.[44] The period of validity of an ECC shall be 3 years in case of Green category from the date of its issuance and in other cases only 1 year. Each certificate shall be renewed at least 30 days before of its expiry of validity period.
- Obtaining the ECC for industrial units or projects of the Red category requires report on the feasibility of the industrial unit or project, report on the Initial Environmental Examination (IEE),[45] Environmental Impact Assessment (EIA) along with layout plan (showing location of effluent treatment plant) process flow diagram, design, and time schedule of the Effluent Treatment Plant.

Information of Special Incident

If, at any place, discharge or emission of environment pollutants occurs in excess of the prescribed standards and poses a threat to environment, must immediately inform the DG of the occurrence or the threat.[46]

The Environment Conservation Rules are mostly technical in nature, implementing the Act. That does not mean that the environmental quality standards and clearance certificates especially are not important. This is where the companies can find out the impact of the Act on themselves and where pollution is actually controlled or prevented. As often in public administration, it is not in the principles in the statute but in their implementation in practice that a policy becomes effective or ineffective. If the clearance certificates are given carelessly or corruptly and if the environmental standards are not high enough, then there will be pollution: otherwise, not.

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[44] *The Bangladesh Environment Conservation Rules 1997*, Rule 7 (1).
[45] *Ibid.,* Rule 7 (6)d.
[46] *Ibid.,* Rule 17.

v. The Environment Court Act, 2000 (as amended in 2002)

The Government of Bangladesh has enacted 'The Environment Court Act, 2000' (Act No. 11 of 2000) which provides for effective and expeditious disposal of lawsuits in respect of all types and sources of environmental pollution. Consisting of fourteen sections, the Act provides for, *inter alia,* the following:

- Setting up a Court in each Administrative Division and an Appellate Court in Dhaka;[47] A joint District Judge or Judicial Officer will constitute the Environment Court.[48]
- No court will take cognizance of an offence or receive any suit for compensation except on the written report of an inspector or person authorized by the Director-General of the DoE. However, if the court is satisfied, after a proper hearing of the concerned authority, it may directly take cognizance. The Environment Court will follow the Criminal Procedure Code for investigation and trial and the Civil Procedure Code for decision of the offence or suit.[49]

The Act is a little biased toward protection of the defendant, rather than of the environment. The Criminal Procedure Code sets higher standards of evidence, for protection of the innocent. Therefore, using it makes it more difficult for the prosecution or plaintiff to succeed. The Civil Procedure Code, on the other hand, directs the court to judge on the balance of probabilities, not beyond reasonable doubt, so, if the higher standard of evidence can be met, the prosecution or plaintiff is more likely to succeed.

vi. Mega City, Divisional Town and District Town's Municipal Areas including Country's all the Municipal areas' Playground, Open Space, Park and Natural Water Reservoir Conservation Act, 2000

The Act was published in the Bangladesh Gazette, extra-ordinary issue on 18 September 2000. The main provisions of this Act are given below.

[47] *The Environment Court Act 2000*, Section 4 (1).
[48] *Ibid.,* Section 4 (2).
[49] *Ibid.,* Section 8.

Changing Class of Land

- According to the Act, the playfield, open space, park and natural water bodies which are marked cannot be changed its classification, or used another way, or it cannot be rented, leased or cannot be handed over any other use.[50]
- If it is needed to change the class of the land or its any portion, the owner should apply to the government through the correlated authority by writing the cause of proposed change.[51]
- If the place at class changing is owned by the government, local authority, legal agency or company, the provisions of this Act will be applicable in the same way.[52]

Penalty[53]

- The person will be penalized as either not more than 5 years in jail or not more than 50 thousand taka or the both.
- If the class is changed at any land or its portion by breaking the provisions of section (5), then the authority will protest to the owner of the land or the lawbreaker through legal notice and order to destroy the illegal building structure but no compensation will be given notwithstanding anything contained to the contrary in any other law.
- Any building or infrastructure, established by contravening this Act, may be seized by the concerned authority with a court order.
- Under the section (8), to apply monetary penalty on any person, a first class Magistrate or Metropolitan Magistrate on Metropolitan region should apply the Code of Criminal Procedure, 1898 (Act V of 1898).

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[50] *Mega city, Divisional Town and District Town's municipal areas including country's all the municipal areas' playground, open space, park and natural water reservoir Conservation Act, 2000*, Section 5.

[51] *Ibid.,* Section 6 (1).

[52] *Ibid.*, Section 6 (3).

[53] *Ibid*., Section 8 (1) (2) (3) & Section 9.

Offences committed by Companies

- Where a person violates any provision of this Act, if it is a company, then the owner of the company, director, manager, secretary or any other officer or agent of the company, shall be deemed to have violated such provision or have failed to perform the duties in accordance with the notice or failed to comply with the order or direction, unless he proves that the violation or failure was beyond his knowledge or that he exercised due diligence to prevent such violation or failure.[54]

There are some very good provisions of this Act. Obviously, it attempts to protect green areas and open space in the crowded conurbations. The provision to "pierce the corporate veil" prevents decision makers from hiding behind their company status to continue to gobble up open space. Offending structures can even be ordered destroyed. However, this is not a complete prohibition of closing open space: application needs be made. In a country like Bangladesh, every application for discretionary permission opens the opportunity for corruption and frustration of the purpose of the law. If this happens, it is not protecting open space but merely licensing its destruction for the profit of the bureaucrats.

vii. The Local Government (City Corporation) Act, 2009

The Local Government (City Corporation) Act, 2009 was published in the Bangladesh Gazette on October 15, 2009. Clauses/Sub-Clauses that are relevant to the present study have been depicted as follows:

Responsibility for Sanitation

- The Corporation shall be responsible for the sanitation of the city, and for this purpose, it may cause such measures to be taken as are required by or under this Act.[55]

Removal, Collection and Disposal of Refuse

- The Corporation shall make adequate arrangements for the removal of refuse from all public streets, public latrines, urinals, drains, and all buildings and land vested in the Corporation, and for the collection and proper disposal of such refuse.[56]

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[54] *Ibid.,* Section 11.
[55] *The Local government (City Corporation) Act 2009*, 3rd Schedule, Article 1.1.
[56] *Ibid*., Article 1.4.

- The occupiers of all other buildings and lands within the Corporation shall be responsible for the removal of refuses from such buildings and lands subject to the general control and supervision of the Corporation.[57]
- The Corporation may cause public dustbins or other suitable receptacles to be provided at suitable places and where such dustbins or receptacles are provided, the Corporation may, by public notice, require that all refuse accumulating in any premises or land shall be deposited by the owner or occupier of such premises or land in such dustbins or receptacles.[58]
- All of the refuses removed and collected by the staff of the Corporation or under their control and supervision and all refuse deposited in the dustbins and other receptacles provided by the Corporation shall be the property of the Corporation.[59]

Latrines and Urinals

- The Corporation may, if so required by the government shall provide sufficient number and in proper situation of latrine and urinal separate for each sex in the city.[60]
- The Corporation will ensure the cleanliness of public privy and urinals, and ensure the private ones are cleaned and operated in order. [61]
- If necessary, Corporation can order closure, shift or proper maintenance by the owner or possessor.[62]

Drainage Schemes

- Subject to any law for the time being in force, the Corporation will provide an adequate system of public drains in the city area and all such drains will be constructed, maintained, kept cleared and emptied with due regard to the health and convenience of the public.[63]

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[57] *Ibid.*, Article 1.5.
[58] *Ibid.*, Article 1.6.
[59] *Ibid.*, Article 1.7.
[60] *Ibid.*, Article 1.8.
[61] *Ibid.*, Article 1.9.
[62] *Ibid.*, Article 1.10.
[63] *Ibid.*, Article 8.7.

- Every owner or occupier of any land or building within the city may, with the prior permission of the Corporation, and subject to such terms and conditions, including the payment of fees, as the Corporation may impose, cause his drains to be emptied into public drains.[64]
- All private drains will be subject to control, regulation and inspection by the Corporation and the Corporation may, in such manner as the by-laws may provide, require the provision, alteration, covering, clearing and closing private drains.[65]
- The Corporation may, by notice, require the owner of any building or land within the city to construct such drains within the building or land or the street adjoining such building or land as may be specified in the notice or to remove, alter or improve any such drains and prohibit, by public notice, the use by the public for any of the said purposes of any place not so set apart.[66]

Bathing and Washing Places

- The Corporation may from time to time set apart suitable places for use by the public for bathing, for washing clothes, or for drying cloths.[67]

Public Water-Courses

- The Corporation may, with the previous sanction of the Government, declare any source of water, spring, river, tank, pond, or public stream, or any part thereof within the city, which is not private property, to be a public water course.[68]
- The Corporation may, in respect of any public water-course, provide such amenities, make such arrangements for life-saving, execute such works, and subject to the provisions of any law for the time being in force relating to irrigation, drainage and navigation, regulate the use thereof, as the by-laws may provide.[69]
- The Corporation will be responsible for conservation and management of water bodies within the city in accordance with the provisions of Water Body Act.[70]

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[64] *Ibid.*, Article 8.8.
[65] *Ibid.*, Article 8.9.
[66] *Ibid.*, Article 8.11.
[67] *Ibid.,* Article 8.12.
[68] *Ibid.*, Article 8.15.
[69] *Ibid.*, Article 8.16.
[70] *Ibid.*, Article 8.17.

Public Market

- Subject to any law for the time being in force, the Corporation may establish and maintain public markets, and secure the proper management of such markets.[71]

Slaughterhouse

- The Corporation shall provide and maintain at such site or sites within or without the limits of the city as the government may approve one or more slaughterhouses for the slaughter of animals or of specified description of animals.[72]

Public Streets

- The Corporation shall provide and maintain such streets and other means of public communication as may be necessary for the comfort and the convenience of the inhabitants of the city and of the visitors thereon.[73]
- The Corporation shall take such measures as may be necessary for the watering of public streets for the comfort and the convenience of the public, and may, for this purpose, maintain such vehicles, staff, and other apparatus as may be necessary.[74]

Tanks and Low-lying areas

- The Corporation may, and if so required by the Government shall, take such steps with regard to the excavation and re-excavation of tanks and the reclamation of low-lying areas as it thinks fit, or, as the case may be, the Government directs.[75]

Development Plans

- The Corporation may, and if so required by the Government shall, prepare and implement development plans for such periods and in such manner as may be specified.[76]

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[71] *Ibid.*, Article 12.1.
[72] *Ibid.*, Article 14.
[73] *Ibid.*, Article 18.1.
[74] *Ibid.*, Article 18.14.
[75] *Ibid.*, Article 25.
[76] *Ibid.*, Article 28.1.

Formation of Standing Committees

- The Corporation shall, at its first meeting, in each year, or as soon as may be at any meeting subsequent thereto, constitute Standing Committees, such as, Standing Committee of Urban Planning and Development, Standing Committee of Infrastructure Development and Maintenance, Standing Committee of Waste Management, and Standing Committee of Environmental Improvement , Standing Committee of Disaster Management etc.[77]
- The number of members of Standing Committee shall be determined by the Corporation Council. The Chairman and members of the Standing Committees will elected from the Councilors, but no Councilors shall, at the same time be a member of more than two Standing Committees.[78] The Committee can include any person from outside if it thinks necessary to be helped and advised for any kind of activities. This person can attend in any discussion of the meeting but will not have any voting power.[79]
- The Corporation shall, by regulations, determine the functions of each Standing Committee.[80]
- Every meeting of the Corporation shall be open to the public unless a majority of the Councilors present at the meeting decide that any inquiry or deliberation pending before the Corporation shall be held in private.[81]

Offences under this Act (The Fifth Schedule)

62 offences are listed in the fifth schedule of this Act. Only the offences that are directly or indirectly linked with the present study have been mentioned here. According to the serial number of the fifth schedule, the offences are as follows:

- **6** Making or commencing to lay out or make a street without the sanction of the Corporation;
- **12** Connecting any house drain with a drain in a public street without the permission of the Corporation;

[77] *Ibid.*, Article 50 (1).
[78] *Ibid.*, Article 50 (3).
[79] *Ibid.*, Article 53 (1) (2).
[80] *Ibid.*, Article 51 (1).
[81] *Ibid.*, Article 54 (1) (2).

- **13** Throwing or placing any refuses on any street, or in any place not provided or appointed for the purpose by the Corporation;
- **15** Doing any act by which water for drinking is rendered unfit for such use;
- **19** Dyeing or tanning skins within such distance of the residential area as may be specified by the Corporation;
- **20** Willfully or negligently injuring or suffering to be injured, wells, reservoirs, mains, pipes, or other appliances for the supply of water under the management or control of the Corporation;
- **25** Disposing of carcasses of animals without the sanctions of the Corporation;
- **26** Failure to provide, close, remove, alter, repair, clean, disinfect or put in proper order any latrine, urinal, drain, cess-pool or other receptacle for filth, sullage, water or refuse when so required by the Corporation;
- **30** Failure by the owner or occupier of any land or building to clean, repair, cover, fill up, or drain off any private well, tank or other source of water-supply, which is declared by the Corporation to be injurious to health or offensive to the neighborhood;
- **38** Slaughtering animals for the purpose of sale of meat at a place other than the place set apart for the purpose;
- **55** Failure by the owner or occupier of a building to make adequate arrangements for house scavenging when so required by the Corporation;
- **61** Doing any other act which is prescribed as an offence under this Act.

The Act contains powers and duties for City Corporations that can reduce pollution and improve public health. However, in all cases except a few – for example, digging out of tanks – the powers and duties are all optional. In these few exceptional cases, the Government can order the City Corporation to do, or to stop doing, something. Other than this, what action, if any, a City Corporation takes under the Act is a political matter. In theory, persons could apply to the High Court to order the City Corporation to carry out its duties under the Act but there is not a strong history of that kind of litigation in Bangladesh. Administrative law is not well-developed.

viii. The Penal Code, 1860 (Act XIV of 1860)

The Penal Code 1860 (as amended from time to time) is not environmental legislation but it has been providing punishments for environmental crimes for nearly one and a half centuries. Sections 268 and 278 contain penalty provision for the following acts as specified in the law:

Public Nuisance

- A person is guilty of a public nuisance who does any act or is guilty of an illegal omission which causes any common injury, danger or annoyance to the public or to the people in general who dwell or occupy property in the vicinity, or which must necessarily cause injury, obstruction, danger or annoyance to persons who may have occasion to use any public right.[82]

Making Atmosphere Noxious to Health

- Whoever voluntarily vitiates the atmosphere in any place so as to make it noxious to the health or persons in general dwelling or carrying on business in the neighborhood or passing along a public way, shall be punished with fine which may extend to five hundred taka.[83]

Of course, the penalty of 500Tk for pollution, enacted in the 1860s, when it may have been one year's average income, is laughable today. Updating is needed. The advantage of the public nuisance provision is that courts can give injunctions to order the nuisance stopped, not merely license the nuisance by imposing a fine. This is a matter of common law, that courts can prohibit people from acting against the law and also is written into the Criminal Procedure Code 1898 (referred to below). A similar remedy is open for pollution ("noxious to health") under common law if the fine is not considered an effective solution.

[82] *The Penal Code 1860*, Section 268.
[83] *Ibid.,* Section 278.

ix. National 3R Strategy for Waste Management, 2010

Department of Environment under the Ministry of Environment and Forest developed the National 3R Strategy for Waste Management in 2010. The 3Rs are meant to a hierarchy, in order of importance – 'reduce' followed by 'reuse' and then 'recycle', which classify waste management strategies according to their desirability.

National 3R Goal

The national 3R goal for waste management is to achieve complete elimination of waste disposal in open dumps, rivers and flood plains by 2015. The National Goal promotes recycling of waste through mandatory segregation of waste at source. The goal also creates a market for recycled products and providing incentives for recycling of waste.

Strategies for Promotion of 3R

The main features of the National Strategy promoting 3R are:

- Prioritizing waste avoidance/reduction over recycling, and recycling over all other form and environmentally sound disposal;
- Reusing non-avoidable waste as far as possible;
- Promoting environment friendly raw materials;
- Maintaining content of hazardous content in the waste at the lowest possible level;
- Guaranteeing an environmentally sound residual waste treatment and disposal as basic prerequisite for human existence, environmental conservation and protect biodiversity.

Based on the guiding principles and the key issues, four general strategies (e.g. raising public awareness, engaging an affordable mix of technical options, strategies for sustainability and strategies for financing) and five sector specific strategies (e.g. domestic waste, hazardous waste from manufacturing industry, waste from agriculture, medical waste and addressing occupational safety and health management) have been recommended to promote 3R in waste sector.

3R is good guidance for policymakers and a desirable goal. However, it is not a law. What is more important is whether the resources are available to undertake expensive (at least capital expensive) initiatives for recycling and waste disposal. If not, it will become

yet another beautiful goal with no hope of achievement, such as abound in the politics of developing countries.

x. Draft Final Solid Waste Management Handling Rules, 2010

The draft Final Solid Waste Management Handling Rules, 2010 has already been approved by the Ministry of Environment and Forests, prepared under the BECA 1995, and sent to Ministry of Law, Justice and Parliamentary Affairs for final approval. The Rules focus on necessary details from collection of solid waste to its final disposal. The Rules provide that waste should be segregated at source, and how segregated waste should be collected and treated accordingly by the concerned authority, i.e. City Corporation or Municipality or *Upazila Parishad*. Most importantly, the Rules state that the Municipality or City Corporation will have to collect waste from each residence, either with their own employees or by engaging contractors. This will ensure more-efficient collection of waste from waste generation sources, especially as the alternative has been everyone taking their own waste to open tips for scraping up by the authorities later. In addition, the Rules have focused on reduction of waste at source. However, the necessary detailed guidelines have not been provided into this. The Rules have also included prohibition of temporary storage facilities and given guidance on transport of the collected waste to disposal sites.

The Rules provide detailed guidelines on landfill site development and operation. Landfill site selection, ensuring availability of necessary facilities, specification for land filling, pollution control, water quality examination of the area 50 meters from the edge of the outer boundary of the landfill site, air quality tests, tree plantation after completion of land filling, necessary activities to be carried out after completion of land filling, and special arrangements for hilly areas, as well as *hat-bazars* (village markets) outside municipal areas, are all encompassed in the draft Rules.

Finally, the Rules provide instructions regarding treatment of the waste. It also provides guidelines for aerobic/anaerobic digestion and energy recovery and how to involve private sector in waste treatment facilities.

The first obvious question is “Have these Rules really remained a draft for 5 years”? If so, maybe the Government is not serious about this but only using the draft to get headlines.

The Rules are detailed enough, if enforced, to make a real difference in the hygiene of waste disposal in Bangladesh. Again, the question of resources remains: open tips and drains require no money and, if that is what the local governments have, that is what they will use.

xi. The Rajshahi Town Development Authority Ordinance, 1976

The Act provides power to the Development Authority to formulate and execute plans and for the development of the town and certain areas in its vicinity. The relevant provisions of the Ordinance are quoted below:

- The Authority is responsible for preparing Master Plans in line with the General Development Plan. indicating land use zoning and land reservations, water supply, sewerage and drainage, roads, highways, traffic circulation, community planning, housing, slum clearance and slum improvement.[84]
- No person, without prior permission of the Authority will use any land for any purpose other than that land used in any Functional Master Plan approved by the Government.[85]
- All future development and construction, both public and private, will be in conformity with the Functional Master Plan approved by the Government within the area to which the Ordinance extends.[86]
- No compensation is payable for loss of rights to use land as prohibited under this Ordinance.[87]
- No person, without the previous sanction of the Authority, shall construct any building or excavate any tank within the area to which the Ordinance extends.[88]

The Ordinance provides for planned development, which is a good thing. One of the objects of this study will be to find out how effective these plans are in limiting pollution and preserving green space in practice.

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[84] *The Rajshahi Town Development Authority (RTDA) Ordinance, 1976*, Section 10.
[85] *Ibid.,* Section 12.1.
[86] *Ibid.,* Section 12.2.
[87] *Ibid.,* Section 12.3.
[88] *Ibid.,* Section 23.

xii. The Rajshahi Metropolitan Police Act, 1992

- This Act sets penalties up to two hundred Taka for committing nuisance which includes throwing litter, refuse, or rubbish, etc. in or near a street or public place.[89]

- This Act prohibits or controls the placing of building materials or other articles or the fastening or detention of any animal in any street or public places. Such kind of acts will be punishable with fine which may be extended to two thousand taka, and such materials or articles shall be liable to be confiscated by the State.[90]

Again, the penalty is outdated and needs to be updated. It is regularly ignored as animals, brick, sand, etc are regularly kept in public places in Rajshahi. It is not obviously a high priority for the police, who pass by these every day. The police are really not the right enforcement organisation for this kind of law. Perhaps the City Corporation should be given the enforcement power and obligation.

xiii. The Building Construction Act, 1952 (East Bengal Act II of 1953)

- It is an Act to provide for the prevention of haphazard construction of buildings and excavation of tanks, which are likely to interfere with the planning of certain areas in Bangladesh.

- The Act imposes restriction on construction of buildings and excavation of tanks without the prior permission of the authorized officer. It has restricted the improper use of lands and buildings. It is further directed to remove the construction, or fill the tank excavated, without the required approval.[91]

- Under the law, if the owner is directed to remove the construction or fill the tank excavated and the authority must remove or fill it, the cost incurred for it, will be recovered as fine under section 386 of the Code of Criminal Procedure 1898.[92]

It is probably a necessary law and the provision for making the owner pay for removal of illegal construction is both fair and probably effective.

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[89] *The Rajshahi Metropolitan Police Act, 1992*, Article 80.
[90] *Ibid*., Article 72.
[91] *The Building Construction Act 1952*, Section 3 (A) (B).
[92] *Ibid.,* Section 7.

xiv. The National Biodiversity Action Plan, 2006

- In response to the International Convention of Biological Diversity, National Biodiversity Action Plan was prepared by GOB in 2006 with a major objective to conserve and restore biodiversity of the country. One of the key strategies of conserving the biodiversity is to integrate relevant biological issues by using EIA.

Like the 3R Goals, it is a commendable plan but not a law. Also resources will be required to make it implementable, especially where restoration and not merely conservation is needed. It looks too much like a document to be attached to proposals to donors to make the country seem worthy of aid because it is following the International Convention.

xv. The National Conservation Strategy, 1992

The National Conservation Strategy specifies some strategies for sustainable development:

- Planning functions of urban authorities with EIA capability should be in streamlined;
- Any urban land development plan should also incorporate transportation planning systems;
- Physical expansion of cities should only be carried out based on sound planning;
- There should be provision for adequate urban open space and recreation areas.

This is another attractive set of goals with no resources, no legal status and no implementation strategy. It seems to be marketing for aid applications.

xvi. Other Laws

Apart from the policies and laws mentioned above, the following laws are also directly or indirectly linked with the present study especially with the environmental impacts assessment of development activities:

- **The Criminal Procedure Code, 1898** - gives a Magistrate power to issue orders for removal of public nuisance and to prohibit repetition of public nuisance.
- **The Bangladesh Forest Act, 1972-** prohibits any damage by negligence for damaging or cutting down any tree and timber. This Act requires all development projects and all agencies cutting trees to carry out re-plantation.

- **The Bangladesh Wildlife Preservation Act, 1973** provides that no person damage or destroy any vegetation in any wildlife sanctuary; cause any fire in a wildlife shelter; or pollute water flowing in or through a wildlife sanctuary.
- **The Protection and Conservation of Fish Rules, 1985** prohibits construction of bunds, weirs, dams and embankments or any other structures, whether temporary or permanent, in, on, across over the rivers, canals, khals or beels for any purpose other than irrigation, flood control or drainage.
- **The Protection and Conservation of Fish Act, 1950** prohibits the destruction of or any attempt to destroy fishes by poisoning of water or the depletion of fisheries by pollution, by trade effluent or otherwise.

4.2.3 Civil Society and NGOs

i. National Level Civil Society and NGOs

Although the Parliament is the sole authority for enacting laws and the Ministry and Department of the Environment play a vital role in enforcing the laws, the civil society and NGOs show an increasing interest in the environment. The views and opinions of civil society and NGOs are now given more importance by the Government.

The Association of Development Agencies in Bangladesh (ADAB), a federation of NGOs and voluntary associations, is committing itself to various environmental activities. Because of its grass root network across the country, ADAB has the advantage of mobilizing the community towards environmental activities.

The formulation of NEMAP and its follow-up actions through SEMP are, to a great extent, driven by the NGOs and civil society, unlike other development programs. Some large NGOs have set up environment cells within their organizational structure.

More recently, NGOs working in the field of the environment have united themselves under the banner of Coalition of Environmental NGOs (CEN) for better coordination and concerted actions on key environmental issues. The CEN publishes newsletters to highlight environmental issues, to increase awareness of the citizens.

Other civil organizations and NGOs, working for the environment include Bangladesh Environmental Lawyers Association (BELA) and Forum of Environmental Journalist Association of Bangladesh. BELA has filed a number of public interest petitions against the Government on environmental grounds. This has allowed the High Court to make a positive impact on environmental protection.

The only NGO directly related to EIA activities in Bangladesh is the National EIA Association of Bangladesh (NEAB), which was formed in late 1997. It provides a platform for the EIA planners, practitioners and enforcing agencies in Bangladesh. Since its inception, NEAB has been working to create awareness of EIA in all sectors of government planning. It assists in the development and extension of EIA, prescribing a Code of Conduct for EIA professionals, building national capability and establishing a liaison between EIA practitioners and policymakers in Bangladesh. A Memorandum of Understanding was signed between the NEAB and International Union for Conservation of Nature (IUCN), Bangladesh Country Office, in 1999. Under the agreement, IUCN's Asia Regional Environmental Assessment Program, based in Kathmandu, Nepal, and NEAB are working together to strengthen environmental assessment capacity in Bangladesh.

Many national and local newspapers and periodicals have introduced *Environmental Pages* on a regular basis. Television and radio are also engaged in broadcasting environmental issues of national and global implications.

The civil societies and NGOs have established effective linkages with the regional and international agencies including the UN agencies like ESCAP, UNEP, and UNDP, for implementing environmental programs. They have provided training, workshops, seminars etc. on a collaborative basis. Some research and educational institutions provide important information and policy guidelines to the Government, civil society and NGOs on environmental issues.

The recently-launched organization, Bangladesh Environment Network (BEN) is a grand forum of individuals and institutions, representing academicians, scientists, engineers, researchers, NGOs, civil society from the country and expatriate Bangladeshis engaged in academic research in the developed world. There is a potential there for these members to facilitate one another in conducting research and developing workable alternative methods for environmentally-friendly solutions, then advocating for them.

ii. Local Level Civil Society and NGOs

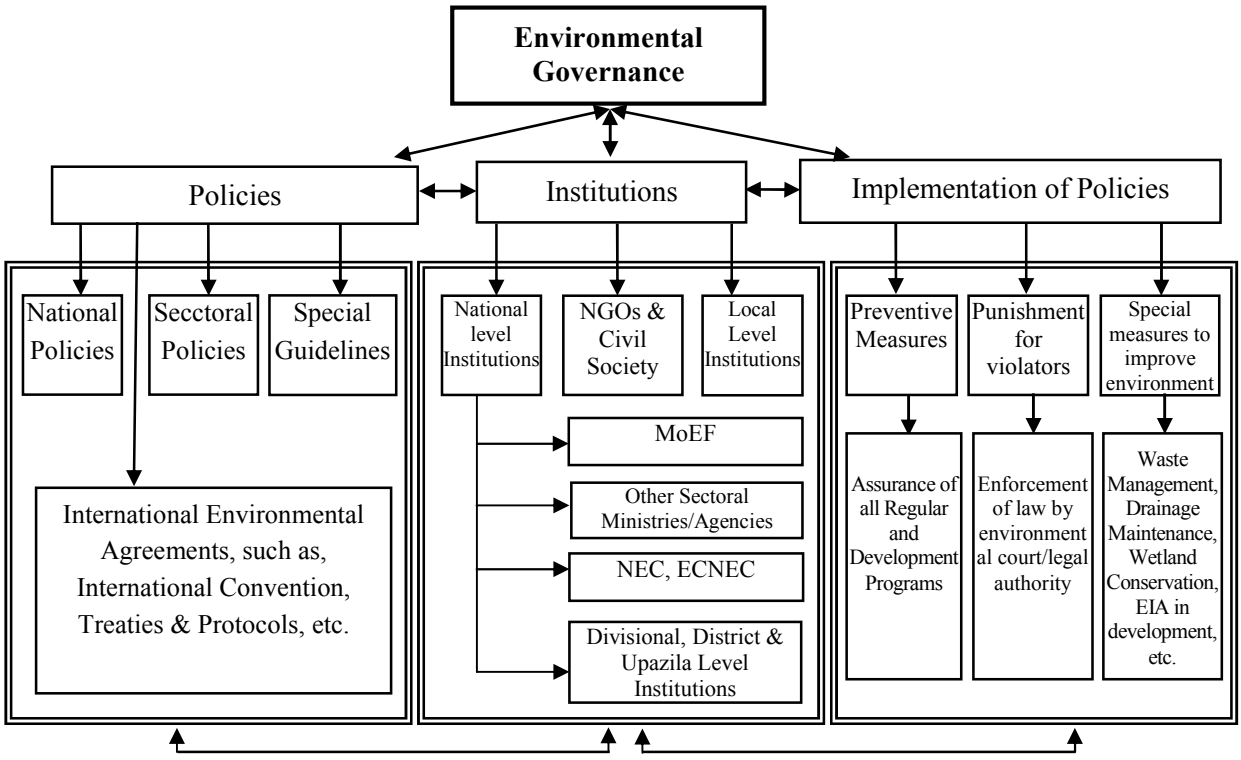
In Rajshahi City, there is no civil society organization that is strong enough to drive environmental issues in the city. There are some environmental civil society organizations in the city which are working on the environment: like Heritage Rajshahi, NGO Forum, *Rajshahi Paribesh Andolon* (RAPA), the Bangladesh Environmental Lawyers Association (BELA), Nagarik Committee, etc.

Among them, BELA is more active in the city than other organizations. BELA achieves its organizational objectives through: research and filing of legal cases; sensitizing people to environmental issues; providing legal assistance; developing useful networks; and undertaking legislative advocacy.

Based on the above discussions, a diagram has been drawn (Figure 4.4) to show the existing framework in the governance of environment in Bangladesh.

Figure 4.4

Environmental Governance Framework in Bangladesh



[Source: Author's Framework]

4.3 Major Weaknesses of the Regulatory Framework

The organizational and institutional reforms, especially the creation of the MoEF and the upgradation of the DOE are important steps to strengthen the environment-related governance framework of the country. The enactment of the relevant laws and rules for conservation and protection of the environment provides legal strength to the concerned organizations. Moreover, growing importance is now given to environmental issues in development plans by the Planning Commission, the central planning authority of the Bangladesh Government. The emergence of civil society groups, and NGOs and their active participation in the environmental area, is a positive step to further energizing environmental activities in the country. In terms of global environmental governance, the actors are the extended version of the national Governments. Even the global NGOs and corporate authorities are also participating in and within institutional representation.

Despite the positive changes in institutional and legal aspects of the environment, major weaknesses are found in the legal structure. The implementation of the regulatory frameworks has been bogged down due to some structural and functional limitations which are as follows:

- The existing laws, especially the Local Government (City Corporation) Act 2009 can be criticized for their non-punitive approach. Only a few laws, like The Penal Code, Bangladesh Environment Conservation Act 1995, etc. provide for punishment, but these are also too marginal to influence people's attitude. Often the penalties are outdated, involving fines that have become trivial with currency depreciation over as much as 100 years. Powers and duties are given to local governments but compliance is, with some exceptions, totally at their discretion.
- Although the Building Construction Act 1952 is not directly related with solid waste management, during construction of a building it is seen that people usually keep their construction materials or rubble (building waste) in the road or covering pedestrian walking space. This creates public nuisance. This matter is not clearly spelt out in the law, nor is the provision to knock down the building at the constructor's expense always a sufficient solution.

- Public consultation must be a part of the statutory process of environmental issue consideration of development projects. It would make the environmental assessment effective and meaningful. But, there is no provision in the legal framework to ensure effective engagement and participation of the community in planning and implementation of development activities.
- The BECA and ECR do not provide clear guidelines for environmental assessment of non-industrial projects.
- The Penal Code 1860, the Town Improvement Act 1953, and the Building Construction Act 1952 are outdated laws. These laws need to be updated to meet the present day needs of the country.
- The legal framework that regulates solid waste management in Bangladesh is not adequate to ensure suitable and environmentally-sound management of urban solid waste. The laws provide that local governments will make adequate arrangements for removal and collection of waste from public streets or places and for proper disposal of such waste. However, in the current statute, there is no definition that clearly describes 'adequate arrangement'.
- There is a lack of specific guidelines or rules for primary collection. Concerned rules and roles of various actors are not clearly identified and informed to the public. Stakeholders do not have a platform for discussion and coordination of development of waste management programs nor is the program transparent to them.
- A legal framework is lacking to require burning, isolated treatment and disposal of infectious and hazardous clinical and industrial waste by the generators themselves.
- The Local Government (City Corporation) Act 2009 does not contain any provision indicating clearly the stakeholder's role in environmental management, including waste management.
- Section 7 of the Bangladesh Environment Conservation Act 1995 provides that, if it appears to the Director-General (DG) of DoE that any act or omission is causing harm to the ecosystem, then he may determine the compensation and direct the person to pay it. However, although punishment has been prescribed for violation of the direction in this section, the Act or Rules of 1997 have yet to spell out the procedure by which to calculate environmental damage for the purpose of paying compensation.

- The Draft Solid Waste Management Rules 2010 and National 3R strategy have been prepared under the Environment Conservation Act 1995, which prescribes concrete guidelines and standard for collection, transportation, disposal, recycling and source separation of waste, and recommend involvement of private sector. But these Rules have not been put into practice yet. These Rules might have an influence on improving the waste management scenario in Bangladesh.
- The legal framework in governance of urban ponds is very weak in Bangladesh. The existing regulations do not contain strict penal provisions for ensuring conservation of urban ponds. The main legislation- Water Body Reservoir Conservation Act 2000 - suggests either not more than 5 years jail or not more than 50,000 taka if anybody illegally fills up a pond. This punitive measure has not proven sufficient to control the illegal filling of urban ponds.
- Urban water bodies, including ponds, are regularly polluted through disposal of solid wastes and waste water from the drains. But there is no strict provision in the laws to control such activities.
- People's participation in the governance process is very much helpful to ensure good governance. The legal framework regulating ponds in the cities does not contain any provision to involve people's participation in conservation of ponds.
- The legal provisions do not clearly spell out the particular responsibilities of the local level governing organizations in conservation of ponds in Rajshahi city.
- The Environment Court enjoys exclusive jurisdiction for trial of an offence or for compensation falling under the Bangladesh Environment Conservation Act and other environmental laws to be specified by the Government. But the Government have not declared any other law to be dealt with by the Environment Court.
- The Environment Court is a special type of court and the court must have separate rules to be followed for the proper adjudication of environmental cases. Nevertheless, the Government has not yet framed such rules to spell out the procedures of the said court. Instead it relies on civil law and criminal procedure, which may not be suitable for such cases. Often, wrong is done to the environment by lack of resources, lack of knowledge or inadequate technology rather than by conscious evildoing.

- All executive or decision-making power is concentrated at the top, such as DoE. DoE is a regulatory and enforcement department but it is highly centralized and lacks significant presence at regional and local level. This causes decision-making, as well as enforcing of the environmental laws, to be done in a small percentage of total cases, as well as opening the door to corruption by backroom deals with top civil servants. Decisions might be made in Dhaka with little knowledge of the local ecosystems.

4.4 Chapter Conclusion

The Constitution of Bangladesh describes the improvement of public health, as well as protection and improvement of the environment, among the primary duties of the State. To meet this Constitutional obligation, the GoB has taken initiatives for ensuring environmental governance in the country. The Ministry of Environment and Forest, different governmental and non-governmental organizations, different agencies, departments and institutions are working all over the country in this respect. Bangladesh has signed, ratified and acceded to different international conventions, treaties and protocols related to environment.

GoB has enacted a number of laws in different periods for ensuring a sound environment. Among them, the Environment Policy 1992, Environment Action Plan 1992, Bangladesh Environment Conservation Act 1995, Bangladesh Environment Conservation Rules 1997, Environment Court Act 2000, and the Water Reservoir Conservation Act 2000, are the most noteworthy. The Environment Conservation Act 1995 is treated as the landmark law, covering all sectors of environmental problems in Bangladesh. In addition, Parliament has enacted the Local Government (City Corporation) Act, 2009 which is a combination and coordination of existing Acts and Ordinances related to City Corporations. Presently, all the City Corporations of Bangladesh act under this Local Government (City Corporation) Act, 2009, according to which they perform a great deal of routine and assigned activities to ensure environmental governance in City Corporations.

The existing environmental rules and regulations prescribe compliance with environmental protection by all departments and institutions, public and private. The legal framework also contains the necessary provisions for the management and conservation

of urban water bodies. The water bodies that are marked cannot be filled or changed in nature. The policies also provide punitive measures for different types for environment polluting or damaging activities.

However, there are some structural and functional cleavages in the environmental governance frameworks. The major ones are:

(1) absence of clear provision for people's participation in the environmental decision-making process;

(2) absence of strict penal provisions;

(3) lack of separate laws for solid waste management (only some draft rules that were never finalized);

(4) lack of institutional capacity of the environmental governance authorities at the central and local level;

Due to these limitations, the framework of environmental governance cannot produce good environmental results and the Bangladesh environment is bad and worsening. . So, for the greater welfare of the country and people, effective steps should be taken by the authorities concerned to review and update the existing environmental governance framework and to implement it properly.

Chapter 5

Environmental Issue Consideration in Development Activities of RCC

5.1 Introduction

The impact of infrastructural development on the environment is increasing. The interference of unplanned development activities in the local ecosystems is taking its toll in most developing countries. Local government bodies in Bangladesh have been vested with the responsibility for planning and implementation of a wide range of development activities: construction of roads, bridges, culverts, housing, potable water supply and irrigation, flood control, recreation centre and markets, etc. Such activities are needed to improve the socio-economic conditions of the poorest people in a poor land[1].

So, there can be no compromise on development: it is necessary. Yet environmental compliance in case of such development activities is also essential. Without environmentally-sound development, resources will be destroyed or wasted. In the long run, that will leave both the land and people yet poorer, so development will produce poverty.

Urban local government bodies in Bangladesh usually implement a wide variety of infrastructure development projects every year. In accordance with the legal framework, during planning and implementation of these projects, the environmental impact of these projects must be assessed. Environmental governance presents a set of environmental protection parameters to analyze the adverse environmental consequences of the projects. Then it is up to the agency which carries out the project to adopt appropriate measures to eliminate, or reduce to acceptable levels, such adverse consequences. This is a sensible policy to carry out development without environmental degradation.

Several studies reveal that the present urban environmental condition of Bangladesh is not improving. Good policy is there, in the form of environmental impact assessment and a duty to act on it. Yet it is not working. Development is chipping away at the environment.

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[1] Asian Development Bank, *Country Environmental Analysis: Bangladesh* (Manila: Asian Development Bank, 2004), p. 30.

One of the reasons for the gap between policy and implementation in urban development is that concerned rules and regulations are not properly enforced by the urban authorities during planning and implementation of development projects. So, proper study is required to measure the extent to which urban bodies obey rules and regulations in considering environmental issues in their development projects. This chapter is an in-depth investigation of the RCC's practice in integrating environmental issues into the planning of development activities.

5.2 History of Environmental Assessment in Bangladesh

The Water Pollution Control Act 1973, the Bangladesh Wildlife (Preservation) Act 1973 and the Environmental Pollution Control Ordinance 1977 have been the key environmental initiatives in Bangladesh since independence. In 1989, the Government created a separate Ministry, the MoEF, and restructured the DoE. EIA was identified as a management tool for sustainable development of the country in October 1991, when the MoEF prepared the Bangladesh Country Report for United Nations Conference on Environment and Development.[2]

The National Environmental Policy 1992 first incorporated a provision to require Environmental Impact Assessment (EIA) for all new public and private projects. The National Conservation Strategy 1992 also recommended mandatory provision of EIA for development activities. The National Environmental Committee was formed in 1993, headed by the Prime Minister, to address environmental issues at the central level.

The USAID-assisted Flood Action Plan 1992 also prepared the Guideline for EIA to use in ongoing and future FAP studies as well as for Flood Control, Drainage and Irrigation Projects.[3] The guidelines suggest full and active participation of the project-affected people and consultation with representatives of concerned Ministries, donor groups and agencies, and other interested parties, at all steps of the EIA procedure.[4] As a companion to the guideline, the Manual for Environmental Impact Assessment was prepared, in 1995, to cover the technical aspects of EIA. These two documents are the first attempts to identify the

[2] GoB, *Bangladesh Country Report for United Nations Conference on Environment and Development* (Dhaka: Ministry of Environment and Forest, 1991).

[3] Bangladesh Flood Action Plan, *Guidelines for Environmental Impact Assessment*, Irrigation Support Project for Asia and the Near East (Dhaka: USAID, 1992), pp. 12-55.

[4] *Ibid.,* p. 26.

environmental impact of development activities in Bangladesh. They are still in use for medium and large-scale projects in the water sector.[5] Another manual entitled *Guidelines on Environmental Issues Related to Physical Planning* was prepared by the Local Government and Engineering Department in 1992, which is limited to environmental assessment of small-scale selected rural infrastructure development programs.[6]

EIA was also addressed in a number of major Government policy documents, including the National Energy Policy 1995, the National Power Policy 1995, the National Water Policy 1998, National Environment Management Action Plan (NEMAP) (1995-2005) and the Fifth Five-Year Plan 1997–2002.[7] Environmental Impact Assessment gained formal status in Bangladesh through the enactment of the Bangladesh Environment Conservation Act (BECA) 1995 and the Environment Conservation Rules (ECR) 1997. The ECR 1997, promulgated under the BECA 1995, prescribes Initial Environmental Examination (IEE) and EIA as well as formulating an Environmental Management Plan (EMP), according to categories of industries and development projects or activities.

5.3 Environmental Compliance Procedures of Development Projects

Different environmental rules and regulations provide different procedures to consider environmental issues in the development activities of the country. These rules and regulations emphasize mainly on the obligation of environmental clearance from the Government and undertaking EIA depending on categories of the proposed projects. BECA 1995 provides, in section 12 that:

> No industry shall be established and no project shall be undertaken anywhere without obtaining environmental clearance from the DG of DoE, in the manner prescribed by the Rules.[8]

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[5] Khorshed Alam, "The Environment and Policy-making in Bangladesh", p. 255; Available at: https://eprints.usq.edu.au/1937/1/Alam_Chapter13.pdf, [accessed on July 21, 2013].

[6] Chowdhury, et. al. ed., *Hand Book: Environmental Procedures and Guidelines* (Dhaka: Environment and Development Alliance, 1999), pp. 40-41.

[7] Rafique Ahammed and Nick Harvey, "Evaluation of Environmental Impact Assessment Procedures and Practice in Bangladesh", *Impact Assessment and Project Appraisal*, 22:1, p. 66; Available at: http://www.tandfonline.com/doi/pdf/10.3152/147154604781766102, [accessed on July 21, 2013].

[8] *The Bangladesh Environment Conservation Act 1995,* Section 12.

The rules for preparing EIA for proposed development projects in Bangladesh have been stipulated by the Environmental Conservation Rules, 1997. The legal procedures for environmental clearance and EIA are described below.

5.3.1 Procedure for Obtaining Environmental Clearance Certificate

ECR 1997 provides a framework for environmental evaluation of proposed development projects in all sectors and prescribes procedures for obtaining Environmental Clearance Certificates. In order to facilitate the process of issuing Environmental Clearance Certificate (ECC), the ECR has classified all industrial units and projects into four categories on the basis of their site conditions and environmental impacts. These are:

(a) Green

(b) Orange A

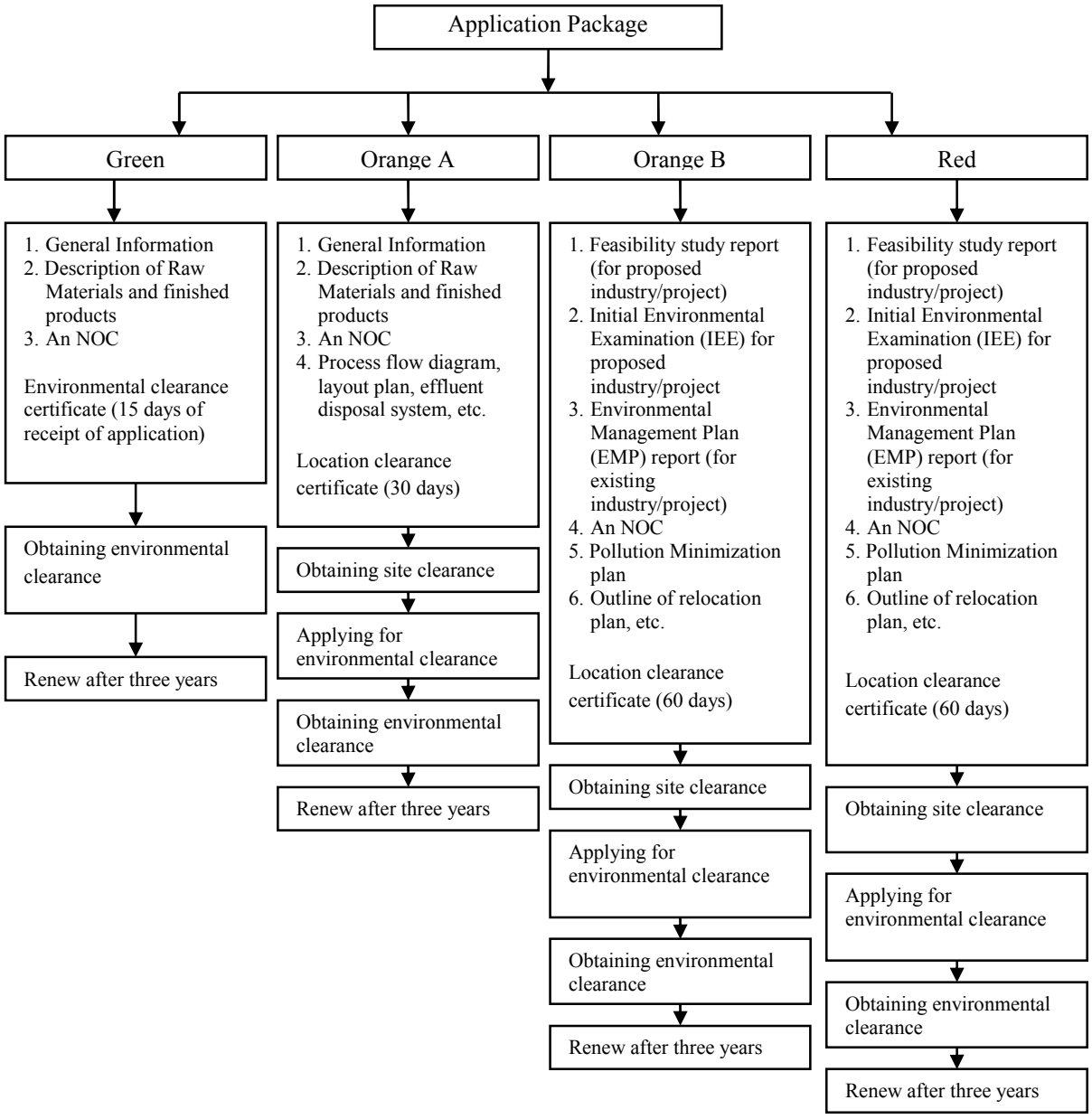
(c) Orange B, and

(d) Red.

The ECR prescribes different procedures for the issuance of ECCs, depending on the type of the proposed projects. According to the ECR, ECC is issued to all existing and proposed industrial units and projects, under Green category, without undergoing EIA. For the category of Orange A and B and Red projects, it requires location clearance certificate, EIA and the satisfactory submission of the required documents. For ECC, the project proponent should apply to the concerned Divisional Officer of the Department through prescribed format (Form 3, mentioned in Rule 7). They should be accompanied with the documents as specified in Figure 5.1.

Figure 5.1

Procedure of environmental clearance for development projects



[Source: S. Mumtaz, "Environmental Impact Assessment in Bangladesh", *Environmental Impact Assessment Review*, vol.22 (2002), p. 166-169]

Environmental clearance has to be obtained in two steps: first, location clearance (not required for green projects) and thereafter environmental clearance. The Director-General has discretionary power to exempt the proponent from obtaining location clearance. It has a maximum time limit of 30 working days for Orange- A, and 60 working days for Orange-B and Red projects. The limits for environmental clearance or rejection are 15 days for green and Orange-A, 30 days for Orange-B and 60 days for Red projects.

The environmental clearance issued by the DoE remains valid for three years for green projects, and one year for other categories. The environmental clearance can be renewed for a further term prior to 30 days before the original expiry date.

5.3.2 Environmental Impact Assessment (EIA) Procedure

EIA is a process used to evaluate the likely environmental consequences of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse. United Nations Environment Program (UNEP) defines EIA as a tool used to identify the environmental, social and economic impacts of a project prior to decision-making. It aims to predict significant impacts early in the project cycle, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options to decision-makers to analyze the trade-offs involved in choosing between alternative actions. EIA attempts to:

- describe the existing environmental conditions;
- identify various activities to be undertaken for a particular project;
- predict the consequences with the project on environment;
- define options, cost, procedure of damages;
- propose most cost-effective mitigating measures for unavoidable impacts;
- identify residuals;
- propose alternative courses of action; and
- identify resources needed for each.

EIA process of the development project in Bangladesh consists of six steps. These are:

(1) Project Screening based on Schedule 1 of ECR

Initial screening of a project is the first and simplest tier of project evaluation to decide whether or not to conduct an EIA.

EIA is not necessary for every kind of development project. Before conducting a full-scale EIA, a screening technique is applied to determine whether an EIA is required. Initial screening procedure divides projects into three categories:

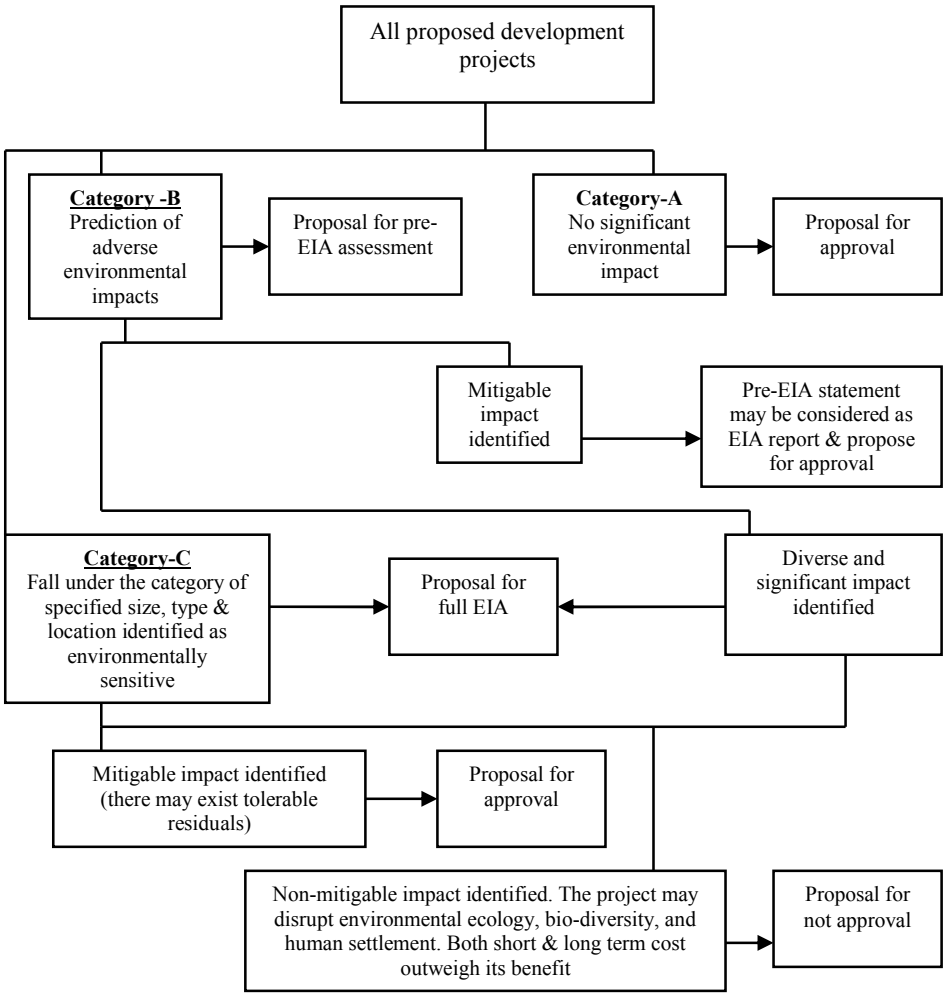
A Category: projects do not clearly require an EIA;

B Category: the requirement of an EIA is not clear and therefore further analysis or screening is necessary; and

C Category: projects clearly require an EIA.[9] The following flow chart (Figure 5.2), at a glance, may give us an overview of how we can integrate EIA into the project approval procedure.

Figure 5.2

Integration of EIA into the Project Approval Procedure



[Source: M. Khurshed Alam, "Procedures of Environmental Impact Assessment: Bangladesh Perspective," *Development Review,* Vol. 9, (Dhaka, January-June 1996), p. 47]

[9] M. Khurshed Alam, "Procedures of Environmental Impact Assessment: Bangladesh Perspective," *Development Review*, Vol. 9, (Dhaka, January-June 1996), pp. 44-48.

(2) Preparation of Initial Environmental Examination/Evaluation

Scoping is the second stage in EIA process. But in Bangladesh, Initial Environmental Evaluation (IEE) replaces scoping and becomes the prime document for environmental clearance for Orange and Red categories of projects. After screening, the developer is obliged to prepare an IEE, based on pre-feasibility level of information, and to define the basic principles and objectives of the project. This document identifies the proposed location of the project and the potential environmental and social impacts[10].

(3) Issuance of Site Clearance Certificate

On the basis of the IEE report, the DoE issues a Site Clearance Certificate (SCC). IEE is also required to find whether or not a full EIA is required. At this stage, preliminary cost estimates and alternative locations for the project are also determined.[11] The DoE reviews the IEE report and determines whether or not a full EIA is necessary.

Generally, EIA is required prior to issuance of approval to start construction. The decision regarding the need for an EIA is issued as a part of the site clearance.[12] A full EIA is generally required for the projects that are in Red category,

(4) Preparation of the Terms of Reference

The Terms of Reference (ToR) briefly describe the proposed project, identify the issues and potential impacts of the project and provide the details of basis for further study. After the SCC has been issued, the developer starts preparing a ToR for carrying out a complete EIA study. The developer should consult with the relevant Departments and Ministries prior to submitting the ToR for review and approval. This will facilitate preparation of an acceptable ToR[13].

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[10] R.B. Khadka and U.S. Shrestha, "Process and Procedures of Environmental Impact Assessment Application in Some Countries of South Asia: A Review Study," *Journal of Environmental Science and Technology,* vol. 4 (3), (2011), p. 219.

[11] *Environmental Conservation Rules,* 1997.

[12] S. Mumtaz, "Environmental Impact Assessment in Bangladesh: A critical review", *Environmental Impact Assessment Review*, Vol.22 (2002), pp. 166-169.

[13] R.B. Khadka and U.S. Shrestha, *Ibid.*

(5) Submission of Draft EIA Report

Within the time frame outlined in the ToR, the developer will conduct the study to develop a draft EIA report. In the process, the developer consults with the relevant Departments, such as the Departments of Agriculture, Fisheries and Forests, etc. The draft EIA Report includes baseline physical, biological and social conditions at the project site and identification of the potential impacts on the physical, biological and social situation of the proposed project sites. The draft report should also contain proposed remedies as mitigation measures including resettlement and rehabilitation plans. The draft EIA report is submitted to DoE for reviewing comments. Based on review and comments, the draft report is revised and submitted in final form for approval and issuance of authorization for the construction of the development project[14].

(6) Submission of the Final EIA Report with Management and Monitoring Plan

After submission of the final EIA Report, the developer is notified about the approval of the final EIA report. At this point, he may begin construction of the proposed project. The ECC for the project is not issued until the project construction has been finished and becomes ready for operation. Prior to issuing the ECC, DoE will conduct an inspection of the project and will determine, on the basis of the conditions of the site, whether commitments made in the EIA have been implemented properly.

A relatively-detailed description of mechanisms for compliance monitoring for site clearance and environmental clearance is provided in the ECR. In accordance with the Rules, citizens and governmental officials may lodge petitions against any adverse impact of development. The petition will be reviewed by an appellate body that can impose fine or penalty. At the extreme, it may also give the order for closing down the development project. The ECC is issued for a three-year period for a development project. During this period, the Ministry maintains a constant vigilance over the operation of the development[15].

No provision for consultation with the project-affected people or other stakeholders is provided in the ECR. The only requirement of consultation is with the DoE and other Departments during the preparation of the IEE and draft EIA report. However, an extensive consultation with the project-affected people and stakeholders is conducted as

[14] *Ibid*.
[15] R.B. Khadka and U.S. Shrestha, *op. cit.,* p. 220..

per requirement of the donors and lenders, if the project requires financial assistance from foreign donors or lenders.

The DoE is responsible for monitoring the project after it becomes operational and may examine environmental conditions and the effectiveness of mitigation measures. If it is necessary, the DoE retains the authority to assure compliance with the agreed mitigation plan and maintain the environmental quality standards[16].

5.4 Environmental Compliances in Project Preparation and Approval

Although the BECA 1995 and ECR 1997 contain provisions for undertaking environmental assessment of proposed development projects in all sectors, they do not provide specific guidelines for local government bodies to use in conducting and reviewing the environmental assessment of non-industrial projects.[17] Now, the local government bodies follow a manual, entitled *Guidelines on Environmental Issues Related to Physical Planning*, developed by the Local Government Engineering Department in 1992, for small-scale infrastructure development projects. On the other hand, *Guideline for EIA 1992* and the *Manual for Environmental Impact Assessment 1995* are used for medium and large-scale projects in the water sector.

According to these procedures, the Planning Commission invites project proposals from Ministries or agencies, as per national priorities reflected in the Five Year Plan objectives. In fact, project-executing agencies select suitable projects by conducting preliminary feasibility studies and thus prepare project profiles within a prescribed format, the Development Project Proforma/Proposal (DPP) [18]. The DPP guidelines (Section 23 of DPP) contain provision for a brief description of the effect/impact of the project and specific mitigation measures of adverse impacts thereof, if any, on the environment (land, water, air, bio-diversity etc). [19] Every executing agency of the project has the

[16] *Ibid*.

[17] Salauddin M. Aminuzzaman, Environment Policy of Bangladesh: A Case Study of an Ambitious Policy with Implementation Snag, Paper presented to *South Asia Climate Change Forum*, organized by Monash Sustainability Institute, Monash University, Australia, 5-9 July, 2010, p. 11.

[18] DPP means the proposal of the project to be undertaken, which mainly includes the location of the project and objectives, components and estimated cost summary, justification of the project, source of finance and benefits of the project. The DPP of the project is prepared by executive agency of the project. For details, see *Annexure-III*.

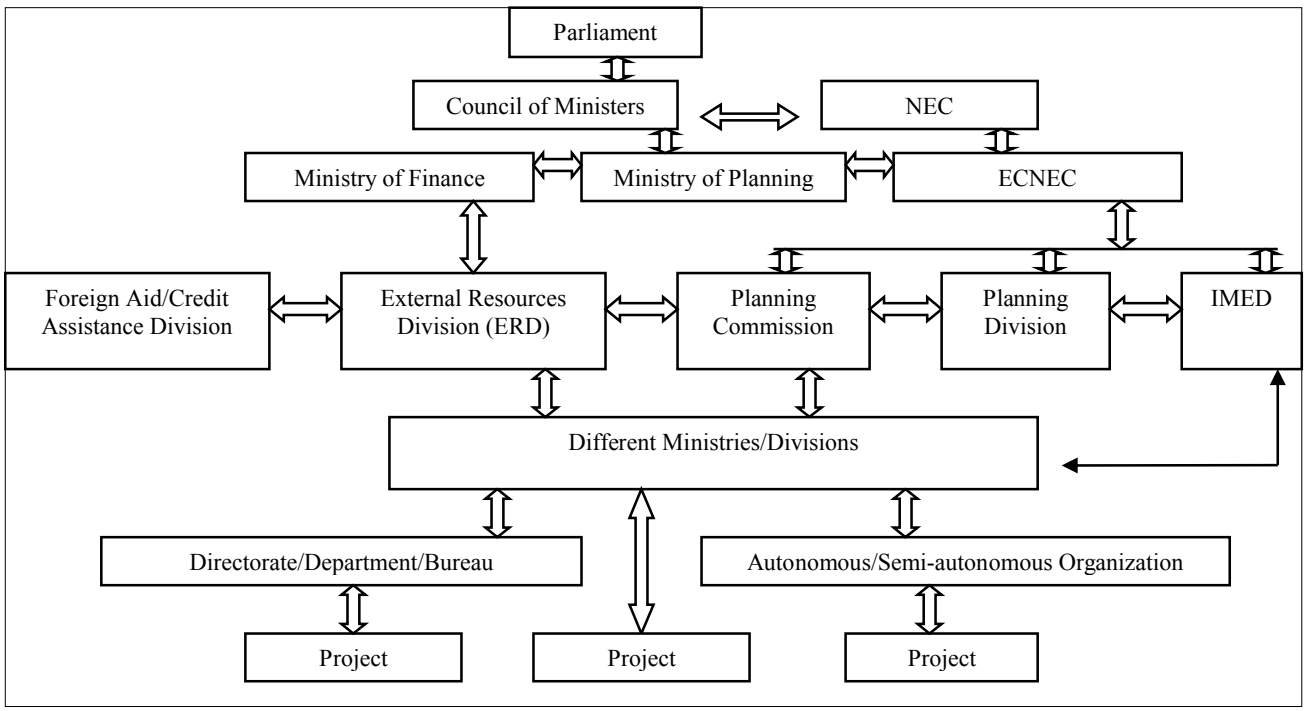
[19] GoB Circular, *Preparation, Processing and Approval Procedures of Development Projects*, (Dhaka: Planning Division, Ministry of Planning, 2008), p.25.

responsibility to identify the potential environmental impacts of the project and to suggest specific mitigation measures in the DPP, following the legal procedure of environmental assessment of the project. A detailed DPP is available for reference in *Annexure III.*

Preparation, processing and approval procedures of development projects may vary due to difference in the investment size, sources of fund and nature of projects. Moreover, separate project proforma are used for different types of projects and are processed and approved by different committees and councils. In principle, however, all development projects under different Ministries are initially examined by the Planning Cell of the respective Ministry, in the context of sectoral targets, allocations, priority and viability, before forwarding to the appropriate authority for further processing[20]. However, the institutions that are involved in planning and implementation of development projects and their linkage have been shown through the following diagram (Figure 5.3):

Figure 5.3

Institutional Set-up for Planning and Implementation of Development Project



[Source: S.J. Anwar Zahid, *Rural Development Planning and Project Management in Bangladesh* (Comilla: Bangladesh Academy for Rural Development, 2005), p. 67.]

[20] S.J. Anwar Zahid, *Rural Development Planning and Project Management in Bangladesh* (Comilla: Bangladesh Academy for Rural Development, 2005), p. 68.

5.5 Environmental Issue Consideration by RCC: Analysis of Field Data

In order to explore the practical implication of policies concerned, the matter of environmental issue consideration in development activities of RCC was investigated. Side-by-side, some case studies have been conducted to get a more comprehensive understanding about the matter of environmental issue consideration. These case studies are selected development projects which have already been completed by the RCC. The Development Project Proforma/Proposal (DPP) of selected projects and their Project Completion Reports (PCR) have been studied. At the same time, RCC stakeholders and officials have also been interviewed in this regard. The study findings have been presented below.

5.5.1 Consideration of Environmental Issues in Planning

The planning process of development projects requires primary consultation with a broad base of groups: beneficiaries, project-affected persons and community leaders, elected representatives, disadvantaged groups and different development agencies in the area.[21] In other words, local people are to be involved in determining the relationship between socio-economic development and the environment. This process is helpful to develop effective methods of "people involvement" in project design, management, operation and maintenance, monitoring and evaluation, keeping the environmental issues in the centre of the planning.[22]

During interviews, most of the respondents (86.87%) report that RCC does not consult with them at the time of planning of development projects, while 13.33% of the respondents abstained from answering. No one said that RCC consults with them in this regard.

On the other hand, 39.44% of respondents believe that RCC does not consider environmental issues during planning of development projects while 59.44% say that RCC moderately considers environmental issues. Only 1.11% of the respondents say that RCC fully takes environmental issues into account in planning development projects.

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[21] Golam Rabbani, "Environmental Governance: Policies and Practices at Local Government Level in Bangladesh", *Institute of Bangladesh Studies Journal,* Vol. 35, (Rajshahi University, 2012), p. 57.

[22] J.U. Chowdhury, et. al., "Flood Loss Reduction in Bangladesh: Integrating Environmental Considerations into Economic Policy Making Processes", Vol. IV, United Nations, New York 2003, p. 84.

In response to another question, the vast majority (74.44%) of the respondents replied that they do not give any information to the RCC authority for improving environment of their area. Only 13.89% of the respondents stated that they provide information to RCC in this regard. Only 11.67% of respondents refrained from answering. Table 5.1 shows the data.

Table 5.1

Consideration of Environmental Issues in Planning

Variables		Frequency
Does RCC consult with you during planning of development projects?	Yes	00 (00%)
	No	156 (86.87%)
	No Comment	24 (13.33%)
Do you think that RCC considers environmental issues during planning of development projects?	Zero Consideration	71 (39.44%)
	Moderate Consideration	107 (59.44%)
	Full Consideration	02 (1.11%)
Do you give any information to the RCC for improving environment of your area?	Yes	25 (13.89%)
	No	134 (74.44%)
	No Comment	21 (11.67%)

[Source: Field Survey 2014]

The study findings also reveal that, in spite of having guidelines, RCC does not consider environmental issues fully during planning of development projects. In this regard, the study shows that lack of mandatory provisions in the legal framework for environmental assessment in local government development projects makes such a course of conduct possible and easy for local councils. Although BECA 1995 and ECR 1997 contain provision for undertaking environmental assessment for proposed development projects in all sectors, they do not provide specific guidelines or requirements for the local government bodies to conduct and review the environmental assessment of non-industrial projects.

The study also finds lack of awareness of key players about environmental management. During Key Informant Interviews (KII), RCC's Executive Engineer said,

> We have resource constraints. We do not have enough manpower. While making the plans, we have to follow the Development Project Proforma (DPP) of the Planning Commission that does not contain mandatory provision for environmental assessment. We just answer a question of the DPP saying that this project will not create any adverse impact on the environment and we send the proposal to the higher authority for approval. They do not seek further information in this regard. Besides, we need to plan a project within a very short time. So, it is very difficult to integrate people's opinions during planning of projects. Moreover, ordinary citizens are not much interested to participate in the planning process without financial incentives.

Another key informant (an RDA Town Planner) says:

> There is no special budget allocation for Environmental Assessment (EA) activities of development projects. So, continuous enforcement and improvement of EA becomes difficult. Besides, to conduct EA of development projects, we need highly experienced consultants with high salaries. But we do not have sufficient funds to appoint expert EA consultants".

5.5.2 Consideration of Environmental Issues during Project Implementation

Sustainable development strategy emphasizes the involvement of stakeholders in the development management process. In practice, stakeholders can be involved in the project implementation process:

(1) indirectly, as beneficiaries or information sources; or

(2) directly, as members of the committees related to project implementation.

At the City Corporation level, each project has a committee from the Works Division, named the Urban Infrastructure Development and Conservation, which is responsible for implementation of planning. This committee monitors implementation in order to ensure that the project has no adverse impact on environment or biodiversity. This committee of the Works Division is assigned to conduct environmental and social assessment of projects. It will collect data and provide a progress report to concerned higher authorities, giving special consideration to the environment. So, data have been collected to obtain information about the role of the Works Division regarding environment issues in practice.

The field survey reveals that 52.78% of the respondents have heard about such committees of the Works Division, whereas 47.22% do not know. On the other hand, when asked, a large majority of the respondents (80.56%) reply that they do not know the duties and responsibilities of such committees or any other related authority. Only 19.44% of respondents have some idea about the role and responsibilities of such committees or any other authority related to implementation of projects. In response to another question, 94.44% say that committee members never discuss environment issues with them while only 5.56% of the respondents reply positively in response to this question (Table 5.2 shows the data).

Table 5.2

Consideration of Environmental Issues in Project Implementation

Variables		Frequency (%)
Do you know anything about committees related to development project implementation?	Yes	95 (52.78%)
	No	85 (47.22%)
Do you know the duties and responsibility of such committees or other authorities in regard of project implementation?	Yes	35 (19.44%)
	No	145 (80.56%)
Did any member of such committees discuss with you about consideration of environment issues during implementation of development projects?	Yes	10 (5.56%)
	No	170 (94.44%)

[Source: Field Survey 2014]

During KII, the ex-Chief Engineer of RCC said that committees related to project implementation do not actively play their assigned role. Most of the members of these committees are not well aware of environmental rules and regulations. Besides, members of these committees are mainly selected by the Mayor and local-level influential leaders of the ruling party. So, they emphasize mainly their personal and party interests, rather than considering environmental issues, in implementation of the projects. Moreover, ordinary people are not well aware of environment issues, nor are they interested in participating in environment-related discussion.

5.5.3 Consideration of Environmental Issues in Monthly Meeting

Under the Local Government (City Corporation) Act 2009, the Corporation will prepare and implement development plans in such manner as may be specified. The Act also states that the Corporation will organize monthly meetings, at least once in a month, where the Mayor, Councilors (female and male) and Chief Executive Officer (CEO) will participate, to discuss overall development issues of the Corporation. This forum acts as a policymaking body.

To investigate the consideration of environmental issues in this meeting, Councilors and the CEO have been asked whether or not they discuss environmental issues in the monthly meeting. They have replied that they discuss about general activities of the Corporation in the monthly meeting, on the basis of priority. They do not discuss environmental issues at every meeting. Sometimes, if they need to consider the environmental issues in project management, of course, they discuss this in the special meeting.

5.5.4 Consideration of Environmental Issues in Ward Meetings

According to the policy framework, each Ward Councilor will hold a Ward meeting with residents of the Ward at least two times in a year, for discussing environmental issues, problem identification, prioritization of the problems, scheme identification, scheme prioritization and short listing of the projects in an open and exclusive manner. After the Ward Meeting, further participatory planning processes will be carried on at the City Corporation.

In this regard, data have been collected from field survey. Table 5.3 shows that most of the respondents (51.11%) state that Ward Councilors occasionally arrange Ward meetings to discuss development issues of the Ward, whereas 48.89% respondents do not agree with this statement. When they are asked about their participation in Ward meetings, only 19.44% of respondents have replied that they participate in such meetings, but 76.67% have never participated in Ward meetings. In response to another question, a large number of respondents (76.67%) report that they have never taken part in the Ward meeting to discuss environmental issues. Only 8.33% replied positively and 20.56% did not answer this question.

Table 5.3

Consideration of Environmental Issues in Ward Meetings

Variables		Frequency (%)
Does the Ward Councilor occasionally arrange Ward meetings to discuss development issues of your Ward?	Yes	92 (51.11%)
	No	88 (48.89%)
Have you ever participated in such a Ward meeting?	Yes	35 (19.44%)
	No	155 (86.11%)
Does the Ward meeting discuss environmental issues during project selection and other regular and development activities?	Yes	15 (8.33%)
	No	138 (76.67%)
	No Comment	37 (20.56%)

[Source: Field Survey 2014]

During KII, an Engineer of the Project Planning Unit of RCC said that, at the time of project selection, planning and implementation, priority is given to making the citizens happy by undertaking physical and social development rather than environmental development. He added that, during selection of the projects, the Mayor and other politicians mainly emphasize the people's demands and the political commitments given to the voters during the last election. So, environmental considerations are not given priority. People always evaluate the politicians on the basis of what infrastructural development they have completed rather than on the development of the environment.

5.5.5 Perceptions of Environment-related Committees

In accordance with the sections 50 (1) and 50 (2) of Local Government (City Corporation) Act 2009, the RCC is required to form 14 Standing Committees to carry out its duties. With the prior approval of the Minister, the Corporation may also constitute additional Standing Committees. A Standing Committee is required to consist of not more than six members, elected by the Councilors from among themselves. No Councilor is allowed to be the member of more than two Standing Committees at the same time. However, the Mayor is a member of all the Standing Committees. A Standing Committee elects one of its members as Chairman and another as Vice-Chairman. The concerned Department Head acts as the Member-Secretary of each Standing Committee.

Presently, there are 18 Standing Committees in RCC. Among them, the following Committees are related to environmental governance in RCC :

(a) Standing Committee on Finance and Establishment

(b) Standing Committee on Waste Management

(c) Standing Committee on Education, Health and Family Planning

(d) Standing Committee on Urban Planning and Development

(e) Standing Committee on Urban Infrastructure Development and Conservation

(f) Standing Committee on Environmental Development

These Standing Committees have been entrusted with the responsibilities to consider environment-related issues while discharging their responsibilities.

To explore the Standing Committees' role in environmental governance, data have been collected in the field survey. Table 5.4 summarizes the data.

Most of the respondents (83.33%) have never heard about the Committees on Waste Management, Urban Planning and Development, Environmental Development listed above and a greater number (85.56%) do not know what they do. Only 16.67% and 14.44% of respondents respectively knew about these Committees and what they do. In response to another question, 30.56% of respondents thought that these committees were successfully performing their duties but, 42.22% of respondents do not think so. Most of those who had never heard anything about the Committees said that they were, or were not, performing well: strictly speaking, this is illogical and calls the reliability of these responses into question. Yet a good number of respondents (27.22%) refrained from answering: if these were the ones who had never heard of the Committees, this is the most reliable data.

Table 5.4

People's Perception of Environment-Related Committees

Variables		Frequency (%)
Have you heard anything about the committees on waste management, urban planning and development, environment development, etc.?	Yes	30 (16.67%)
	No	150 (83.33%)
Do you know about the duties and responsibilities of these committees?	Yes	26 (14.44%)
	No	154 (85.56%)
Do you think that these committees are successfully performing their duties and responsibilities in environmental development of the city?	Yes	55 (30.56%)
	No	76 (42.22%)
	No Comment	49 (27.22%)

[Source: Field Survey 2014]

A previous survey also revealed that the Standing Committees are not effective in the true sense. The members of the Standing Committees were not well aware of their responsibilities. They lacked awareness of environmental issues in the management of other issues and development activities.[23] A key informant (Head of a Civil Society Organization) said that, while there were Standing Committees in the RCC, these only functioned on paper. Most of the Committees were not active.

To ensure sustainability of development management with better service delivery, Standing Committees must become effective. Now they barely exist and almost no one knows what, if anything, they do. Both Golam Rabbani's[24] survey of the Standing Committee members in 2010 and the field survey for this report in 2014 point to this same conclusion. Yet their role can be very important as an environmental oversight of all the actions of the Council.

5.5.6 Impact of Development Activities

Urban development undertaken by City Corporations, like construction of public or private buildings and roads, raises environmental issues. However, the field survey shows that, when construction of roads or buildings takes place, the RCC or their contractors

[23] Golam Rabbani, *op.cit.* p. 61.
[24] *ibid.*

leave building materials like bricks, sand, metal rods, etc. in the roads for long periods, obstructing the free movement of vehicles and pedestrians. The waste of development work is, in some cases, kept at, or dumped into, roadsides, open spaces and drains, creating environmental hazards. In interviews, 66.44% of respondents so stated, whereas, 33.56% of respondents stated otherwise. A huge amount of solid waste is generated during road excavation for water supply and sanitation, drain construction or repair and other development work, by RCC.

The only way that responses to questions 1 and 2 in Table 5.5 can be read consistently is to say that RCC's road excavation waste is kept on the roadside for a short time and eventually dumped into the drains: although 30.59% of the respondents did not answer the second question. Physical observation also reveals that, when RCC undertakes any road excavation work, solid wastes of such works are not removed quickly in many cases.

In leaving waste at the side of the road or dumping it into drains, RCC is following the practice of private sector construction in Rajshahi: private home and office builders do the same thing. Yet RCC also take no action against the owners of buildings or others who do not keep or dispose of such materials properly. There is a Magistracy Department in RCC, headed by a Magistrate. This Department could hear complaints and impose penalties under the Building Materials Act 1952. However, they rarely do so..

A key informant (an RCC Executive) thinks that the City Corporation is mainly run by the Mayor and his Councilors, who are politicians. All of them are elected by the voters of the city. So, they are always afraid of losing support among the voters if the City Corporation is perceived as harassing private development. Construction is one of Rajshahi's few successful private industries: the money is big. Big construction money can be given now, to make City Corporation inspectors go away quietly, or withheld later at election time from politicians or parties who raise the costs of construction by insisting on proper disposal of its waste.

Table 5.5

Impact of Development Activities

Variables		Frequency (%)
Do you think that construction materials of any buildings or infrastructure development are kept on the road and dumped into the drains?	Yes	202 (66.44%)
	No	102 (33.56%)
Do you think that wastes from road excavation are stored or kept along the roadside for long periods of time?	Yes	25 (8.22%)
	No	186 (61.19%)
	No Comment	93 (30.59%)
Do you think that RCC's open drains create adverse environmental impacts?	Yes	175 (97.22%)
	No	05 (2.77%)

[Source: Field Survey 2012]

RCC constructed 118 km of completed and 162 km of partially-completed drains in the city, through implementation of drainage development projects, in 2009-2013. Yet still more than 85% of drains are open. Open drains are risky for pedestrians and important sources of environmental pollution, as they draw insects, create bad smells and run to the river. More than 97% of respondents say that these open drains create adverse environmental impacts in the city, while only 2.77% do not agree with this statement.

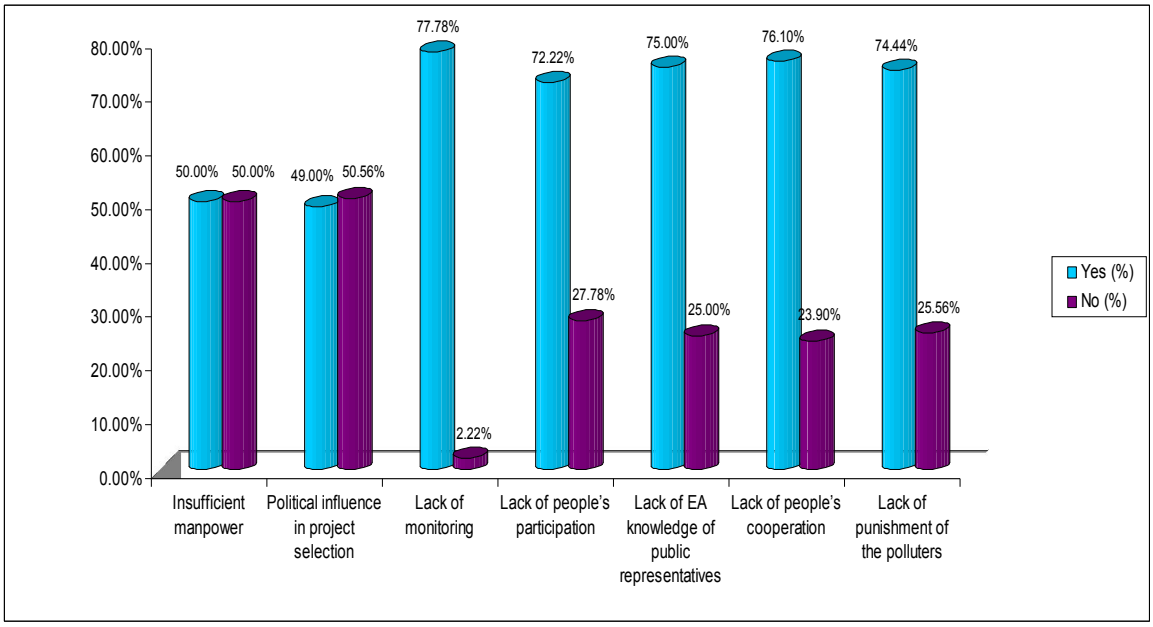
In interviews, the Chief of the Conservancy Division of RCC tried to justify this situation saying that open drains are easier to clean than closed drains. However, "cleaning" these open drains usually means mucking them out and dumping the sludge, often containing human and animal waste, on to the side of the road, which is more polluting than the drains themselves!

5.5.7 Problems in RCC Dealing With Environmental Issues in Development

The main purpose of the study is to explore the role of RCC in environmental governance. As a part of the study, data have been collected from the respondents to identify the problems in integrating environmental management into the development activities of RCC. 77.78% of the respondents have identified lack of monitoring by RCC as the main problem. It has been followed by lack of people's cooperation (76.10%), lack of people's participation (72.22%), lack of EA knowledge of public representatives (75.00%), lack of punishment of the polluters (74.44%), insufficient manpower (50%) and political influence in project selection (49.44%). . Chart 5.1 summarizes the data.

Chart 5.1

Problems in Considering Environmental Issues in Development by RCC



[Source: Field Survey 2012]

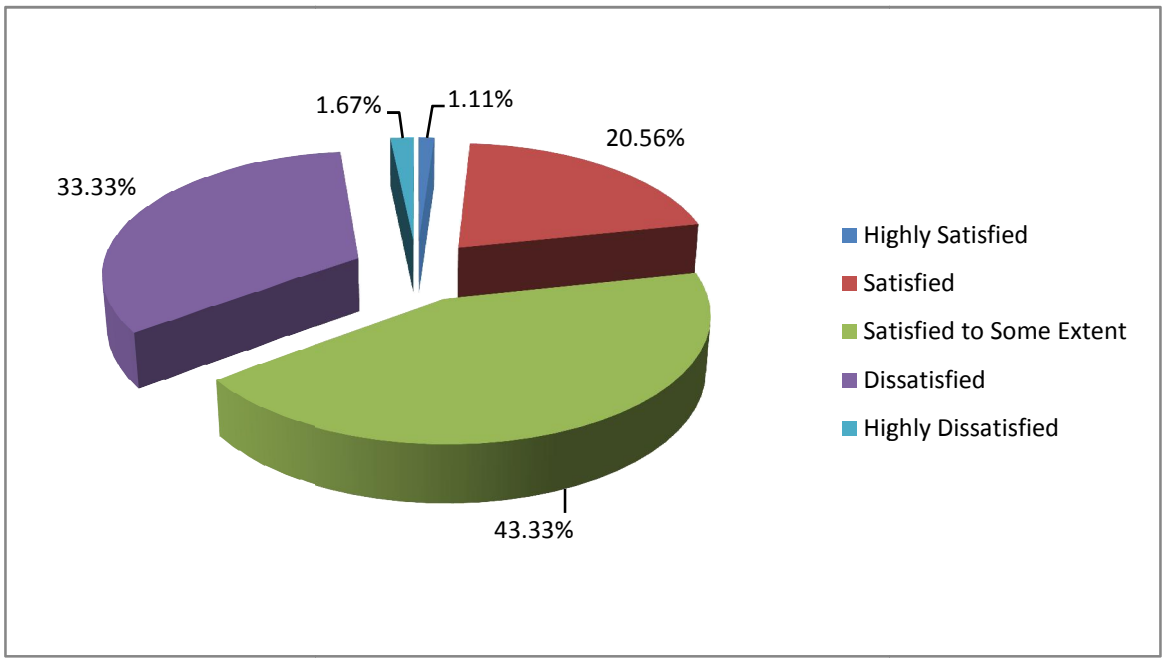
5.5.8 Level of Satisfaction of Stakeholders with Environmental Issue Consideration

To evaluate the role of RCC in managing environmental issues, it is important to know the level of satisfaction of people with environmental issues with RCC's action in this area. On this matter, all the respondents from the stakeholder category were interviewed.

Large numbers of the respondents (43.33%) are satisfied to some extent with RCC environmental governance. Only 20.56% respondents are fully satisfied. 33.33% of the respondents are dissatisfied on the issue. Only 1.11% and 1.67% respondents are highly satisfied or highly dissatisfied, respectively, with the RCC's environmental action (Chart 5.2).

Chart 5.2

Level of Satisfaction of Stakeholders with Environmental Issue Consideration



[Source: Field Survey 2012]

However, in assessing the results of partial satisfaction like this, we should take Bengali culture into account. Bengalis do not like to speak negatively: they think it makes them sound bad and they are obsessed with projecting a beautiful image. The friend's ugly dress is always called beautiful and the host's rotten food is always called delicious. True feelings are rarely disclosed to strangers, or even to intimates.

So, highly-dissatisfied people are unlikely to say that they are highly-dissatisfied. They are more likely to say that they are partially-satisfied. Yet many people who are actually dissatisfied may also say that they are partially-satisfied because they believe that "partially satisfied" means "not satisfied" but sounds better. One would expect many partially-satisfied people to say that they are highly-satisfied but this did not apparently happen. However, many partially-satisfied people may well have said that they are fully-satisfied.

So it is difficult to ascertain the true meaning of this data. This often occurs with survey opinion data in Asia. Only factual questions are more reliable, like "Have you ever heard of x?" or "Did you ever do y?" Yet even then, many Asians are embarrassed to say that they have never heard of or done something and will answer in the affirmative.

5.6 Case Studies: Environmental Compliance in the Development Projects of RCC

Local government bodies in Bangladesh, like *Paurashava* and City Corporations, design and implement a large number of development projects every year. RCC is not an exception in this regard. It has planned and implemented a total of nine development projects from 1993 to 2010 using central government's allocation of Annual Development Program (ADP) funds. Among them, five projects have been selected for this study to assess the impact of RCC's environmental governance. All projects are central government-sponsored infrastructure development projects.

5.6.1 Case Study 1: Lakshmipur-Kasiadanga Road Construction Project

This project was implemented by RCC during April 1994 to June 2003, using funds of the Ministry of LGRD and Co-operatives/Local Government Division under the ADP. The location of this project was Baharampur, Dingadoba, Horagram, Kasiadanga and Goalpara areas within the RCC boundaries. Its actual expenditure was Tk. 162.2 million.[25]

Due to excessive pressure on the city roads, RCC implemented this project with a view to strengthening the road network effectively. The implementation of this project established a first phase access to the west and north-west parts of the city, as well as adjacent Chapai Nawabgonj District, from the city centre. The project would strengthen the city's economy as well as its environment.[26]

Environmental Compliance of the Project

Major components of the project included land acquisition, land development and construction of national highway-standard road, along with footpath and drains. The project also included installation of a highway lighting system, along with the total roadway and automatic traffic signal system, at 6 intersections and 2 railway level- crossings, to promote the safe and sufficient movement of vehicular and pedestrian traffic.[27]

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[25] Project Completion Report, *Construction of Lakshmipur-Kasiadanga Road in Rajshahi City* (Rajshahi: Rajshahi City Corporation, 2002), p. 12.

[26] Development Project Proforma, *Construction of Lakshmipur-Kasiadanga Road in Rajshahi City* (Rajshahi: Rajshahi City Corporation, 2002), p. 4.

[27] *Ibid,* pp. 19-20.

When the project was designed, the authority was required to consider environmental issues, following the manual entitled *Guidelines on Environmental Issues Related to Physical Planning* and developed by the LGED in 1994. The Planning Commission, the implementing authority of this project, was responsible to determine whether the project's activities would affect the use of natural resources and the environment.[28] The Development Project Proforma (DPP) of this project, by the Planning Commission, contained a question asking the impact of the project on the environment. In reply, the RCC provided only subjective judgments, saying that planned development in transport management would contribute to creating a healthy environment of the city. The Commission did not require an environmental impact assessment, equivalent to that later required in the ECA 1995 and ECR 1997. In its DPP, RCC also stated that, with the development of an effective city road network, linked with the regional highways, socio-economic development of the city would also be enhanced. Regarding sustainability of the project, it is stated that the output of the completed project is mainly a road which would improve the transport system. So, the socio-economic development of the city would be improved and the road would be sustainable in the long-term.[29]

The Environmental Quality Standards (EQS) were set out in the ECR 1997 to maintain environmental quality. Although this project would establish an effective transport system within the city, the major environmental issues of the project were: acquisition of land and involuntary resettlement; change of natural topography and land use pattern; loss of green scenic beauty; loss of bio-diversity; filling up of water bodies; huge dust and waste generation and noise pollution because of movement of vehicular and pedestrian traffic; soil degradation and contamination of surface and ground water, as drainage discharged to lowlands and agricultural land. RCC did not address any of these issues or suggest any specific mitigation measures for these adverse impacts.

Yet it is stated in the DPP that because, of the implementation of the project, some benefits would be created: tree plantation, construction of a Primary Health Care Centre, construction of a kitchen market and such other social development activities. At least the

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[28] GoB, *Bangladesh Country Report for United Nations Conference on Environment and Development* (Dhaka: MoEF, 1991), p. 102.

[29] Project Completion Report, *Construction of Lakshmipur-Kasiadanga Road in Rajshahi City* (Rajshahi: Rajshahi City Corporation, 2002), p. 13.

RCC submissions must be labeled as less than objective. They submit all the positive effects of the development work but ignore the negative side. The DPP was like advertising for the project.

To implement the project, 25.428 acres of land were permanently acquired from Bangladesh Railway. The acquisition process and compensation activities were completed before the project started to be implemented. During and after implementation of the project, an external audit led by CAG and an internal audit led by Chief Engineer, CEO of RCC and Officers at the Ministerial level were conducted, to review the project activities and to assess the adequacy of its operation system. Yet no environmental auditing was done during the project's implementation.

Regarding public consultation with the project-affected people, the DPP stated, without any formal meeting or discussion open to all, that a positive psychological attitude had already been noticed among the people's representatives and civil society of the city on proposal of a very good quality project. It would ultimately create trust between the city dwellers and the RCC.[30]

A monitoring team, led by an executing agency and Implementation, Monitoring and Evaluation Division (IMED) of the Ministry of Planning, was engaged to monitor the construction work and quality of the work. Yet no environmental monitoring plan was designed by the proponent. Even after the implementation of the project, the DoE did not design such a plan. No action was taken to examine the post-implementation environmental condition or to maintain EQS.

This case study shows clearly why the ECA 1995 was needed. Two years before such legislation, this project was typical of how local governments in Bangladesh planned development projects: no environmental impact analysis, no popular participation and no examination of the environmental results of project implementation.

[30] Project Completion Report, *ibid.,* p. 14.

5.6.2 Case Study 2: Children's Park Construction Project

RCC implemented this project from February 2004 to November 2005, funded by the Ministry of LGRD and Co-operatives/Local Government Division under the Annual Development Program. The location of this project was Baro-Bonogram, a built-up area to the north east of the city. Its actual expenditure was Tk. 108 million.[31] The main focus of the project was providing recreational facilities and amusement for the children: and not the poor children either. Costs and prices were high and the location was far from the city centre.[32]

Environmental Compliance of the Project

Major components of this project included land development & landscape, decorative boundary wall, internal and external park road, office, food corner, water & sanitation facilities, electrical substation, poles, insulated wires and cables, sodium, halogens, mercury and decorative lamps, pole erection, cable laying and essential electrical fittings, fixings etc. The project components also included the installation and commissioning of various types of imported mechanical and non-mechanical game equipments.[33]

Following the LGED's *Guidelines on Environmental Issues Related to Physical Planning*, the DPP of Planning Commission asked about the impact of the project on the environment. In reply, RCC provide only a prejudicial statement without conducting any assessment of the impacts that the project had been implemented with sound planning. Due to implementation of the project, the park would establish a healthy environment for the children of the city and in due course, it would contribute to the achievement of higher productivity and socio-economic growth of the city.[34]

The constructed children's park would enhance and influence child development in respect of psychological, educational and social aspects. It was conceded that the project may also produce some adverse environmental impacts, which were not identified at the time of project planning and implementation.

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[31] Project Completion Report, *Construction of Children Park of Rajshahi City Corporation* (Rajshahi: Rajshahi City Corporation, 2005), p. 12.

[32] Development Project Proforma, *Construction of Children Park of Rajshahi City Corporation* (Rajshahi: Rajshahi City Corporation, 2005), p. 23.

[33] Project Completion Report, *Construction of Children Park of Rajshahi City Corporation* (Rajshahi: Rajshahi City Corporation, 2005), p. 11.

[34] Development Project Proforma, *op. cit.,* p. 13.

The major issues of concern of this project were: change of the topography of the project area, since the project has included a vast area of agricultural land; conversion of agricultural environment into urban and semi-urban area; disappearance of natural beauty; filling up and pollution of water bodies through waste water; loss of bio-diversity, etc. In the DPP, there was no proposal for the enhancement of plantation and gardening to increase the scenic beauty of the project area. In addition, after the implementation of the project, a temporary market place and a huge gathering would take place at the park site. As a result, a huge waste may also be generated and the demand for potable water may be increased. Therefore, more wells and pipelines would be needed to meet the drinking water demand. These issues needed to be considered through undertaking proper environmental assessment during planning and implementation of the project but were not.

5.6.3 Case Study 3: Rajshahi City Bhaban Complex Construction Project

This project was implemented by RCC from March 1997 to December 2002, under the Annual Development Program of the Ministry of LGRD and Co-operatives/Local Government Division. The location of this project was Kadirganj area within the administrative boundaries of Rajshahi City Corporation. Its actual expenditure was Tk. 99.5 million.[35] The project was launched to increase the potential and efficacies of RCC's staff by giving them a good functional building. The DPP stated that it would enhance the service rendering facilities to the city dwellers. The project was designed to analyze the factors of location, inter-departmental relation and their nature and frequencies, office space in general and other essential elements.[36]

Environmental Compliance of the Project

The project included the construction of two main buildings, viz, (i) 10 storied Office Building and (ii) 2 storied Auditorium Building. This project included two phases. 1st phase program includes 5 storied office building with 5,662.45 sq m. Total floor area had been constructed with 10 storied foundation works. In addition, for the micro-environmental demand, a high raised plaza had also been constructed between the office

[35] Project Completion Report, *Construction of City Bhaban Complex of Rajshahi City* (Rajshahi: Rajshahi City Corporation, 2002), p. 13.

[36] Development Project Proforma, *Construction of City Bhaban Complex of Rajshahi City* (Rajshahi: Rajshahi City Corporation, 1997), p. 6.

building and the main road. This plaza allowed the office building to have its institutional scale.[37]

As to the impact of the project on environment and natural resources, RCC provided only a subjective judgment in the DPP that the impact of the project on environment was positive. DPP said that the project involved the accurate and proper understanding of functional interdependence, the aesthetic and economic implication. Working at a good functional building, potential and efficiencies of RCC's staff would be enhanced; it would have ultimately good contribution in implementing the environmental improvement program in the city. The building would have good functional facilities; RCC could provide more sustainable services with effective planning.[38] Probable socio-economic impact of the project was identified prejudicially by the RCC that the newly constructed building would facilitate in providing and operating the urban services more effectively, which, in the long run would contribute a positive impact on the socio-economic activities of the city.[39] Sustainability of the project was stated in the DPP that, as the output of the completed project is an office building, the physical sustainability of the project itself would stand for a long time. Moreover, as the building has good functional facilities, RCC could be able to provide more sustainable services with effective planning.[40] But from the survey it is found that RCC did not follow any systematic method in measuring the sustainability of the project. RCC collected public opinion about the project from the public representatives, local elites, local administration, teachers, religious leaders, women's representatives, etc. who viewed positively that the project would ultimately create a good trust among the city dwellers on RCC's activities.[41]

From the project documents, no specific environmental assessment was found to have been done to predict the likely environmental impacts of the project or to find ways of mitigating unacceptable impacts. Land acquisition and compensation activities were completed before the project starts operation. An external monitoring team of high officials from the Ministry of LGRD and IMED monitored the project's activities during

[37] Project Completion Report, *Construction of City Bhaban Complex of Rajshahi City* (Rajshahi: Rajshahi City Corporation, 2002), pp. 12-13.
[38] *Ibid.,* p. 14.
[39] *Ibid*.
[40] *Ibid*.
[41] *Ibid*., p. 15.

implementation of the project. They monitored mainly physical and financial aspects of the project, but not environmental aspects. To avoid damage due to fire, the team recommended installing a fire fighting system. No internal or external auditing was done to inspect the environmental aspect during or after project implementation.

The ECR 1997 provides for maintaining environmental standards during any development intervention. This project may have had some adverse impacts on the environment. As the main administrative building of RCC, in the City Bhaban, a huge gathering of people is a common feature, from which more waste would be generated. That may affect the environment adversely. Moreover, any construction work hampers the green scenic beauty of the city, which requires the provision of added plantation. These matters were not taken into consideration during designing and executing of the project.

5.6.4 Case Study 4: Drains Construction Project (1st Phase)

RCC implemented two drainage projects: a) Construction of drains to alleviate water logging problem in Rajshahi City (1st phase), and b) Construction of drains to alleviate water logging problem in Rajshahi City (2nd phase). These projects were funded by the Ministry of LGRD and Co-operatives/Local Government Division under its Annual Development Program.

Based on the recommendations of the feasibility study of 1993, the 1st phase drainage project was started in 1994. Total cost of the project was estimated, at first, at Tk. 203.8 million but finally it reached Tk.230.6 million after three re-appropriations. About 34.75 km primary drain, 15.58 km secondary drain, 79 culverts and 2 flood rehabilitation centers were constructed under this project. The main objective of the project was to improve the environmental aspects for the people of Rajshahi City by reducing drainage blockage and water logging, through the provision of a proper drainage system, and to rehabilitate the drains which had been damaged in the devastating flood of 1998, in inundated Wards.[42] The whole project was completed in June 2003.

[42] Development Project Proforma, *Construction of Drains to Alleviate Water Logging Problem at Rajshahi City (1st Phase)* (Rajshahi: Rajshahi City Corporation, 1994), p. 7.

5.6.5 Case Study 5: Drains Construction Project (2nd Phase)

The second phase drainage project was started with its operation on 1 July 2004. The main of the project was to ensure proper drainage system within the priority areas.[43] Total cost of the project was Tk. 215.05 million. The whole project was completed on 30 June 2006. About 9.40 km primary drain, 9.97 km secondary drain and 4 railway culverts were constructed under this project.[44]

Environmental Compliance of both Projects (1st Phase & 2nd Phase)

RCC conducted a feasibility study and prepared a drainage Master Plan in 1993. The Drainage Master Plan recommended the implementation of phase-wise drainage construction projects up to the year 2020. With a view to incorporating the environmental protection parameters in the project preparation, RCC carried out EIA for both 1st and 2nd phase drainage development projects at the time of preparing Drainage Master Plan. On the basis of some environmental parameters, an environmental rating matrix of proposed interventions of the drainage projects has been presented in the plan.

In the assessment matrix, the scoring has been done within a 21 point score scale ranging from -1 to -10 for negative impacts and +1 to +10 for positive impacts while '0' was used for no impact (neutral impact).[45] The overall environmental impact of the drainage projects in the drainage master plan has been evaluated as positive.

In the same way, regarding the impacts of the projects on environment and natural resources, the DPP of 1st phase project stated that environmental health of the citizens and the creation of planned and effective drainage network would directly contribute to the improvement of the environmental health of the city by the development of a drainage system.[46] On the other hand, the DPP of 2nd phase project stated that the improvement of drainage system would improve the environmental health of the city and the creation of

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[43] Development Project Proforma, *Construction of Drains to Alleviate Water Logging Problem at Rajshahi City (2nd Phase)* (Rajshahi: Rajshahi City Corporation, 2004), p. 5.

[44] Project Completion Report, *Construction of Drains to Alleviate Water Logging Problem at Rajshahi City (2nd phase)* (Rajshahi: Rajshahi City Corporation, 2006), p. 14.

[45] Rajshahi City Corporation, *Feasibility Study and Preparation of Drainage Master Plan for Rajshahi City Corporation* (Dhaka: Aqua Consultation & Associates limited, 1993), pp. 109-112.

[46] Project Completion Report, *Construction of Drains to Alleviate Water Logging Problem at Rajshahi City (1st phase)* (Rajshahi: Rajshahi City Corporation, 2003), p. 15.

planned and effective drainage network would directly play an important role in improving the environmental health aspects of the city areas.[47] It was a subjective statement by the project proponents. They did not follow any systematic procedure to identify environmental impacts of the projects. DPP also stated, prejudicially, that the project would be physically-sustainable and that the output would create a healthy environment in the city.

It is found that both 1st phase and 2nd phase drainage project components mainly included the construction of primary and secondary drains in the priority areas as suggested in the feasibility study. The implementation of these drainage projects has developed a healthy living environment in the city, to a large extent. But the projects have some adverse environmental impacts, whose mitigation measures were not suggested at the time of planning and implementation of the project. The constructed drains are typically uncovered: that would increase health risks for the city dwellers. Parasitic diseases like dengue, malaria and filaria may be increased in the project area. Waste water, sanitary sewage, etc are the main causes of surface water pollution of Padma and Barnai Rivers, beels[48] and ponds. With the implementation of these projects, the pollution of surface water may further increase because of high volume of waste water discharge, sanitary sewage, over spilling of pit and septic tank, industrial effluents, etc.

After the implementation of both 1st and 2nd phase drainage development projects, discharge of major drains has been passing through the Shilinder beel to Tikure beel. The main outlet of these beels is Duari Khal, which is silted up and nearly dead and cannot carry the discharge to the Barnai River in dry season. As a result, lowlands, including these beels, go under water in monsoon season and farmers cannot grow crops in dry season, as they remain waterlogged..[49] In that situation, more discharge of wastewater would increase the loss of crops and aquatic resources of these beels. So we must regret that the project proponents did not suggest specific mitigation measures for these adverse consequences of the projects.

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[47] Project Completion Report*, Construction of Drains to Alleviate Water Logging Problem at Rajshahi City (2nd Phase)* (Rajshahi: Rajshahi City Corporation, 2008), p. 16.

[48] A beel is usually a depression or topographic low generally produced by erosion or geographic process. These are marshy in character. Many of the beels dry up in the winter but during the rains, beels expand into broad and shallow sheet of water that may be described as fresh water lagoons.

[49] Working Paper on Environmental Study, *Structure Plan, Master Plan & Detailed Area Development Plan for Rajshahi Metropolitan City* (Rajshahi: Rajshahi Development Authority, 2003), Chapter 4, p. 12.

Few internal and external monitoring and auditing teams led by high officials from local and head office level were engaged in auditing and monitoring the construction work and quality of the work. There was no environmental monitoring plan designed by the proponent. The team identified some problems and recommended that RCC should construct covered drains along with narrow roads for easy traffic movement and RCC should be careful to provide project benefits, such as cover slabs, for collective interest rather than individual interests. Yet RCC constructed uncovered drains in the project area which are now creating environmental hazards for the city dwellers.

Regarding public opinion about the project, the DPP, without holding any formal discussion or meeting or conducting any survey, stated subjectively that a positive psychological attitude has already been noticed among the people's representatives and the civil society of the city on proposal of a very good quality project. It would ultimately create trust between the city dwellers and RCC.

Post-implementation monitoring plans were needed to maintain EQS but neither the DOE nor the RCC designed such a plan. So we do not have full information about the environmental impact of the projects.

5.7 EIA of the Development Projects of RCC in RDA Master Plan

Rajshahi Development Authority (RDA) prepared its first Master Plan in 1984, by which the physical development of the city was guided until 2000. In 2001, RDA, under the Ministry of Housing and Public Works, GOB, took initiatives to prepare a new Structure Plan and Master Plan, completed in June 2004. This Plan was prepared for a 20 year (2004-2024) period. This Master Plan will act as the Road Map for the future development of the city.

The main purpose of this Master Plan is to improve the quality of life and environment in the RDA area. In the city, overall socio-economic development in the future will take place through proper implementation of the Master Plan. According to this plan, new roads, water supply, sewerage system, markets, housing area, industrial state and commercial area will be developed phase-wise. For the preparation of the Master Plan, RDA has done environmental studies of the future development works.

In October 2003, RDA published a 'Working Paper on Environmental Study' of the Structure Plan, Master Plan and Detailed Area Development Plan for Rajsjahi Metropolitan Development (RMD). This Working Paper deals with the environmental aspects, covering the physical, ecological, social and economic environment. It lists positive impacts, identifies negative impacts and recommends mitigation measures for all environmental problems. RDA followed DoE and FPCO EIA guidelines (1992) during impact assessment of the RMD projects. Through the screening and scoping process, the Important Environmental Components (IECs) relevant to environmental study of the RMD projects were identified. The IECs are: climate, topography, land use, flood, river erosion, drainage congestion, surface water pollution, loss of wetland, air pollution, noise, noise pollution, loss of habitat and biodiversity, loss of fisheries and agriculture, human population, water supply, sanitation, health services, human diseases, solid waste, urbanization, industrialization, market and bazars, traffic congestion, etc.

An environmental rating matrix of proposed interventions of the drainage projects has been presented in the plan on the basis of some environmental parameters. In the assessment matrix, the scoring has been done within a 21 point score scale ranging from -1 to -10 for negative impacts and +1 to +10 for positive impacts while '0' has been used for no impact (neutral impact). The major issues identified were: acquisition of land; change in topography; drainage congestion; loss of wetlands; pollution of surface water, ground water, soil, air, noise; impact on natural vegetation, wildlife, fisheries and agriculture; socio-economic impacts; increase of solid waste production; increase of water supply demand; increase of parasitic diseases; increase of traffic congestion, fire hazard; etc. The EIA study suggested a number of mitigation measures.

During the environmental study, RDA carried out formal and informal meetings and discussion with local representatives (chairman, members and ward commissioners), politicians, businessmen, local elites, farmers, educated and elderly people of different areas of the city. The views and ideas of the project affected people were considered in preparing the Master Plan.

5.8 Chapter Conclusion

What is most striking from the case studies is that planning before the BECA 1995 and after is so similar. The environment and any consideration of it were and are far from the process.

Yes, there are DPPs. Yet the DPP seems in practice only a formality in which the local government makes self-justifying assertions about positive environmental impact. Sustainability has nothing to do with the environment in these DPP statements: it means only that the building will stand up and the road will remain in place for a long time! In each case of the case study, there were much serious and easily predictable environmental harms that could result. Yet in no case were they raised or considered at all, let alone provided for in mitigation plans. Committees are set up on paper to monitor environmental impact for the RCC development projects but know little, do nothing and are virtually unheard of by stakeholders: they are merely party sinecures for the Mayor's party members There is no popular participation at all in environmental assessment: nor is there any demand for it from the people.

The above findings disclose that environmental compliance in development activities at RCC is not strong. Despite having a policy framework for prioritizing environmental issues in development activities of RCC, a huge gap still remains between policy and practice. Compliance is only for show: no action is taken. Behind this gap, lack of enthusiasm of elected leaders, lack of proper function of internal organizations like Standing Committees, Works Division, lack of environmental knowledge among the general people, lack of proper monitoring, lack of people's participation and cooperation, political influence in the project selection, etc. are mainly responsible for the non-implementation of policies.

Chapter 6
State of Governance in Solid Waste Management of RCC

6.1 Introduction

Solid waste management is one of the mandatory functions of urban local governance institutions in Bangladesh. The annual growth in urban population in Bangladesh is over 3.3%.[1] Solid waste generation has also increased proportionately with the growth of urban population. As such, urban governing institutions are facing difficulties to keep pace with the demand for adequate solid waste management and conservancy services. They lack developed facilities, a strong institutional and legal framework, adequate human resources and consistent practice of relevant policies.

Consequently, urban solid waste management has become a major concern for the cities and towns of Bangladesh. With the current practices in collection, transportation and crude dumping of solid waste, municipal areas of Bangladesh, especially the City Corporations are generally faced with rapid deterioration of environmental and sanitation conditions. This results in unhygienic and filthy living conditions.

With the multiplicity of environmental problems created by urban waste, now the question of governance in urban solid waste management is more important than ever. Obviously, a city governance institution, like Rajshahi City Corporation (RCC), is mainly responsible for the management of solid waste in its jurisdiction. This Chapter is an endeavor to identify the gap between policies and practices in solid waste management in RCC.

6.2 Solid Waste Management

6.2.1 Solid Waste

The word 'waste' refers to useless, unwanted or discarded materials which are no longer considered of sufficient value and are thrown away by the possessor. Waste means any solid, liquid, gaseous, radioactive substance, the discharge, disposal and dumping of which may cause harmful change to the environment.[2]

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[1] *Population Census 2001*, Bangladesh.

[2] *The Bangladesh Environment Conservation Act, 1995*, (Clause l, Section 2).

Solid waste is a pile of dirt and filth. It is the result of the utilization of products by their consumers. Solid wastes comprise of all solid refuse or trash resulting from the normal activities of the community, except *excreta*.[3] In Agenda 21 of the Rio Earth Summit in 1992, solid waste has been defined as all domestic and non-hazardous waste, such as, commercial and institutional waste, street sweeping and constructional debris.[4] Municipal solid waste is generally viewed as a municipal responsibility, including: household garbage and rubbish, residential ashes, commercial refuse, institutional refuse, street sweepings, construction and demolition debris, dead animals, sanitation residue, industrial, clinical and hospitals wastes. Household waste is mainly composed of food, grass and plants, brick, dirt, paper and polythene, shredded skin, leather, etc.

6.2.2 Solid Waste Management

Solid waste management refers to the management of solid garbage. Management is a process of planning, organizing, directing, controlling, and coordinating for attaining a common goal. On the other hand, solid waste management is a methodology of minimization of wastes, primarily through reduction at source, but also including recycling and re-use of materials and final disposal. It is the systemic administration of activities that provides for the collection, source separation, storage, transportation, transfer, processing, treatment and disposal of solid wastes.[5] It is a process of handling wastes (collection and transportation) through minimum cost targeting reduction at source, re-use and recycling and final disposal with least pollution for achieving a sustainable environmental development.

6.3 Organizational Aspects of Solid Waste Management in RCC

Solid waste management is organized by the Conservancy Section of the RCC whose prime responsibility is to collect and dispose of solid waste. The organizational structure of solid waste management by the RCC is shown in Figure 6.1

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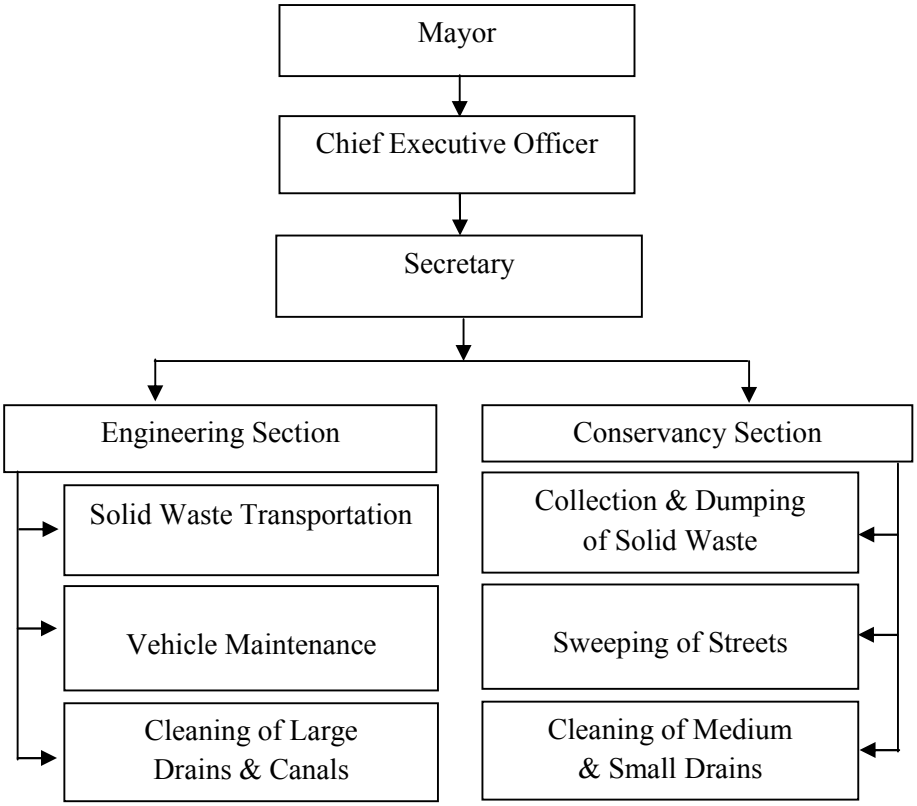
[3] H.S. Bhatia, *A Text Book on Environmental Pollution & Control* (Delhi: Galgotal Publications Ltd., 1998), p. 93.

[4] Golam Rahman and Md. Monirul Islam, "Urban Growth Pattern in Dhaka City and Its Problems of Urban Solid Waste Management", M. Firoze Ahmed, ed., *Bangladesh Environment 2000* (Dhaka: Bangladesh Paribesh Andolom, 2000), p. 438.

[5] Alex Mallow, *Hazardous Waste Regulation* (New York: Van Nostrand Reinhold Co., 1981), p. 209.

Figure 6.1

Organizational Structure of Solid Waste Management in RCC



[Source: Developed on the basis of field study]

The entire area of RCC is served by 384 km *pucca* and 96 km *katcha* road networks. There are about 118 km *pucca* and 162 km *katcha* drains in the City Corporation area. RCC has 1200 dustbins and a landfill site located at Nawdapara. It has 13 *katcha* bazars, 80 hospitals and clinics. RCC sweepers dispose the human *excreta* from pit latrines or septic tanks through manual methods. Most of the sweepers and cleaners are hired on a temporary basis. Recently, RCC has introduced a mechanical road sweeping machine that can sweep 10-15 km of main road per hour.[6]

6.4 Quantity of Solid Waste in RCC

Waste generation surveys of the RCC have been done by different organizations. Table 6.1 shows a comparative presentation of two surveys on the waste generation rate of

[6] Bangladesh Municipal Development Fund, *Study on Municipal Solid Waste Management*, (June 2012), p. 33; Available at: http://www.bmdf-bd.org/images/frontImages/gallery/SPA_Picture/MSWMFinal Report.pdf, (accessed on June 30, 2014).

RCC. The surveys have been done by Waste Concern in 2005 and BMDF in 2012. In 2005, the *per capita* waste generation rate of the RCC was 0.3 kg and total waste generation was 172.83 tons per day. In 2012, although *per capita* waste generation rate decreases to 0.292 kg, the total waste generation rate increases to 212.6 ton per day. Waste generation may vary from season to season. It is found from the survey that, during the wet season, the waste generation rate increases by 46% over that of dry season.[7]

Table 6.1

Solid Waste Generation Rate in RCC

Variables		**Frequency**	
		2005	**2012**
Quantity of Waste in RCC	WGR (kg/capita/day)	0.3	0.292
	TWG (ton/day)	172.83	212.6

[Source: Developed by the researcher based on Waste Concern (2005[8] and BMDF 2012][9].

6.5 Density of Solid Waste in RCC

Density of waste varies with season. Table 6.2 presents the density of waste of RCC at collection point, on transport and at landfill.

Table 6.2

Density of Solid Waste in RCC

Variables		**Frequency**	
		2005	**2012**
Density of solid Waste in RCC	Collection Point Density (kg/m^3)	333.00	320.47
	On Truck Density (kg/m^3)	666.00	658.48
	Landfill Density (kg/m^3)	1332.00	----

[Source: Developed by the researcher based on Waste Concern (2005) and BMDF (2012)]

The average density of solid waste of RCC, at collection point, is estimated as 333 kg/m^3 in 2005 and 320.47 kg/m^3 in 2012. On the other hand, waste density at trucks is almost double and landfill density is almost three times of the collection point density.

[7] Waste Concern Technical Documentation, *Urban Solid Waste Management Scenario of Bangladesh: Problems and Prospects,* (June 2005, Dhaka), p.4.

[8] *Ibid.*, p. 5.

[9] Bangladesh Municipal Development Fund, *op. cit*., p. 38.

6.6 Physical Composition of Solid Waste in RCC

In BMDF (2012), physical composition analysis of waste in RCC has been done by collecting samples from households, markets and on trucks arriving at landfill sites. Following table shows the summary of physical composition of solid waste in RCC.

Table 6.3

Physical Composition of Solid Waste in RCC

Component	**Household (%)**	**Market (%)**	**Landfill Site (%)**
Vegetable, Food	82.05	83.65	79.4
Bones, Fishbone	.27	0.13	0.37
Paper	4.40	1.23	2.30
Plastic	6.63	1.98	3.53
Textile, Rags, Jute	1.50	2.55	2.20
Glass	0.51	0.40	0.00
Leather, Rubber	0.22	0.20	0.85
Metals	0.00	0.13	0.00
Ceramic	0.33	0.38	0.39
Soil, Ash	3.60	8.21	10.51
Grass, Creepers, Herbs, Wood	0.42	1.12	0.45
Medicine, Chemical	0.07	0.00	0.00
Total	**100.00**	**100.00**	**100.00**
Compostable	82.47	84.77	79.85
Non-compostable	13.93	7.02	9.64
Ash content	3.60	8.21	10.51

[Source: BMDF 2012]

It is seen from Table 6.3 that the major portion (79% to 85%) of solid waste in residential areas and market areas of RCC is compostable. The average percentage of compostable waste in residential areas is 82.47%, non-compostable waste is 13.93% and ash content is 3.60%. On the other hand, similar composition for market areas is 84.77%, 7.02% and 8.21%, respectively. The large quantity of degradable organic contents indicates the necessity for frequent collection and removal. This also indicates the potential of recycling of organic waste for resource recovery.

6.7 Existing Pattern of Solid Waste Management in RCC

6.7.1 Collection of Waste

i. Primary Collection

In RCC, almost all the 30 Wards have primary collection service. In the residential areas, RCC cleaners collect waste from households or residential buildings and small dustbins with rickshaw-vans (manually-pulled vehicles) in the afternoon and bring them to the secondary collection points before evening. There are 1,200 movable dustbins and 216 rickshaw-vans allocated for 30 Wards. Primary collection workers do not put on any uniform, e.g., apron, jacket, safety garb etc.

ii. Secondary Collection Points

There are 19 secondary collection points along with dustbins and open points (tips) where street sweeping wastes and other wastes are accumulated. All secondary collection points are open tips. Many of them are rectangular in shape and surrounded by brick walls to minimize public nuisance. Secondary collections take place at night, through dump trucks as per instruction of the Conservancy Inspector. RCC cleaners use baskets made of straw or bamboo, to manually load the vehicle from secondary collection points.

6.7.2 Transfer and Transport of Solid Waste

There are 8 dump trucks, 6 trailers, 16 lorries, 2 hydraulic trucks, 216 rickshaw-vans, etc. used for transfer and transport of waste from the secondary points of the whole city. The Chief Conservancy Officer controls overall waste collection and transportation management, including all equipment. All Wards do not have Conservancy Inspectors. But those who have supervisors, work under the direction of Conservancy Inspectors. Every night, before collection starts, high officials of Rajshahi City Corporation arrange meetings with field staff, particularly Conservancy Officers, Supervisors and inspectors, to ensure smooth collection of waste.

6.7.3 Disposal of Solid Waste

There is one waste disposal site in RCC. It is located in Nawdapara which is about 8 km from the city centre. Its nearest residential area is about 3 km away. The total area of this

disposal site is 16 acres. Over the years, a cattle market has been developed in this area. At present, the market has occupied around 3 acres of the disposal site, while the rest (13 acres) is being used for disposal of waste.

No environmental or social impact assessment was done in selection of the Nawdapara site as a disposal site. Prior to the selection of the site, no environmental clearance or site clearance from the Department of the Environment was obtained and no environmental or social impact assessment was carried out. In principle, social impact assessment should be carried out and the opinions of the surrounding community people, up to several kilometers, should be taken before creating a landfill site.[10] No excavator or pay loader is available for landfill operation in this site. There is only one chain bulldozer, which is used twice in a week.

Operation and Management in the Disposal Site

- Four cleaners and one heavy equipment operator are working at the disposal site. One person, as inspector or supervisor of landfill, also works sometimes.
- No underground or subsurface perforated piping has been installed to collect, transport and treat the leachate. Neither has any leachate pond been constructed.[11]
- Every day, a waste collection vehicle disposes of the waste at the landfill site, anywhere they find it comfortable to discharge and easy to access. No dumping platform has been constructed. They use their common sense to find a rational place for disposal. Usually, they try to follow the previous day's waste dumping places.

Waste Picker's Information

Waste pickers are usually found working at the disposal site to collect recyclables like, can, paper, plastic, rubber, tire, glass, GI wire, iron, pet bottle, tin etc. Most of them are children and women. There is no monitoring of waste picking and quantity of recyclables recovered: this is their private source of livelihood. Waste pickers face many hazards such as;

- Sharp materials cause injury and infection;
- Infections between fingers;

[10] Bangladesh Municipal Development Fund, *op. cit*., p. 70.
[11] *Ibid*., p. 71.

- Fever and cough are found to be the most common diseases;
- Apparently they are suffering from malnutrition;
- Absence of hand gloves and masks exposes them directly to the polluted environment, etc.[12]

Physical Condition of the Disposal Site

The physical condition of the disposal site is not environmentally sound for the following reasons[13]:

- There is no buffer zone at the existing site;
- A 3 to 4 ft high earthen embankment exists around the disposal site that sometimes causes flooding after heavy rain;
- The cattle market is within the premises of the landfill;
- Pollution of water resources near the landfill by leachate has been observed; and
- There is no fencing around the landfill site.

6.7.4 Resource Recovery

Rajshahi City Corporation has a compost plant with 2 tons/day capacity. Yet the compost plant is not processing any waste since it has not been able to get the license from the Department of Agricultural Extension (DAE) for marketing of compost.

6.7.5 Maintenance Facility

Maintenance of vehicles, heavy equipment etc. are done when they go out of order. Some of the collection vehicles are maintained periodically after every 4,000 to 5,000 km of operation. Maintenance includes changing the gear oil, engine oil, filter etc. Mainly vehicles and equipment are repaired and maintained by outsourcing to external contractors (private workshops). Since RCC has around 15 light vehicles and 1 heavy vehicle, it is not feasible for them to have a full-fledged workshop. No regular checkup is done of the vehicles. Vehicles are maintained or repaired only when they become unusable.[14]

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[12] *Ibid*., p. 72, and *Field Survey*.
[13] *Ibid.* and *Field Survey*.
[14] *Ibid*., p. 79.

6.8 Tabulation and Analysis of the Field Data

The main purpose of this Chapter is to assess the extent to which RCC complies with Goverrnment policies in managing solid waste. So, an analysis has been conducted on the basis of interviews with a sample of 320 respondents (10 Executives of RCC, 6 Councilors, 180 Stakeholders and 124 Field Staff) from 6 Wards of RCC. The findings have been presented below.

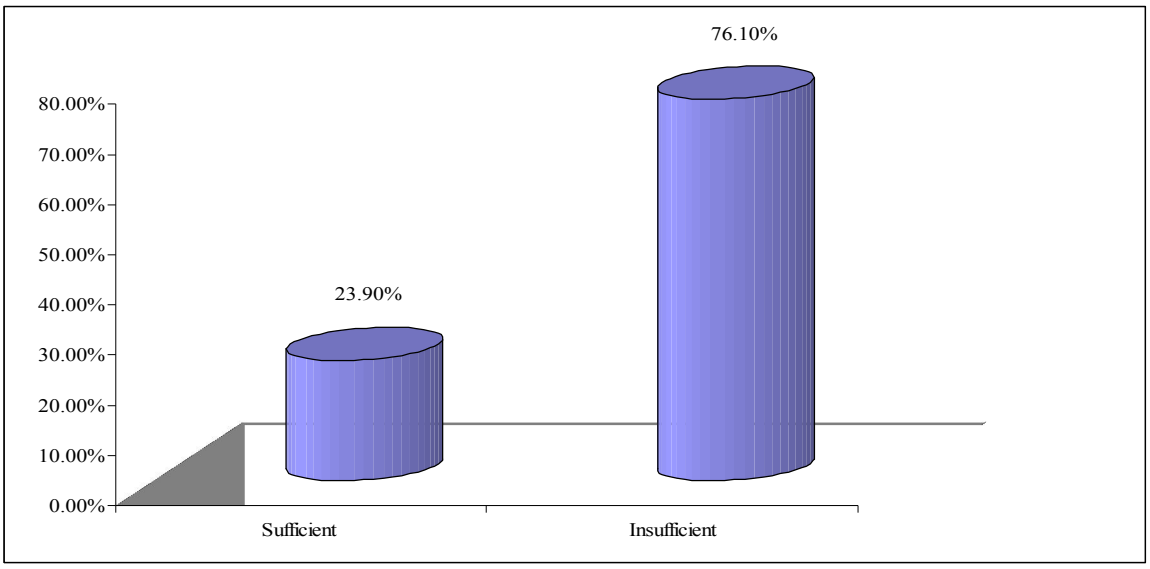
6.8.1 Sufficiency of Solid Waste Disposal Site

It is duty of the Corporation to make adequate arrangements for the removal of refuse from all public streets, public latrines, urinals, drains, and all buildings and land vested in the Corporation. However, the data reveals (Chart 6.1) that 76.1 % of respondents believe that waste disposal places are not sufficient in RCC and only 23.9 % have replied that they have sufficient waste disposal place or tip near their house.

On this matter, RCC officials said that they are trying to make RCC a tip-free city. RCC has introduced a door-to-door collection system. RCC cleaners collect waste from households or residential buildings. Small bins are kept at various points for disposal of waste from shops and restaurants of RCC. Yet these bins are not sufficient for the high amount of waste generated from shops, hotels, restaurants, and other commercial activities.

Chart 6.1

Sufficiency of Solid Waste Disposal Place in RCC



[Source: Field Survey 2012]

6.8.2 Rate of Solid Waste Collection from Households by RCC

It is duty of the Corporation to collect and dispose of refuse from the area under its jurisdiction. So, respondents have been asked how many days in a week RCC cleaners collect waste from households. As shown in Table 6.4, most of the stakeholders have reported that RCC cleaners collect waste from households every day (67.8%), only 32.2.% reporting that waste is collected irregularly (32.2%). On the other hand, 100% of field staff stated that RCC cleaners collect household wastes every day.

Table 6.4

Solid Waste Collection Rate by RCC Cleaners

Variables		**Frequency (%)**	
		Stakeholders	Field Staff
RCC cleaners collect household waste	Every day	122 (67.8%)	124 (100.00%)
	Irregular	58 (32.2%)	00 (0.0%)

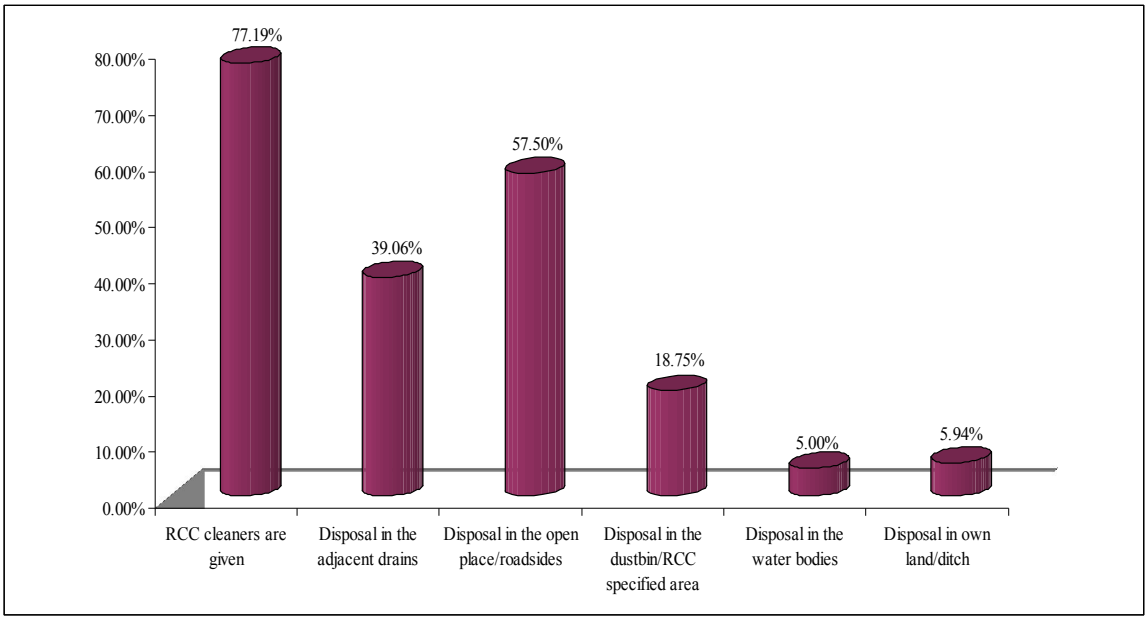
6.8.3 Household Solid Waste Disposal Place

Proper disposal of household waste is the key to develop public health and to control environmental pollution of the surrounding area. 320 respondents have been interviewed in this regard. They had the option of putting tick marks on more than one option if they thought it necessary.

The highest number, 77.19 % of respondents report that inhabitants give their household wastes to the RCC cleaners, household wastes are discharged in the adjacent drains (39.06 %), and wastes are thrown in the open place or roadsides (57.5 %). 18.75 %, 5.0 % and 5.94 % respondents state that inhabitants dispose of their household wastes in the tips, water bodies, and on their own land, respectively (Chart 6.2). An important finding is that most of the RCC inhabitants have a lack of consciousness about the proper disposal of their household wastes.

Chart 6.2

Household Solid Waste Disposal Habits of RCC Inhabitants



[Source: Field Survey 2012]

6.8.4 Vehicles used in Solid Waste Transportation

Domestic wastes, collected by the RCC cleaners, are accumulated at the 19 secondary points of RCC with the help of rickshaw vans. The cleaners collect household waste generally in the afternoon and accumulate them at the secondary points before evening. From the secondary points, wastes are carried to the final disposal site at night in vehicles. In interviews, 71.6 % of stakeholders have replied that wastes are carried to the final disposal site from the secondary points through open truck or trolley. 20.6 % reported that covered trucks or trolleys are used during disposal of wastes from the secondary points to final disposal sites. 7.8 % do not have any knowledge about this matter.

89.5 % of field staff state that wastes from the secondary points are carried in covered vehicles. 10.5 % do not agree (Table 6.5). Actually, physical observation reveals that RCC does not use any covered vehicles to carry solid wastes from the secondary points to final disposal sites.

Table 6.5

Type of Vehicles used in Solid Waste Transportation

Variables		Frequency (%)	
		Stakeholders	**Field Staff**
Type of transportation used in waste disposal from secondary points	Covered truck/trolley	37 (20.6%)	111 (89.5%)
	Open truck/trolley	129 (71.6%)	13 (10.5%)
	Not known	14 (7.8%)	00 (00%).

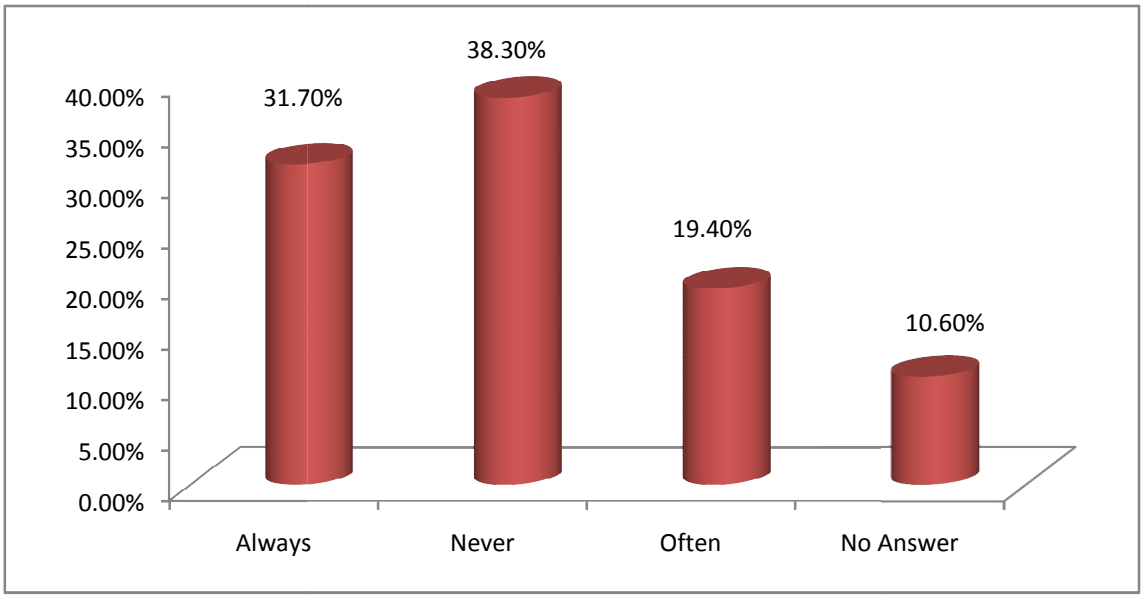
[Source: Field Survey 2012]

6.8.5 Rate of Cleaning of Solid Waste Disposal Sites

RCC still has more than 1,200 open tips, along with 18 secondary points, where primary wastes are accumulated. Respondents were asked whether these dustbins or secondary points whether produce stenches. 51.1 (31.7 + 19.4) % respondents replies that their nearby waste disposal places are not cleaned regularly. Thus, they spread offensive odors and pollute the environment. 38.3 % state the opposite. 10.6 % give no answer (Chart 6.3). However, observation showed that, although all the secondary points are cleaned regularly, tips are done on irregular basis: these may become air pollutants.

Chart 6.3

Odor from Solid Waste Disposal Sites



[Source: Field Survey 2012]

6.8.6 Sweeping of Roads

It is the responsibility of the City Corporation to clean public streets for the comfort and convenient of the inhabitants of the city. Analysis of data shows (Table 6.6) that most of the respondents (53.3%) from stakeholders agree that RCC sweepers clean their nearby roads regularly with 22.3 % dissenting. Yet 24.4 % opine that their adjacent roads are never swept by the RCC sweepers.

Again, the views of field staff are somewhat different from those of stakeholders. The vast majority (91.9 %) of field staff report that the rate of sweeping of RCC roads is regular and only 8.1 % have the opposite view.

Table 6.6

Rate of Sweeping of Adjacent Roads

Variables		Frequency (%)	
		Stakeholders	**Field Staff**
Rate of sweeping of adjacent roads	Regular	96 (53.3%)	114 (91.9%)
	Irregular	40 (22.3%)	10 (8.1%)
	Never swept	44 (24.4%)	0.0 (00%)
Removal of swept wastes from the road	Regular	71 (39.4%)	124(100%)
	Irregular	109 (60.6%)	0.0 (00%)

[Source: Field Survey 2012]

Regarding removal of swept wastes from the roads, 39.4 % of stakeholders and 100 % of field staff have reported that swept wastes are removed regularly from the roads. But 60.6 % of stakeholders have not agreed with them.

Physical observation reveals that RCC sweepers generally do the sweeping work at night. They usually sweep important and busy roads regularly. Less important roads are cleaned very irregularly. It is true that many roads are never swept by the RCC cleaners.

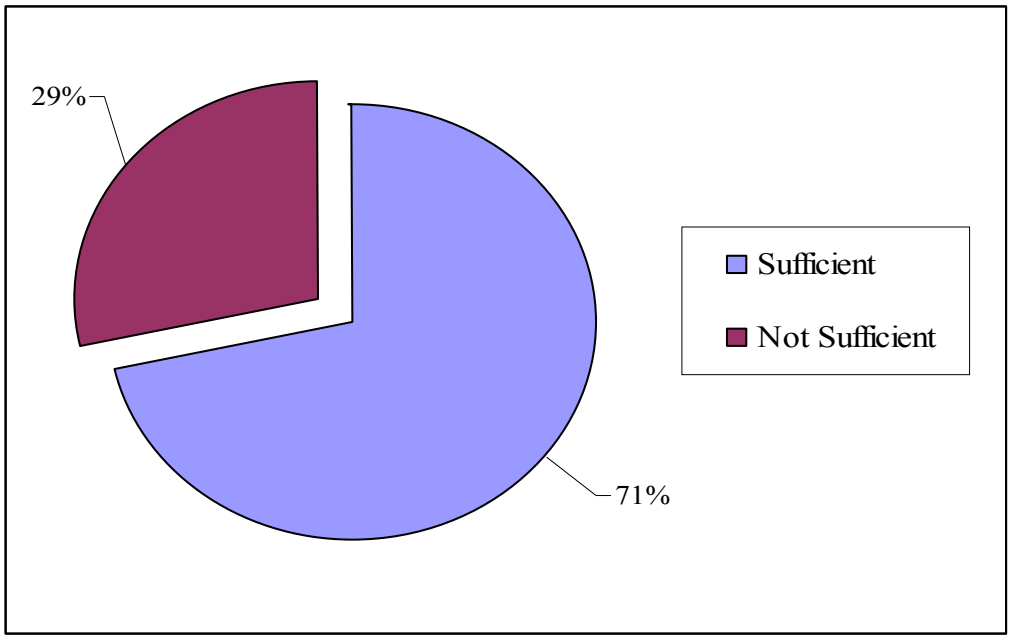
During sweeping, wastes are accumulated place to place. Although the swept wastes are removed quickly from the roads, these wastes are often thrown or disposed along the roadsides or used for filling up nearby water bodies or low lands.

6.8.7 Sufficiency of Solid Waste Management Materials in RCC

The City Corporation is responsible to provide sufficient materials for the proper management of solid waste of the city. RCC staff state that they provide many vehicles to manage solid waste, including: 8 tractors, 16 Lorries, 2 hydraulic trucks, 216 rickshaw-vans, etc. Respondents have been asked about the sufficiency of these materials. 71.38 % of them think that the materials used in waste management of RCC are sufficient. 28.62 % disagree (Chart 6.4).

Chart 6.4

Sufficiency of Solid Waste Management Materials



[Source: Field Survey 2012]

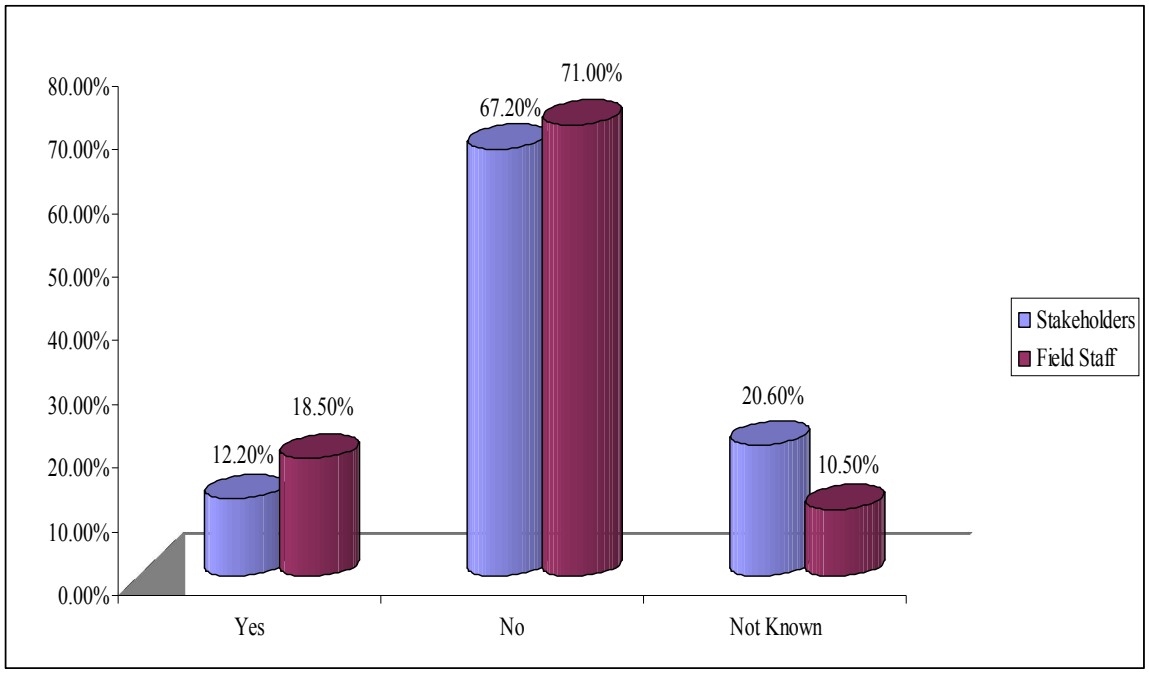
6.8.8 Usage of Safety Materials by the Conservancy Workers

It is the responsibility of the City Corporation to supply health risk-reducing materials, like uniform, gumboots, masks, hand gloves, etc. for its conservancy workers. When they were interviewed, the largest number of respondents in both categories (67.2% of stakeholders and 71.0% of field staff) report that RCC workers do not use safety materials while performing their waste management activities. Only 12.2% and 18.5% of respondents from stakeholders and field staff, respectively, disagree. The remainders do not have any knowledge about this (Chart 6.5).

During physical observation, it was found that conservancy workers do not use these materials while cleaning or sweeping roads, drains, tips, etc. In an interview, the RCCs' CEO replied that the Corporation provide health risk-reducing materials, sufficient training and necessary treatment for their conservancy workers. Yet the workers may not use these safety materials because of their limited knowledge and awareness. Many workers do not participate in the training sessions, giving false excuses. RCC do not take any punitive measures for such workers.

Table 6.5

Usage of Health Safety Materials by Conservancy Workers



[Source: Field Survey 2012]

6.8.9 Dumping of Solid Waste into Drains and Collection

Observation showed that most of the RCC drains contain lots of solid waste. In some cases, drains fill up and become clogged due to unlimited dumping of solid wastes over the years. When they (both stakeholders and field staff) are asked, 71.05% of respondents report that people dump solid wastes into drains, with 28.95% replying in the negative. RCC cleaners do not collect these solid wastes from drains on regular basis. 82.24% of respondents say that, when cleaners clean the drains, collected wastes from drains are

dumped in the street, which is one of the causes for environment pollution and health hazard (Table 6.7). Especially, on rainy days, the dumped wastes in streets are spread over the roads and create a disgusting situation for the inhabitants and vehicles. Indeed, field observation confirms that wastes collected from drains are often kept in streets to dry, as RCC lacks proper waste management logistics.

Table 6.7

Dumping of Solid Waste into Drains and Storage on Streets

Variables		Frequency (%)
Do the people of RCC dump solid waste into drains?	Yes	216 (71.05%)
	No	88 (28.95%)
Are the collected wastes from drains kept on streets to dry?	Yes	250 (82.24%)
	No	54 (17.76%)

[Source: Field Survey 2012]

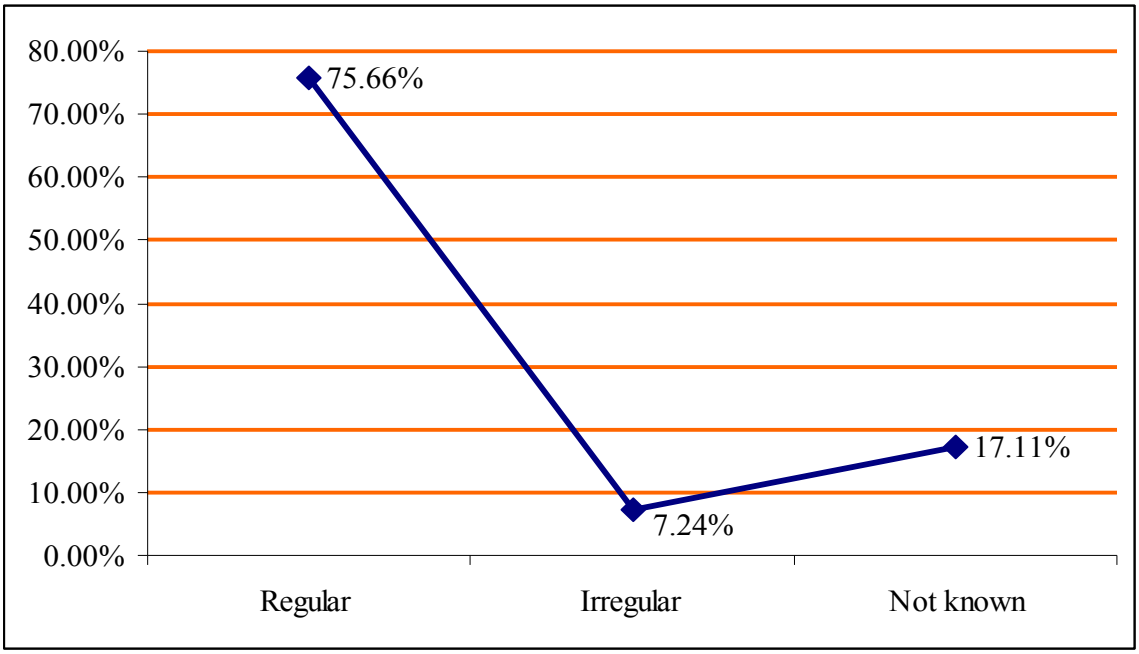
6.8.10 Cleaning of Market Waste

The City Corporation is mainly responsible for the proper environmental management of public markets. RCC has 14 markets in its jurisdiction from which a lot of solid wastes are generated every day.

Most of the respondents (75.66%) confirmed that RCC workers collect market wastes regularly. Only 7.24% deny this. 17.11% did not answer (Chart 6.6). Observation indicates that lots of solid wastes are dumped into the drains that are adjacent to the markets.

Chart 6.6

Cleaning of Market Waste



[Source: Field Survey 2012]

6.8.11 Cleaning of Abattoirs

It is the responsibility of every City Corporation to provide and maintain abattoir for the slaughter of animals for food. RCC cleaners have the duty to clean wastes from these butcheries regularly.

Analysis of data shows that 56.25% of respondents (both stakeholders and field staff) think that these are cleaned regularly. Only 8.55% think that these are not cleaned regularly, with a large proportion (35.20%) of the respondents abstaining from answering. Furthermore, in an additional question, 24.01% of respondents reply that wastes of abattoirs are dumped into open places and drains, while 30.59% say no. The plurality of the respondents (45.39%) did not answer this question (Table 6.8). Observation found that, in most cases, butchers slay animals in open places and dispose of the animals' blood in the drains.

Table 6.8

Cleaning of Abattoirs

Variables		Frequency (%)
Rate of cleaning slaughterhouse	Regular	171 (56.25%)
	Irregular	26 (8.55%)
	No Comment	107 (35.20%)
Do you think, waste of slaughterhouses are dumped here & there or thrown into drains?	Yes	73 (24.01%)
	No	93 (30.59%)
	No Comment	138 (45.39%)

[Source: Field Survey 2012]

6.8.12 Disposal of Industrial Waste

Rajshahi is not an industrially-developed city. There are some silk industries in this city which generate chemical waste. When the respondents (both stakeholders and field staff) are interviewed about disposal of industrial waste, 39.80% report that these toxic chemical wastes of industry are dumped into the water bodies through RCC drains. Only 7.89 % deny this. Yet the majority (52.30%) did not know (Table 6.9).

Table 6.9

Disposal of Industrial Waste

Variables		Frequency (%)
Do you think industrial waste, especially chemical waste, is disposed into the drains?	Yes	121 (39.80%)
	No	24 (7.89%)
	Not known	159 (52.30%)

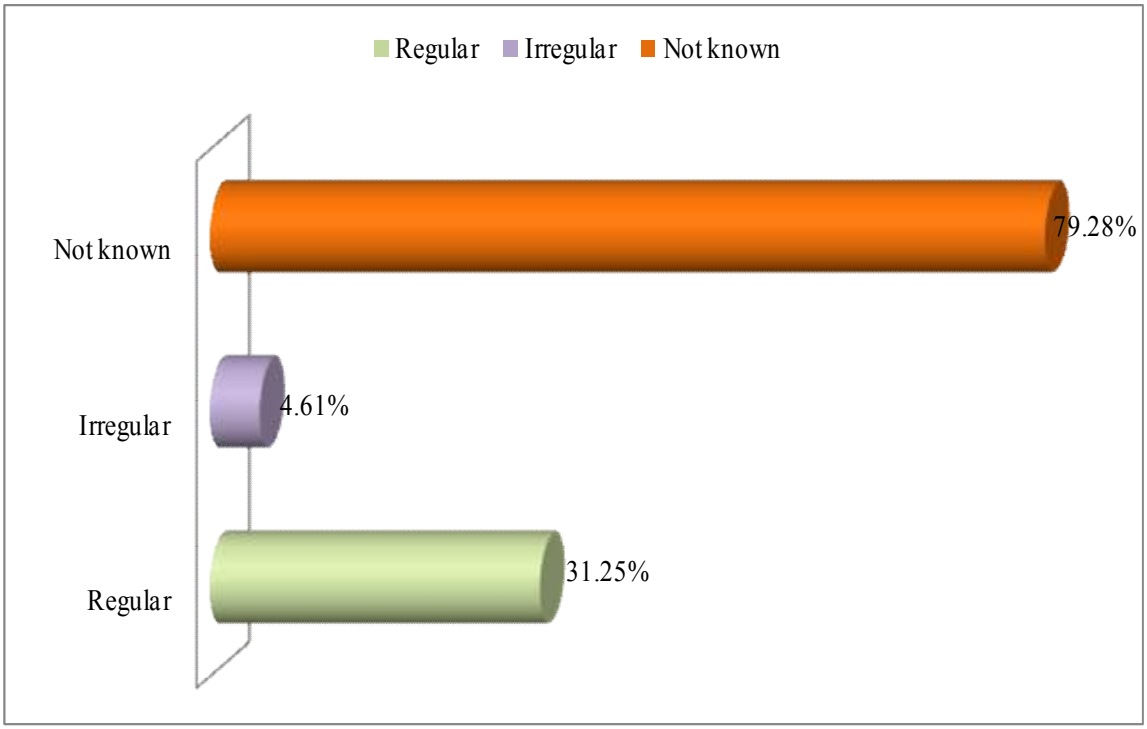
[Source: Field Survey 2012]

6.8.13 Disposal of Clinical Waste

In Rajshahi, there are 80 hospitals and clinics which produce a huge amount of clinical waste. These wastes are accumulated into RCC's specified places by the clinic's own employees and RCC cleaners collect these wastes. Respondents have been asked about the extent to which RCC dispose of these clinical wastes to the tip. 31.25% of the respondents say that RCC collects these wastes regularly. Only 4.61% say that clinical wastes are collected irregularly. Yet most of the respondents (79.28%) do not have any knowledge about this matter (Chart 6.7).

Chart 6.7

Disposal of Clinical Waste



[Source: Field Survey 2012]

6.8.14 Disposal of Hotel-Restaurant Waste

Hotel-restaurants and different shops in RCC produce a lot of wastes every day. According to RCC rules, the owners of the hotels or shops are ordered to dispose their wastes into RCC-specified places.

In this survey question, there is an option to choose more than one answer. So, most of the respondents (80.26%) reply that these wastes are dumped into RCC-specified points, 39.14% say that these wastes are dumped beside the hotel-restaurants and shops with 36.18% reporting that wastes are dumped into open places. Only 1.32% refrains from answering (Table 6.10).

Table 6.10

Disposal of Hotel-Restaurant Waste

Variables		Frequency (%)
Hotel-restaurant waste disposal place (please put tick marks on more than one option if you think necessary)	Disposal into RCC specified points	244 (80.26%)
	Disposal besides the hotel-restaurant	119 (39.14%)
	Disposal into drains or water bodies	110 (36.18%)
	No Comment	4 (1.32%)

[Source: Field Survey 2012]

6.8.15 Sufficiency of Manpower in Solid Waste Management

Sufficient manpower is a must for ensuring effectiveness and efficiency in solid waste management services. RCC has 1,159 waste management staff, including drain cleaners (242 for 30 Wards), sweepers (226 for Wards and 151 for major roads), rehabilitated women sweepers 29, market waste cleaners 46, clinical waste workers 2, Van workers 180 for Wards, 36 for central) truck/tractor workers 77, waste management supervisors 84 (central 57, and 27 for 30 Wards).

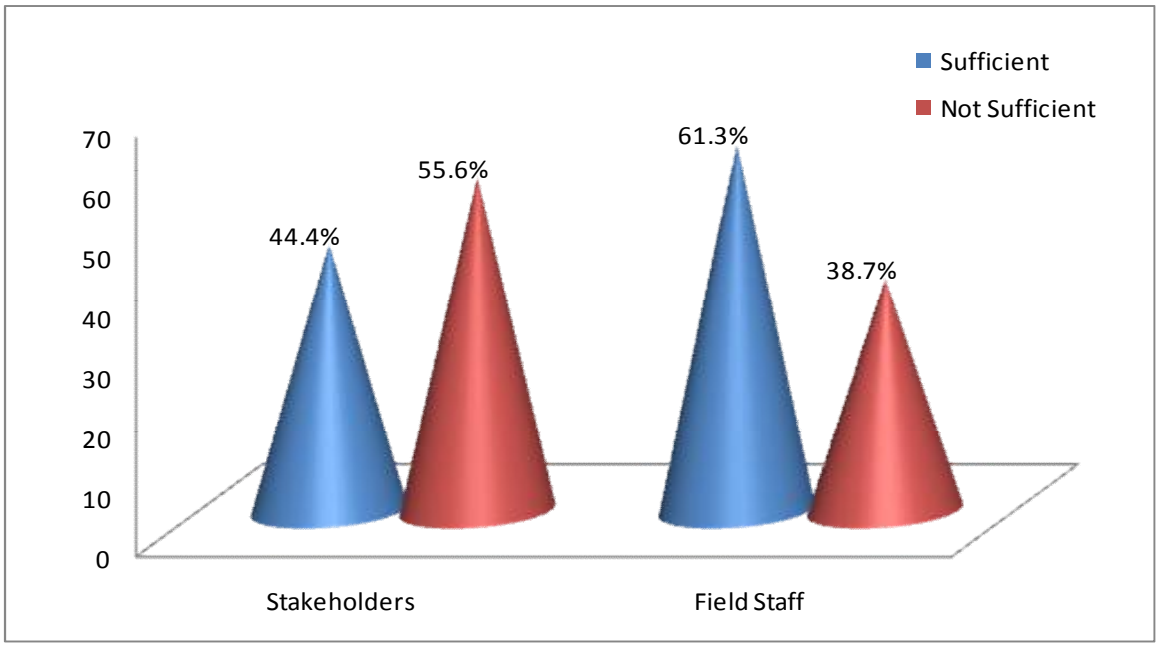
When they are interviewed, 55.6%/ of respondents from stakeholders and 38.7% from field staff agree with the statement that there is insufficient manpower to collect and dispose of refuse for the RCC. 44.4% of the stakeholders and 61.3% of the field staff opine that there is sufficient manpower (Chart 6.8).

From informal discussion with the stakeholders, it appears that, in many cases, Ward Commissioners use Conservancy manpower as personal servants, taking them away from waste management. Furthermore, stakeholders state that a large number of sweepers, backed by a section of RCC officials, illegally draw salaries without any work.[15]

[15] Anwar Ali, "Faulty Solid Waste Management in Rajshahi City", *The Daily Star*, February 11, 2010.

Chart 6.8

Sufficiency of Manpower in Solid Waste Management



[Source: Field Survey 2012]

This could explain the discrepancy between stakeholders and RCC staff answers to the sufficiency of waste management staff. There may be enough staff on the roll, which is what RCC officials see. However, in reality, many of these staff are not working on waste management, which is what the stakeholders see.

6.8.16 Infrastructural Support in Solid Waste Management

Infrastructural facilities such as drains, tips, public toilets, urinals, etc. are indispensable parts of waste management. In this regard, respondents from four categories, stakeholders, field staff, executives and public representatives, were interviewed or given questionnaires.

In reply, 70.63% of the respondents say that there are infrastructural problems in RCC, with 13.13% of the respondents being unwilling to answer. Only 16.25% think that there is no infrastructural problem in the RCC. Most of the respondents (68.75%) perceive that weak infrastructural facilities hamper the waste management process of RCC. Only 15% go against this statement. 17.5% of the respondents do not answer (Table 6.11).

Table 6.11

Infrastructural Support in Solid Waste Management

Variables		Frequency (%)
Do you think that there are infrastructural problems in solid waste management of RCC?	Yes	226 (70.63%)
	No	52 (16.25%)
	No Comment	42 (13.13%)
Do you think that weak infrastructural facilities hamper solid waste management process?	Yes	220 (68.75%)
	No	48 (15.00%)
	No Comment	56 (17.5%)

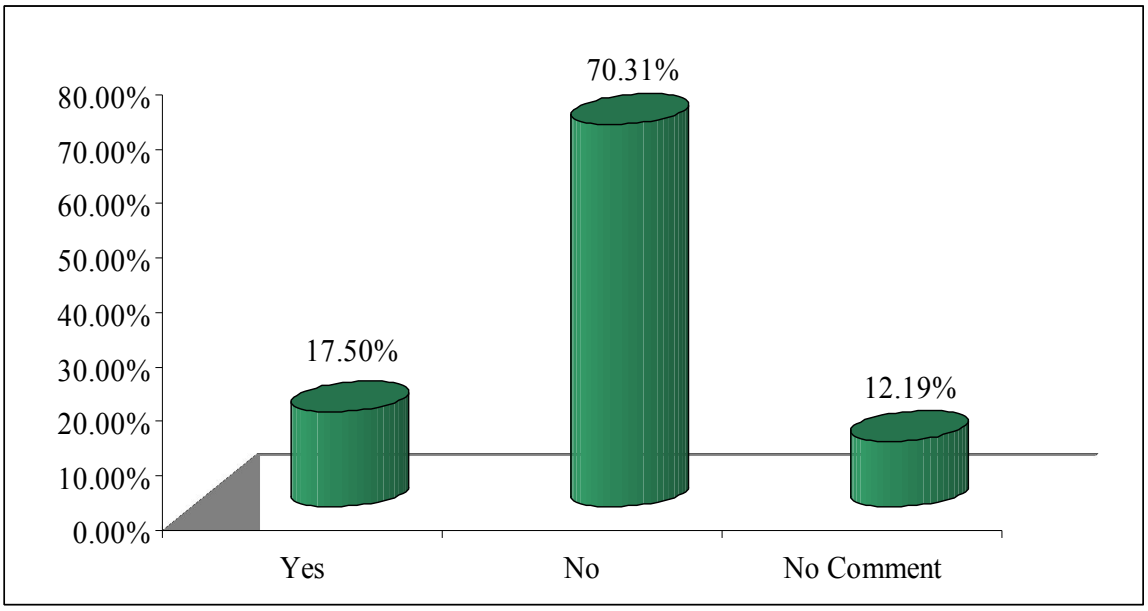
[Source: Field Survey 2012]

6.8.17 Usage of Technological Instruments in Solid Waste Management

Using technological instruments in collecting and disposing of refuse can facilitate quality service delivery, as well as a healthy environment. In this regard, 70.71% of the respondents (from stakeholders, field staff, executives and public representatives) go with statement that RCC does not use any technological instruments in collecting and disposing of refuse. 17.5% go against the statement. Only 12.19% of the respondents refrain from answering (Chart 6.9).

Chart 6.9

Usage of Technological Instruments in Solid Waste Management



[Source: Field Survey 2012]

6.8.18 Participation of People in Solid Waste Management

With the rise in urban population, it is not so easy for a City Corporation to ensure proper waste management and to keep a clean environment in the City. Participation of ordinary people in these activities is, therefore, an integral part of waste management.

Table 6.12 shows that 44.08% of the respondents participate in collecting and disposing of refuse and in keeping the surroundings clean. 49.34% of the respondents do not participate. 6.58% of the respondents do not answer.

On the whole, 96.71% of the respondents opine that the low level of people's participation worsens waste management. 3.29% do not agree with them. All participants answered the question.

Table 6.12

Participation of People in Solid Waste Management

Variables		Frequency (%)
Do you help or participate in collecting and disposing of refuse and garbage, and in keeping your surroundings clean?	Yes	134 (44.08%)
	No	150 (49.34%)
	No Comment	20 (6.58%)
Do you think that low level of people's participation hamper solid waste management process?	Yes	294 (96.71%)
	No	10 (3.29%)
	No Comment	00 (00%)

[Source: Field Survey 2012]

6.8.19 Training for Conservancy Staff

Manpower, including the staff of the Conservancy Division, is an indispensable part of effective waste management. Providing them with proper training is essential.

When they are interviewed, more than half of the respondents (60%) reply that RCC do not provide its Conservancy staff with any training. A comparatively large proportion of the respondents (31.45%) abstain from answering. Only a few respondents (8.06%) think that RCC provides its conservancy staff with relevant training (Table 6.13).

Table 6.13

Training for Conservancy Staff

Variables		Frequency (%)
Does the RCC provide the conservancy staff with any training on solid waste management?	Yes	10 (8.06%)
	No	75 (60.48%)
	No Comment	39 (31.45%)

[Source: Field Survey 2012]

6.8.20 Planning for Solid Waste Management Services

Proper planning brings efficiency and effectiveness in service delivery as well as a healthy and livable environment. Analysis of data shows that 28.57% of the respondents (field staff, executives and public representatives) express their consent to the statement that RCC does not follow or have any planning for proper waste management services. A significantly large proportion of the respondents (57.14%) say that RCC follows or has planning for proper waste management services. 14.29% of the respondents remain silent (Table 6.14).

Table 6.14

Planning for Solid Waste Management Services

Variables		Frequency (%)
Does RCC follow or have any planning for proper delivery of the solid waste management services?	Yes	80 (57.14%)
	No	40 (28.57%)
	No Comment	20 (14.29%)

[Source: Field Survey 2012]

6.8.21 Coordination among the Environment-related Services

Coordination among different services such as drainage system, waste management, sanitation and control of pollution enhance the capability of the City Corporation to provide these services effectively and efficiently. On the whole, 42.86% of all the respondents (field staff, executives and public representatives) perceive that there is no coordination among services, while 46.43% think that there is coordination among services.10.71% of the respondents abstain from answering (Table 6.15).

Table 6.15

Coordination among the Environment-related Services

Variables		Frequency (%)
Do you think that there is coordination among all the environment related services that the RCC delivers?	Yes	65 (46.43%)
	No	60 (42.86%)
	No Comment	15 (10.71%)

[Source: Field Survey 2012]

6.8.22 Monitoring of Solid Waste Management Services

An effective monitoring system helps to identify problems and, thereby, takes measures to ensure quality of the services. 44.06% of the respondents (stakeholders, field staff, executives and public representatives) report that there is no monitoring in the waste management activities of RCC. 15.31% are unwilling to answer. On the other hand, 40.63% think that there is a monitoring system in the waste management activities of RCC (Table 6.16).

Those who say 'no' to the previous question are asked a further question. Among them 85.11% report that a weak monitoring system impedes pollution control. 10.64% of the respondents do not report the same. Only 4.26% of respondents refrain from answering.

Table 6.16

Monitoring of Solid Waste Management Services

Variables		Frequency (%)
Does RCC regularly monitor the solid waste management activities?	Yes	130 (40.63%)
	No	141 (44.06%)
	No Comment	49 (15.31%)
Do you think that weak monitoring system impedes pollution control?	Yes	120 (85.11%)
	No	15 (10.64%)
	No Comment	6 (4.26%)

[Source: Field Survey 2012]

6.8.23 Evaluation of Solid Waste Management Services

Proper evaluation of the services facilitates identification of problems and quality service delivery. So, Conservancy field staff have been interviewed as to whether RCC evaluates their waste management activities.

All of the 124 respondents (100%) from the field staff category report that the RCC authority evaluates the waste management services delivered. On the other hand, the City Corporation is responsible for providing civic amenities to its stakeholders, including waste management services. Their opinion can help identify problem areas and of corrective strategies.

Table 6.17

Evaluation of Solid Waste Management Services

Variables		Frequency (%)
Does RCC evaluate the services of waste management?	Yes	124 (100%)
	No	00 (00%)
	No Comment	00 (00%)
Does RCC collect any information about its service delivery from mass people?	Yes	28 (15.56%)
	No	140 (77.78%)
	No Comment	12 (6.67%)

[Source: Field Survey 2012]

On the whole, 77.78% of the respondents say that the RCC does not collect any information from them for the evaluation of the services. Only 15.56% say that the RCC collects information from them. 6.67% of the respondents do not answer (Table 6.17).

6.8.24 Punitive Actions against the Environment Polluters

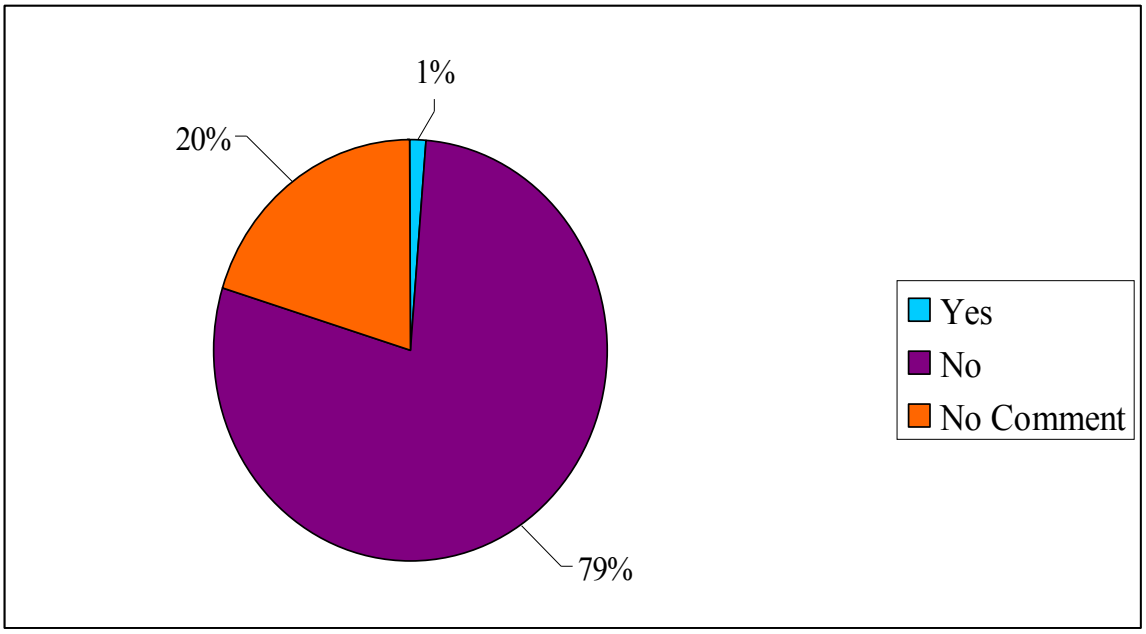
RCC has a Magistracy Department, headed by a Magistrate, whose main responsibility is to conduct mobile courts and monitor the environmental situation in RCC's jurisdiction. In accordance with the legal framework, particularly Bangladesh Environmental Conservation Act 1995, he is charged with imposing penalties, including fines and filing cases against the persons who are responsible for polluting the environment.

But when they (both stakeholders and field staff) are interviewed about this matter, only 1.32% report that RCC takes punitive actions against the polluters. The vast majority of the respondents (78.29%) say that RCC does not take any action against the environmental polluters. 20.39% of respondents do not answer in this regard (Chart 6.10).

In some cases, RCC serves only a notice to the criminal, threatening him/her with future punishment. It is very rare to find any example of the RCC Magistracy giving punishment to the environmental polluters.

Chart 6.10

Punishment of the Environmental Polluters by RCC



[Source: Field Survey 2012]

6.8.25 Financial Capability of the RCC

The most important part of the total management of a City Corporation is finance. Inadequate collection of tax, fees, rates and tolls, as well as insufficient government grants, results in weak management capacity and thereby in poor service delivery. Therefore, it is essential to know whether or not the RCC has a financial crisis.

To that end, data have been collected from 16 members of RCC, 10 of whom are officers and 6 are Councilors. All the respondents (100%) clearly opine that there is a financial crisis in RCC.

In response to a relevant supplementary question, 66.88% of the respondents think that lack of finance hampers the quality of services of solid waste management. 18.75% do not think so. Only 14.37% do not comment in this regard (Table 6.18).

Table 6.18

Financial Capability of RCC

Variables		Frequency (%)
Do you think that there is financial crisis in the RCC?	Yes	16 (100%)
	No	00 (00%)
	No Comment	00 (00%)
Do you think that lack of finance hampers solid waste management services?	Yes	214 (66.88%)
	No	60 (18.75%)
	No Comment	46 (14.37%)

[Source: Field Survey 2012]

Financial Budget for Solid Waste Management (SWM) of RCC

RCC has a total of 1,274 officers, other staff and workers who are engaged in SWM. Among them, 1,242 are in Conservancy section and 32 in the mechanical engineering section (including officers, drivers, helpers, workshop mechanics and other staff).[16] A major portion of the total expenditure made in SWM is basically consumed by the component of salary & other allowances for the engaged manpower. Apart from salary, wages and their overheads, there are certain other heads, on which RCC has to spend for SWM. Table 6.19 indicates the budget expenditure of RCC on SWM for the financial year of 2011-12.

Table 6.19

Budget Expenditure of RCC

Particulars	Expenditure (in taka)	Percentage (%)
Salary and Allowances	66,482,724	93.60 %
Other Conservancy Expenditure	4,544,00	6.40%
Total Expenditure	**71,026,724**	**100.00%**

[Source: RCC Budget 2011-12]

[16] Accounts Division of RCC, 2012.

From the table 6.30, it is found that total expenditure budgeted for SWM in the financial year 2011-12 for RCC is Taka 71,026,724, of which 93.60% is consumed under the head of salary & allowances, and 6.40% under other Conservancy expenditure. However, the Conservancy budget does not include the cost incurred for operation and maintenance of the Conservancy vehicles, as well as the salary & allowances for the drivers and helpers.

6.8.26 Level of Satisfaction with the Governance of Solid Waste Management by RCC

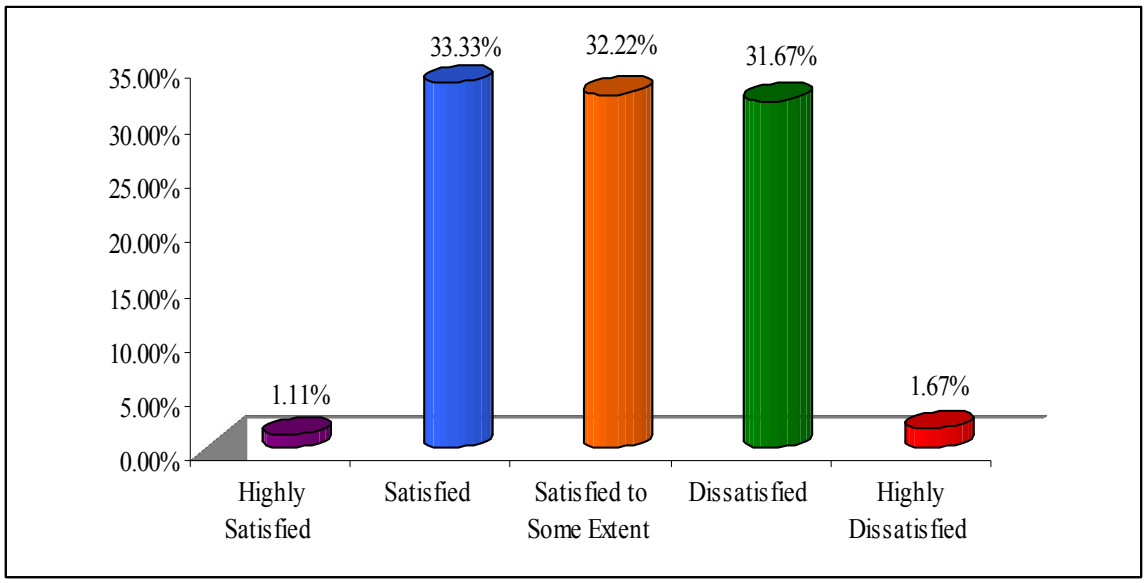
Quality service delivery is necessary to ensure good governance in the City. So, to evaluate the role of RCC in governance of waste management, it is important to know the level of satisfaction of people with the services of waste management provided by the RCC. To that end, 180 respondents, all of whom are unelected, non-official and inhabitants of Rajshahi City were interviewed.

Data analysis reveals that 32.22% of respondents are satisfied, to some extent, with the governance of waste management by RCC. 33.33% of respondents are fully-satisfied and 31.67% of the respondents are dissatisfied with the Corporation's governance of waste management. Only 1.11% and 1.67% of respondents are highly-satisfied and highly- dissatisfied, respectively, with the governance of waste management by RCC (Chart 6.11).

However, recall our discussion of such results from Asian respondents earlier: they like to make their speech beautiful and do not like to speak negatively. So, all would like to say "satisfied". Those who feel that they must qualify their statement with "satisfied to some extent" may in fact be dissatisfied but think it sounds bad to say so. The low number of "highly satisfied" lends further weight to this conclusion.

Chart 6.11

Level of Satisfaction with the Governance of Solid Waste Management



[Source: Field Survey 2012]

6.9 Issues Hampering the Governance of Solid Waste Management by RCC

As this study explores the role of RCC to govern its solid waste management effectively and efficiently, it is essential to identify the main problems in governance of solid waste management. The following conclusions arise from the data collected.

6.9.1 Incompatible Waste Collection

In RCC, there are two types of solid waste collection i.e. primary collection and secondary collection. The services of primary and secondary waste collection should be compatible for achieving maximum efficiency during collection of the waste. Yet, currently, the system of primary and secondary collection in RCC is incompatible. This results in multiple handling of waste, low collection efficiency and, in the end, environmental problems. The present solid waste collection systems are incompatible due to the following reasons:

(1) the present system encourages multiple handling of solid waste before disposal:

i) from household to rickshaw van

ii) from rickshaw van to open area

iii) from open area to demountable container/open bin

iv) from open bin to truck

v) from truck to landfill.

(2) the households dump their rubbish in open places, roadsides, water bodies or into the drains, which slows down the collection rate.

(3) the present solid waste collection system creates work health and safety issues, as no personal protective equipment is used by the solid waste collectors

(4) since solid waste collection vehicles at every stage, rickshaw-van, truck, lorry, etc., are open, these vehicles create environmental hazards during haulage of solid waste.

(5) because of lack of street sweeping equipments and proper supervision, sweeping does not cover all streets, particularly in the less important streets.

(6) rickshaw-van-collected solid wastes are unloaded, not in the community tip, but near the tip, in the open, which creates hazards for the environment, as well as for the pedestrians and vehicles.

(7) the secondary collections are sometimes obstructed because of construction materials at the roadside and people do not cooperate in this regard.

6.9.2 Poor Solid Waste Storage Facilities

At present, the standard for secondary waste storage facilities is not good in RCC. RCC produces a total of 350 tons of solid wastes per day. For such a high volume of wastes, there are only 19 secondary collection points and 1,218 community tips. Most of the respondents think that these storage facilities are not sufficient.

Field observation shows that brick/concrete-made community tips are not well-protected. These tips pollute the environment since these are open. During monsoon rains, these tips generate additional leachate. The brick/concrete walls are usually only 2 or 3, not 4: they are not to seal the rubbish but to hide it from public view. Animals regularly come to feed – and fight – there.

6.9.3 Open Dumping of Waste

The open dumping of waste can cause irreparable damage to the environment by polluting land, water and air. It adversely affects human health. It also lowers people's quality of life.

In RCC, solid waste disposal is a neglected issue. The RCC Mayor (2009-2013) and Council made a big issue of solid waste disposal, cementing over public drains, showing an automated street sweeper and constructing walls around community tips. However, as described in the previous section, this was mostly for show: the covered drains were mucked out on the street, the rubbish tips were disguised not replaced and the one street sweeper cannot sweep much of the city.

The reality remains that solid waste is dumped in open areas or low-lying areas, within or outside municipal boundaries, through crude dumping methods, without any environmental protection. Landowners hire drunken private sweepers to illegally clean their septic tanks into drains or dump large quantities of rubbish into the roads or drains: at night, when no one can see them and RCC staff are not on duty. Yet why do they disguise their act? RCC never prosecutes. Almost all the secondary waste collection points of RCC are open and situated at roadsides, so they themselves create many environmental problems. Observation showed that, in many cases, collected wastes are sold by RCC officials illegally to private landowners for landfill.

6.9.4 Unsanitary Disposal Sites

There is no sanitary landfill in RCC's jurisdiction. Presently, RCC dumps openly both biodegradable and non-biodegradable solid waste together in a landfill site in Nawdapara This disposal site has no environmental clearance certificate from the DoE. The physical condition of the disposal site is not sound: it is partially a cattle market with waste of its own and near water sources for runoff in the rain. The cattle market people and the residents of 4 nearby communities always smell bad odor. The site is a headquarters for mosquito, fly and insect breeding, which can give these people parasitic diseases like dengue, malaria, filariasis, etc. The leaching from this landfill can pollute both the ground and surface water and ultimately create health risks among the local inhabitants.

Waste pickers work in the polluted environment of this site, suffering disease. Many people collect compost from this landfill. This mixed compost is used in agricultural fields. This compost is very dangerous for human health and the environment because this type of compost contains a high amount of toxic metals: lead, cadmium, mercury, nickel, chromium, etc. The metal may enter into the food chain through vegetables and food grains.

6.9.5 Resource Recovery

There is an abundant content of organic wastes (82.47% of the total waste) in RCC waste, like kitchen and market vegetable wastes, which are more suitable for compost production than the current landfill. The dry wastes like paper, plastic, glass and metal are mostly recovered by the huge number of collectors and there are few such wastes. Recovery of compostable waste has a great potential for waste reduction and resource recovery. RCC does not have composting facility. There is a compost plant but it is not in operation.

6.9.6 Absence of Source Separation

RCC generates approximately 350 tones of solid waste every day that includes non-hazardous common solid waste, infectious and hazardous waste. The study found that hazardous and non-hazardous, organic and non-organic wastes are not separated in RCC. As the wastes are not separated at source of generation, it is difficult to segregate them in primary or secondary collection. All kinds of solid waste are indiscriminately dumped into the landfill sites, which create serious health hazards and environmental degradation.

6.9.7 Indiscriminate Mixture of Hazardous Waste

There are more than 80 hospitals and clinics in Rajshahi City. Only Rajshahi Medical College Hospital has incineration facilities for safe disposal. All the other clinical wastes are disposed in the landfill site, along with hazardous waste from other sources like industries, slaughterhouses, households and agriculture. It poses health risks to the collectors, scavengers and the community. Moreover, a lot of toxic and detrimental chemical waste from the silk industry is mixed and disposed into the river Padma and other water bodies as well as contaminating the surface water.

6.9.8 Lack of Awareness

People's awareness is very important in efficient solid waste management. Awareness, perception, attitude and behavior, etc. are the catalysts in solid waste management.

The study reveals a low level of the people's awareness. RCC is not very sincere about awareness-building among the citizens about waste disposal. It is revealed from the study that RCC has few awareness-building campaigns like microphone announcements, leaflet distribution, Ward meetings etc. regarding solid waste management and environment conservation. The data suggests that RCC needs to go to the people through outreach programmes, demonstration programmes on TV and radio, caucus meetings, Councillors meetings, and workshops and seminars for Parliamentarians, Councillors, officers, staff, community members, etc.

6.9.9 Absence of Punishment

The enforcement of law regarding solid waste management is very weak in Rajshahi City. The study reveals that, under the legal framework of waste management in RCC, no case was filed against the lawbreakers for legal action. It is very surprising that RCC did not has not file any suits against placing or throwing rubbish in a place other than particular place provided by RCC under legal provisions.

6.9.10 Institutional Weaknesses

RCC has some institutional weaknesses in solid waste management, which are as follows:

- Three Departments of RCC are mainly mandated for solid waste management: Conservancy, Transport, and the Mechanical Division of the Engineering Department. However, there is no clear identification of roles/functions of these departments in the legal framework.
- Different vehicles of different capacity are engaged in waste collection activities and transportation in RCC. However, this number of vehicles is not sufficient to collect the wastes which are generated daily. Existing transport can collect only 230 tons of rubbish out of 350 tons/daily. So, the rest of the wastes remain uncollected due to shortage of vehicles.

- Most of the secondary collection points are open and unhygienic. When the wastes are stored at these points after primary collection, different animals like cows, dogs, hens, goats, birds, etc. spread the waste on the roads and create different environmental and health hazards. So, open points cannot hold waste well, resulting in scattered waste around with littering problems.
- The Conservancy operation is a manifold work. Yet, there is only one inspector working in each Ward. For a small Ward, it is possible for one inspector to find all the shortfalls in waste management. In a big Ward it is just impossible for one inspector to monitor the whole solid waste situation.
- Salaries and incentives for waste management workers are low. About 97% of the conservancy workers in RCC work on a daily-wage basis. Every worker is paid only 150/- Taka per day. There is no mechanism of providing extra benefits for cleansing staff or cleaners. They work in deplorable conditions in and around waste heaps. So their productivity and output is very much less than that needed in solid waste management.

6.10 Chapter Conclusion

Rajshahi City is one of the largest cities in Bangladesh. About 800,000 people live in this city and its area is 96.72 sq. kilometres. Its solid waste management problems and shortcomings are a microcosm for the urban sector of the nation.

RCC has no Department for solid waste management. Solid waste management is organized and run by three Departments or sections. The Conservancy section is the most focused of the three on waste management yet it has no power to lead the other Departments: each goes its own way. Primary and secondary collection overlap and there is no overall strategy. Resources are inadequate. Management requires planning, control and evaluation: so there is no solid waste management in RCC, only collection and dumping.

This city everyday produces about 350 ton solid waste. RCC collects only 230 tons per day. The rest is informally dumped in open tips, drains and on roadsides. The people of Rajshahi are living in it. RCC has no policy to deal with the part it collects: no composting, no recycling, no incineration, no burial, no sanitary landfill. It is dumped next to a cattle market, leaching into ground water and spreading disease and stench to 4

communities. Impoverished women and children scavenge in it to sell recyclable materials, picking up disease as they go.

Among the solid waste, 82.36% is compostable and 17.64% is non-compostable waste. RCC does not have any composting facilities, so it is wasting its waste. Primary collection is done by the RCC cleaners through house-to-house collection system at 175Tk per day with no permanent appointments and from the small movable tips at different points in the city. Secondary collection is also done by the RCC staff at night from 19 secondary collection points of the city. Open vehicles like rickshaw vans, trucks, trailers, lorries, etc. are used for transportation of waste at all levels. The final disposal of solid waste is done by RCC through crude open dumping in the landfill site. Nawdapara is the only landfill site in the RCC. It is the opposite of sanitary.

The study reveals that hazardous and non-hazardous, organic and non-organic wastes are not separated in RCC. All the clinical wastes are disposed in the landfill site along with hazardous waste from other sources like industries, slaughterhouses, households and agriculture. The study finds non-cooperative attitude of people in keeping their surroundings clean and in collecting and disposing of their refuse. The drains, roads, etc. are often seem as their rubbish bins, dumping grounds and sometimes public toilets. RCC does not take any punitive measures against the polluters. RCC does not have any effective awareness-building program. RCC has made an issue of waste management in the past but the actions taken were mostly for show, to disguise the problem: the policy was the infantile concept of “what you don’t see can’t hurt you”.

However, to protect the environment of RCC from pollution by solid waste, strong governance is required. First, a Solid Waste Management Department with consolidated powers, permanent employees with the conditions of all City staff, and its own Magistracy, as well as a budget for public awareness, is needed. Second, at least one (and probably many) sanitary landfills is required. Central government should allocate resources for this department in Rajshahi and all urban centers. The department should have a strategy for separating and recycling most waste at collection points. A few well-thought-out strategies could make Rajshahi as clean and green as it believes itself to be.

Chapter 7
Governance of Conservation of Ponds by RCC

7.1 Introduction

Ponds are important water bodies which have great ecological, economic, commercial and socio-economic importance and value in Bangladesh. They contain many components of bio-diversity like flora and fauna of important local, national and regional importance. Bangladesh possesses enormous wetland areas and water bodies of which the principal ones are rivers and streams; freshwater lakes and marshes, including haors[1], baors[2] and beels; water storage reservoirs; fish ponds; flooded cultivated fields; and estuarine systems, with extensive mangrove swamps.[3] According to a study conducted in the 1980s, Bangladesh has one of the highest man-water ratios in the world[4]. At the current level of population, for every eight persons, there is an acre of water. Ponds and tanks comprise 336,000 acres i.e. about 10% of total inland water area (excluding the paddy fields, which remain under water for more than six months in a year).[5] Yet these water bodies, especially ponds, are changing and converting into different forms due to development interventions.

In the past, Rajshahi developed along the river Padma in a linear east-west pattern. Presently, it shows an urbanization tendency northwards from the river, in a cloud formation. With the increase of land value due to increasing demand, there is a tendency to encroach wetlands of the city like khals, beels, marshes, ponds, etc.

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[1] *Haor* is the low-lying area, usually near a river, which goes under water for the whole rainy season. These are particularly common in the area of greater Sylhet and Kishorgonj and Netrokona Districts. *Haors* are among the greatest sources of fish resource. In winter, many migratory birds come to *haors* from abroad. The biggest *haor* ,"*Tanguar Haor*" has been declared a World Heritage Site.

[2] A *baor* is a small *haor*. A *haor* of less than 3 acres in area is considered a *baor*

[3] M. Salar Khan, et al., ed*., Wetlands of Bangladesh* (Dhaka: Bangladesh Centre for Advanced Studies, 1994), p. 2.

[4] *Ibid*.

[5] M Sekandar Khan*, Multiple of Water*, quoted in A Atiq Rahman, et al., ed. *Environmental Aspects of Surface Water Systems of Bangladesh* (Dhaka: University Press Limited, 1990), p. 166.

These water bodies serve a vital role in draining the city's waste and storm water. Now the existence of these water bodies, particularly the ponds of the city, is threatened. The number of ponds of the city is decreasing radically as they are drained for residential, commercial and industrial use. The profit mongers and land grabbers sell the ponds to the influential persons of the city for building houses, markets and other commercial purposes. They sell these lands for 200,000Tk to 500,000Tk per *katha,* according to location.

This situation is profoundly acute in the areas of Meherchandi, Budhpara, Chouddopai, Choto Bongram, etc. in Rajshahi City. These are at the vanguard of urbanization, as the "settled area" of the city marches out into the rural areas surrounding it. This rapid decrease of ponds is affecting the physical, chemical and biological components of the wetland ecosystems.

7.2 Uses of Ponds

The main purpose for draining ponds is to create land. The second most common reason behind pond draining is household use of water for drinking, bathing and washing.

Ponds, in many cases, were originally dug to meet the need for drinking water. In some cases, large community ponds were constructed on the initiative of benevolent landlords, as a work of public welfare. Until the late 1960s, when tube wells were widely dug as a policy of the East Pakistan Government, ponds remained the chief source of drinking water in the rural areas. In many areas, ponds still compete with tube wells as a source of drinking water, as many people use the pond to drink as a matter of habit.

The current uses of ponds are identified by different authors as: (a) household use including drinking, bathing and washing, (b) fisheries, (c) duck raising, (d) irrigation, and (e) cattle watering. Household use outweighs all other uses, but recently, fisheries use has grown very quickly in importance.

7.3 Excavation of Ponds in Rajshahi City: A Historical Summary

There are about 1.8 million ponds and tanks in Bangladesh. As many as 1/3 of them are shallow and murky. The number of mentionable *beels* and *haors*, and rivers, in this country is about 2,500 and 700 respectively. Certainly, most of these rivers are almost dead by this time.

The history of Rajshahi City centers on thousands of ponds, tanks, *khals, beels* and marshes. Once Rajshahi was known as the *City of Ponds,* like Dhaka was the *City of Mosques*, and Khulna was the *City of Khals*.

Settlement in this city began when the famous saint Hazrat Shah Makhdum (Rh.) came to this region with his followers. Then their residences were established in *Dargahpara* as it is now known. There was a large pond in that place named *Mahakal dighi.* It was the pond that named the place *Mahakalgor* at first.

During the *Pal* and *Sen* dynasties, there was no evidence of excavation of ponds in what later became Rajshahi. This could mean that there were people and no ponds or it could mean that few people came to this area.

In the middle of the 18th century, within a very short time, the number of people of the city and its area almost doubled. Thus, the demand for fresh water increased significantly. Therefore, a large number of ponds, tanks, trenches, khals, etc. was excavated during this period to supply water to the growing population.

Massive excavation of ponds and tanks in this city started at the beginning of the nineteenth century. The district administrative center was shifted from Natore to Rampur-Boalia (now Rajshahi) in 182. [6] Later on, some administrative buildings including educational institutions and courts were established in Rampur-Boalia and in Srirampur *Mauza*. All of this spurred population growth and water demand.

Then, Bhubonmoyee, the Queen of Puthia, excavated a large pond for the people which was a landmark in the history of this town. At the same time, lot of ponds and tanks were excavated to meet the water needs of *Zamindars* (tax-farmers) and ordinary inhabitants. Many businessmen of Rajshahi also came forward to dig water bodies. In this way, from the middle to the end of the nineteenth century, plenty of large ponds were excavated in this town. Among them, *Hathidoba, Mothpukur, Choyghati, Meherchondir Dighi, Sapurar Dighi, Rani Pukur, Chowdhury Pukur, Gaurhanga Pukur, Taronbabur Dighi,* etc. are mentionable. Most of the ponds excavated in that time were located in the area of *Siroil, Ramchandrapur, Jamalpur, Sapura, Boalia, etc*., because the residence of most of the *zamindars* and landlords were situated there. Almost every pond and tank was connected

[6] Syed Rafikul Alam Rumi, *op.cit*., p. 965.

with the river Padma, so that river water, along with lots of small fish of various species, could enter into the big ponds during rainy season. Consequently fish cultivation in the ponds became easier, cheaper and popular among the rich. Thus, hundreds of small and big ponds were excavated, especially at the beginning of the twentieth century. Certainly, many days before the settlement of *zamindars* in this region, the owners of the silk industry and *indigo* planters dug a good number of ponds in this town. Among them, *Barokuthi Pukur, Kazla Dighi, Seroil Reshomkuthi Dighi*, etc. are mentionable.

After the partition of British India in 1947, Rajshahi became the headquarters of divisional administration. So, the town entered a new phase of development. The municipality received much greater attention for the development of infrastructure like roads, bridges, culverts, hospital, educational institutions, office buildings of various organizations, etc.[7] Numerous private brick fields were established in Rajshahi and its adjoining area. In the public sector, C & B and Water Development Board established their own brick fields.

To supply a large amount of soil for these brick fields, hundreds of new ponds as expected were excavated in this region. Ponds of brickfields were mostly noticed in the area of *Balia Pukur, Ramchandrapur, Dingadoba, Mollapara, Laxmipur, etc.*

7.4 Loss of Ponds in Rajshahi City

The number of ponds in the city is rapidly decreasing due to human intervention, unplanned urbanization, absence of law, lack of proper implementation of existing laws *etc.* There were 4,283 ponds in Rajshahi Municipality in 1961. The number of ponds in the city further declined as, in 1981, there were 2,171 ponds. Total ponds were only 729 in 1991.[8] According to the most recent data, there are only 313 ponds in the city.[9]

The rapid decline in the number of ponds will have a bad effect on the city dwellers in future. The continued loss of ponds is leading to depletion of biodiversity and is displacing the wetland-based socio-economic activities.[10]

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[7] *Ibid.*
[8] The Dhaka Mirror, *Dirt Filling in Ponds Continues in Rajshahi*, February 03, 2011.
[9] Rajshahi Development Authority, 2011.
[10] M. Salar Khan, et al., ed., *op. cit*., p. 2.

Mahbub Siddiqui, one of the founders of a Civil Society Organization named *Heritage Rajshahi*, conducted several studies on the environment in Rajshahi. He conducted an extensive study[11] on 252 lost ponds. A summary of these lost ponds is given below.

7.4.1 Size of Lost Ponds

Among the lost ponds of RCC, the size of more than 77% of the ponds was 2 to 4 bighas. 9.52% of the ponds were 4 to 5 bighas. 5.85% of the ponds were 5 to 7 bighas.2.78% of the ponds were 7 to 9 bighas. The size of only 2.38% of the ponds was greater than 9 bighas (Table 7.1). So, it is clear that small ponds were filled up in large number.

Table 7.1

Size of Lost Ponds

Size of Lost ponds (in bigha)	Frequency	Percentage (%)
<1	3	1.19%
1-2	85	33.73%
2-3	72	28.57%
3-4	38	15.08%
4-5	24	9.52%
5-6	10	3.97%
6-7	7	2.78%
7-8	6	2.38%
8-9	1	0.40%
9-10	3	1.19%
10>	3	1.19%
Total:	**252**	**100.00%**

[Source: Developed by the researcher based on Mahbub Siddiqui, *op. cit*., 2012]

7.4.2 Year of Filling the Ponds

Table 7.2 shows that, before the 1980s, the rate of filling up of ponds was very low. Only 24 ponds out of 252 were filled up within 30 years (from 1950 to 1980). However, the

[11] Mahbub Siddiqui, "Rajshahi Mohanogorir Hariye Jaoa Pukur o Dighi (Disappeared Ponds of Rajshahi City)". quoted in Md. Mahbubur Rahman, ed. Rajshahi City: Past and Present*, op. cit*., pp. 170-226.

rate of pond loss increased rapidly in the last quarter of the twentieth century. 63 ponds were filled up between 1980 and 2000. Within the first decade of the present century, 140 ponds (the highest amount and more than 55%) were destroyed. This trend is continuing year-by- year.

Table 7.2

Year of Filling the Ponds

Year	Frequency	Percentage (%)
Up to 1950	1	0.40%
1951-1960	2	0.79%
1961-1970	4	1.59%
1971-1980	17	6.75%
1981-1990	27	10.71%
1991-2000	36	14.29%
2001-2010	140	55.55%
2011-2012 (only two years)	12	4.76%
Not Mentioned	13	5.16%
	Total: 252	**100.00%**

[Source: Developed by the researcher based on Mahbub Siddiqui, *op. cit*., 2012]

7.4.3 Who Have Filled the Ponds in the City?

Table 7.3 shows that, among the filled ponds, the greatest number (85.32%) were filled up privately by the owners of the ponds. Only 14.68% of lost ponds were filled up by state agencies (Rajshahi Development Authority, Rajshahi City Corporation, Rajshahi University, Bangladesh Railway, and other educational institutions, mainly for the purpose of infrastructural, communicational and educational development).

Table 7.3

Who Have Filled the Ponds in the City?

Who fills in ponds			Frequency	Percentage (%)
Privately by the Owners of the Ponds			215	85.32%
By State Agencies	RDA	13	37	14.68%
	RCC	4		
	RU	2		
	Railway	2		
	Others	16		
			Total: 252	**100%**

[Source: Developed by the researcher based on Mahbub Siddiqui, *op. cit*., 2012]

7.4.4 Purposes for Filling up the Ponds

Most of the ponds (41.27%) were filled up for commercial purposes like, plot/flat business, building of commercial centers, etc. 28.58% of the ponds were filled up for residential purposes, 4.36% for educational purposes, 5.16% of the ponds were filled up for transport purpose and rest of the ponds were filled up for other purposes like construction of mosques, playground, parks, government office building, etc.

Table 7.4

Purposes of Filling the Ponds

Purposes			Frequency	Percentage (%)
Residential			72	28.58%
Commercial	Plot Business	81	114	41.27%
	Others	23		
Educational			11	4.36%
Transport			13	5.16%
Not in use yet			29	11.50%
Other Purposes	Mosque	7	23	9.13%
	Playground	4		
	Park	2		
	Govt. Off. Building	4		
	Others	6		
Total 252				

[Source: Developed by the researcher based on Mahbub Siddiqui, *op. cit*., 2012]

7.5 Present State of Governance in the Conservation of Ponds of RCC

The responsibility to govern the ponds of Rajshahi City is not vested in any single agency. According to the legal framework, mainly four organizations govern ponds: Rajshahi Development Authority (RDA); Rajshahi City Corporation (RCC); Directorate of Environment (DoE) of Rajshahi District; and Rajshahi District Administration (DAR) are empowered to conserve the ponds of the city. The role of these organizations has been evaluated on the basis of field data collected through face-to-face interviews, using structured and unstructured questionnaires.

7.5.1 Ponds Conservation Committee

To govern the ponds of the city effectively, the assigned authorities should be always taking legal and practical initiatives. In this regard, these authorities should have a strong committee charged with conservation of ponds. In RDA, there is a six-member committee headed by the Chief Executive Officer, named 'Committee of Water Body Conservation and Monitoring'. Such committee system was introduced at the end of 2012 following an Order from the High Court of Bangladesh. Before that, there was no such committee or authority in RDA. However, the present committee is in charge of monitoring and taking necessary steps to conserve only the water bodies which are listed in the Master Plan prepared in the year of 2004.

On the other hand, in RCC, DoE of Rajshahi and District Administration of Rajshahi (DAR) there are no special committees to look after water bodies. In RCC, this function is performed by the 'Standing Committee for Improving Environment'. In DoE of Rajshahi, the Senior Chemist and in DAR, an Additional Deputy Commissioner is in charge of water body conservation of RCC. Recently, a central monitoring cell has been formed to monitor the status of conservation of ponds, with a combination of the representatives from different agencies of Rajshahi city: DAR, RCC, RDA, DoE Rajshahi, Rajshahi Metropolitan Police, etc. The Deputy Commissioner of Rajshahi is acting as the President and the Chairman of RDA is acting as Secretary of this monitoring cell.

7.5.2 Responsibility of Committees in the Conservation of Ponds

The main function of the Water Body Conservation and Monitoring Committee is to conserve the marked and listed water bodies of the city so that these cannot be filled in or changed in classification of land without prior permission from the proper authority. Committees of concerned organizations will take necessary steps to implement relevant provisions of the Environment Conservation Act 1995 (amended in 2010) and the Mega City, Divisional Town and District Town's Municipal areas including the Municipal Areas Playground, Open Space, Park And Natural Water Reservoir Conservation Act, 2000. Key informants have been interviewed to understand the actual performance of such committees.

Most of the key informants (ADC of DAR, Chief of Heritage Rajshahi, Executive of BELA) inform that these committees exist only on paper, not in practice. There is a complaint section in these organizations where complaints are received regarding the violation of the Acts. Yet action is rarely taken on such complaints. The RCC Chief Executive says that they are not the legal authority to conserve ponds: the DoE and the RDA have this power and duty. So RCC does not take any active initiatives to protect ponds of the city, except the ponds which are owned by them. On the other hand, when RDA and DoE get any news of filling in any ponds in the city, they usually do not play any effective role, except serving a notice to stop the filling in of ponds. The offender can then choose to stop or to continue.

7.5.3 Public Development Works through Filling of Ponds

According to the legal framework, if any State agency wants to construct any building or infrastructure, after filling of water bodies, such organization has to take permission for changing the classification of land from the proper authority. However, several reports reveal that RDA, RCC and other State agencies did construct buildings and infrastructures after filling in of several water bodies, ignoring mass protests by city dwellers.

The daily “New Age” has reported that the RCC authorities, ignoring mass protest, had filled two ponds with soil at Baliapukur. The Corporation said that the filling was essential to widen a road. However, the city dwellers claimed that the RCC had filled up the ponds for other purposes.

The RCC also filled another pond with land at Tikkapara, in January of 2011, to build a residential building.[12] However, the Chief Executive Officer of RCC said that they had not constructed any road, building or market after filling up any pond.

RDA itself also constructed infrastructure like roads, markets, buildings, etc. by filling in ponds in the city. In this regard, RDA authorities said that there is no strict restriction to construct any infrastructure and market or building through filling up of ponds. In these cases, they only need follow the Ministry's Land Acquisition and Requisition Manual. RDA added that they do not build any infrastructure or building by filling up ponds which are listed in the RDA Master Plan. They say that they do not have any obligation regarding the ponds which are mentioned only in Mutation Papers but not in the Master Plan.

7.5.4 Approval of Building Plan/Design

RDA is the supreme authority to approve the plan and design of buildings in the city. Accordingly, RDA should prevent construction of any building or other infrastructure by filling up ponds or other water bodies. At the time of approving any plan, RDA must investigate the documents about the nature and classification of the land which will be built on. They can conduct the investigation from the Land Registration Certificate (*e.g.* whether the class of land is a water body, submerged land, cultivable or filled land, *etc)* They can serve a notice or letter to the RCC and DAR to collect information or to report any objection to the title or construction.

Data have been collected from RCC, DAR and RDA concerning this matter. RCC and DAR inform that RDA does not seek any opinion or maintain coordination with them when they investigate the documents and pass on any plan for building or infrastructure. On the other hand, RDA says that they are not bound to do this. Rather, if RCC wants to do any development work, they must get a NOC from RDA. RDA further says that, since 2011, they have not approved any building or housing plan based on filling up ponds that are listed in the Master Plan.

[12] *The Daily New age*, 11 February 2011.

7.5.5 Change of the Classification of Land

In Rajshahi city, the RDA is the supreme authority to approve the application of changing the classification of land (for example, from "water bodies which are listed in the Master Plan"). On the other hand, DAR is another authority to give permission to change the classification of water bodies which are listed in the Mutation Paper.

According to the legal framework, if it is needed to change the classification of the land or any part thereof, the owner will apply to the authority (RDA/DAR) by writing the cause of the proposed change. The authority will examine and investigate the rationality of changing the class of land within the stipulated time. At the time of investigation, they will consider:

a) if the class of applied water body is changed, how much it will hamper the goal of the Master Plan;
b) the extent of adverse impact of changing the classification as proposed on the environment and on the inhabitants of the city.

However, most of the respondents stated that, in the RCC, the owners of the ponds or water bodies do not apply to the RDA or DAR when they fill up their ponds or water bodies violating the Water Body Conservation Act. RDA, RCC and DAR also do not take any mentionable action against the violators. Their action remains limited only in serving a notice, carried by their office peon, to the owner of land, giving a threat take the offending owner to court over such illegal activities. In this connection, RDA says that they have already filed four such cases in court. RCC says that RDA is fully responsible for this matter. RDA also says that they are only liable to preserve the ponds listed in the Master Plan.

7.5.6 Connection of Drains with Ponds

In some cases, city drains, particularly ardent drains, are connected with water bodies. This practice is badly affecting the users of ponds and biodiversity. Neither RCC nor RDA takes any action in this regard.

During Key Informant Interviews, a key informant (Chief of the NGO Heritage Rajshahi) stated that the owners of ponds connect their drains with the pond as the first step in

filling the pond. Later, they connect their septic tank with rhe water bodies. They think that, if drains and septic tanks are connected with the ponds, the relevant stakeholders will avoid using that particular pond. Eventually, such pond will be unused and will not give any benefit for the surrounding inhabitants. So, it will be easier for the owner to fill in the pond without much protest from the dwellers.

RDA says that it is not their responsibility but RCC's to disconnect such illegal connection of drains and septic tanks with water bodies. On the other hand, RCC says that there are some connections of ardent drains with ponds but not with *pacca* drains. Initiatives have been taken to make such ardent drains *pacca.*

7.5.7 Re-excavation of Ponds

According to the legal framework, if any water body is filled by anybody, RDA and DoE have the power to order the person who filled it to re-excavate that water body. RDA and DoE have been asked about this matter.

They have replied that they generally file cases against the guilty person and inform it to the higher authority. RDA has filed cases in court in four such cases, but none has reached final decision.

RCC has submitted a project to the Government to re-excavate and develop 53 ponds of the city. After getting approval from the Government, steps will be taken to re-excavate these ponds. Under another project, RCC has re-excavated and developed the ponds and lake of Shaheed A H M Kamruzzaman Park. Most of the key informants say that RDA or RCC does not take any initiatives to re-excavate ponds in the city.

7.5.8 Action against Illegal Buildings and Infrastructure

According to the legal framework, any building or infrastructure, established by breaking the law, is liable to be seized by the local authority on application to a competent court. While research shows that many ponds have been filled up illegally no action has been taken yet by the RDA, RCC, or DoE to seize any of the illegally built construction. Actually, RDA and DoE did not take any legal steps against law breakers except serving legal notice in this regard.

7.5.9 Punishment of the Offenders for Illegal Filling of Ponds

The legal framework prescribes that, if any person fills a water body illegally, he will be penalized by fines or imprisonment. The authority will give notice to the owner of the land or the law breaker through legal notice and command him to destroy the illegal building structure. No compensation will be given for such destruction, notwithstanding anything contained to the contrary in any other law.

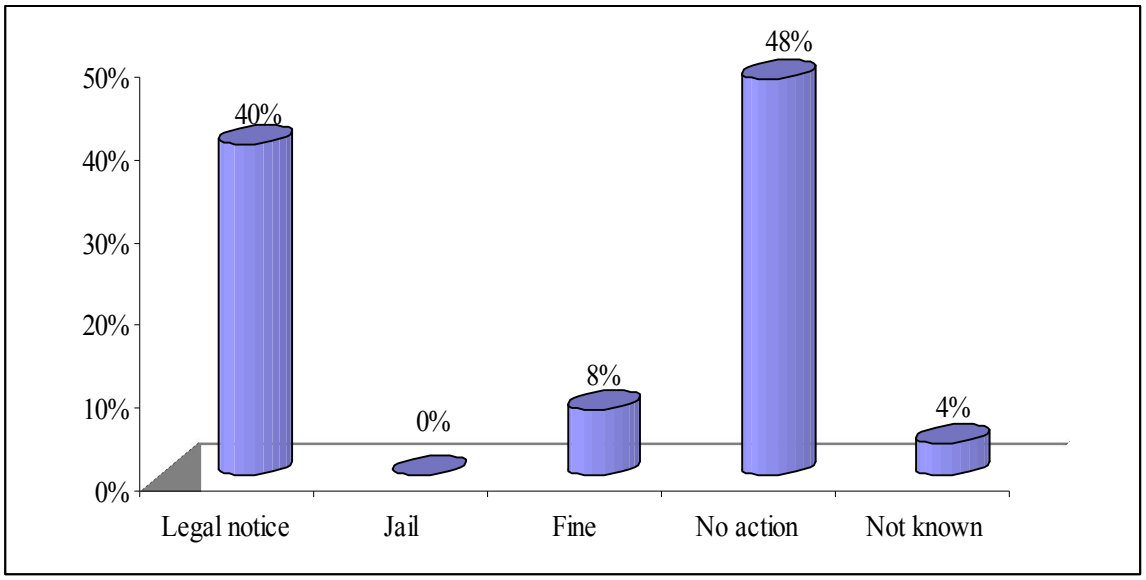
From the field survey, it appears that a wide range of ponds have been filled in Rajshahi City illegally. RDA, RCC, DAR or DoE have still not taken any action such as is described above in these cases. They only send a legal notice to the violators. Thus, people are becoming encouraged to fill their water bodies for residential or commercial or plot business purposes.

During interviews, RDA and RCC have replied that the main causes behind their inability to use their enforcement powers are: lack of manpower, lack of logistic support and political influence or pressure. Most executives of the governing authorities and most of the respondents agreed that the existing laws regulating urban water bodies are weak. Authorities have also expressed that the punitive measures that are provided by the laws are not sufficient and appropriate. If any person violates the Act, he is penalized as either not more than 5 years jail or not more than 50 thousand taka or the both. A key informant (Chief of Civil Society Organization) suggests that illegal filling of ponds or water bodies should be treated as a cognizable offence, meaning that the violator may be arrested immediately without warrant.

Most of the respondents (48%) state that no punitive measures are taken by the governing authorities to protect ponds. 40% of respondents reply that RDA or RCC only serves a legal notice against the lawbreaker. A small proportion (only 8%) reported that they had to pay fines and the rest of the respondents (4%) did not answer.

Chart 7.1

Punitive Measures against the Illegal Filling of Ponds



[Source: Field Survey, 2014]

7.5.10 Steps Towards Public Consciousness

Data have been collected from the RCC, RDA and DoE to about what kinds of steps are taken by these bodies to raise public consciousness against illegal filling of water bodies in Rajshahi city. Almost all the bodies state that they take some steps to create consciousness among the city dwellers. RDA does this through advertisement in the local newspaper, distribution of leaflet, miking, cable television advertisement, etc. RCC creates public awareness to conserve ponds for the ecological balance through the Ward Councilors, who arrange different Ward meetings for this purpose. DoE arranges different meetings and seminars in this regard and advertises through local newspapers. Besides, they give special emphasis on this issue of ponds conservation in the meetings of District Coordination Committee and Environment Day Meeting (5 June each year).

However, it seems from the interviews that these activities are not effective in creating public consciousness about the need to protect water bodies. Respondents think that the government bodies charged with conservation of water bodies in the city have yet to take any mentionable initiative against the filling operations or to create public consciousness regarding this mater.

7.5.11 Nature of Lost Ponds

The Environment Policy 1992 and the Protection and Conservation of Fish Act 1950 mainly emphasize the conservation of fisheries and prohibit any attempt to destroy fish, etc. The Local Government (City Corporation) Act 2009 requires that the City Corporation set apart suitable places for public bathing and for washing clothes (in place of the pond, which is the traditional site for these activities).

The field survey indicates (Table 7.5) that the lost ponds used to serve as fisheries and as places of local inhabitants' bathing and household washing. Most of the respondents (84%) said that the lost ponds contained water for the whole year and only 16% ponds became dry during dry season. 94% of the total ponds were used for fish cultivation. The large majority (92%) of the respondents said that the lost pond's water was used by the local inhabitants for bathing, household work and other purposes, Only 8% of the respondents had a different reply.

Table 7.5

Nature of Lost Ponds of RCC

Variables	Frequency (%)	
	Yes	No
Whether the lost ponds contained water for the whole year	42 (84%)	8 (16%)
Whether the lost ponds were used for fish cultivation	47 (94%)	3 (6%)
Whether the local inhabitants used the lost ponds for their household works, washing and bathing	46 (92%)	4 (8%)

[Source: Field Survey, 2014]

7.5.12 Permission during the Filling of Ponds

The water body conservation frameworks strictly prohibit the changing of the classification of natural water bodies without the permission of local authorities. 52% of the respondent owners of lost ponds reply that they filled up their ponds by themselves. 48% say that the ponds were filled up by buyers. Respondents have also been asked, whether they know or not, if they wish to fill up any pond, that they have to take permission from the RDA. Most of the respondents (78%) say that they know this and

only 22% reply in the negative. However, at the time of filling of their ponds, 76% of respondents did not take any permission from the local authority. Only a few (10%) said that they had such permission and 14% did not enter (Table 7.6).

Table 7.6

Taking of Permission to fill the Ponds

Variables		Frequency (%)
Have you filled your pond by yourself?	Myself	26 (52%)
	Powerful person	24 (48%)
Do you know, if you want to fill any pond, you should take permission from proper authority?	Know	39 (78.0%)
	Do not know	11 (22.0%)
Did you take permission from the proper authority during filling your pond?	Yes	5 (10.0%)
	No	38 (76.0%)
	No answer	7 (14.0%)

[Source: Field Survey, 2014]

7.5.13 Dirt filling in the Ponds of RCC

The legal frameworks regulating water bodies, especially the Playground, Open Space, Park and Natural Water Reservoir Conservation Act 2000, prohibit filling of water bodies with dirt or solid waste. In this regard, it is the duty of the Corporation to conserve and manage water bodies within the city in accordance with the provisions of this Act.

Yet dirt filling in ponds is a common practice in Rajshahi City. It is continuous in the city, violating the laws. The City Corporation authorities and RDA fail to implement the laws for the sake of the city dwellers as well as the environment.[13] Even the RCC, ignoring mass protest, filled two ponds with dirt at Baliapukur, as explained above. Most of the key informants state that the owners fill their ponds with dirt without seeking permission from concerned authorities. RDA or RCC is yet to take any initiative against these kinds of filling operations.

Most of the respondents in the field survey (82%) have replied that dirt-filling is continuing in RCC, while 18% of respondents do not know about this. In an another

[13] The Dhaka Mirror, *op. cit.*.

question, 6% respondents think that dirt-fillers take permission from the authority during dirt-filling of ponds, but 64% of the respondents report that no permission was taken by the dirt-filler when they filled their ponds. 30% of respondents do not know about this. 60% of the respondents state that RDA and RCC do not take any action to prevent dirt-filling of water bodies.

Table 7.7

Dirt-filling in the Ponds of RCC

Variables		Frequency (%)
Do you know that dirt-filling of ponds is continuing in RCC?	Know	41 (82.0%)
	Do not know	9 (18.0%)
Do you know whether dirt-fillers take permission from the authority during dirt-filling of the ponds?	Yes	3 (6.0%)
	No	32 (64.0%)
	Not known	15 (30.0%)
Does RDA/RCC take any step to prevent dirt-filling of ponds?	Yes	6 (12.0%)
	No	30 (60.0%)
	Not known	14 (28.0%)

[Source: Field Survey, 2014]

The New Age, a leading newspaper, confirmed the results found in this survey. They commented that dirt-filling of ponds is going on, violating the legal framework. They said that the City Corporation and RDA fail to implement the law.[14]

7.5.14 Level of Satisfaction with the Conservation of Ponds in Rajshahi City

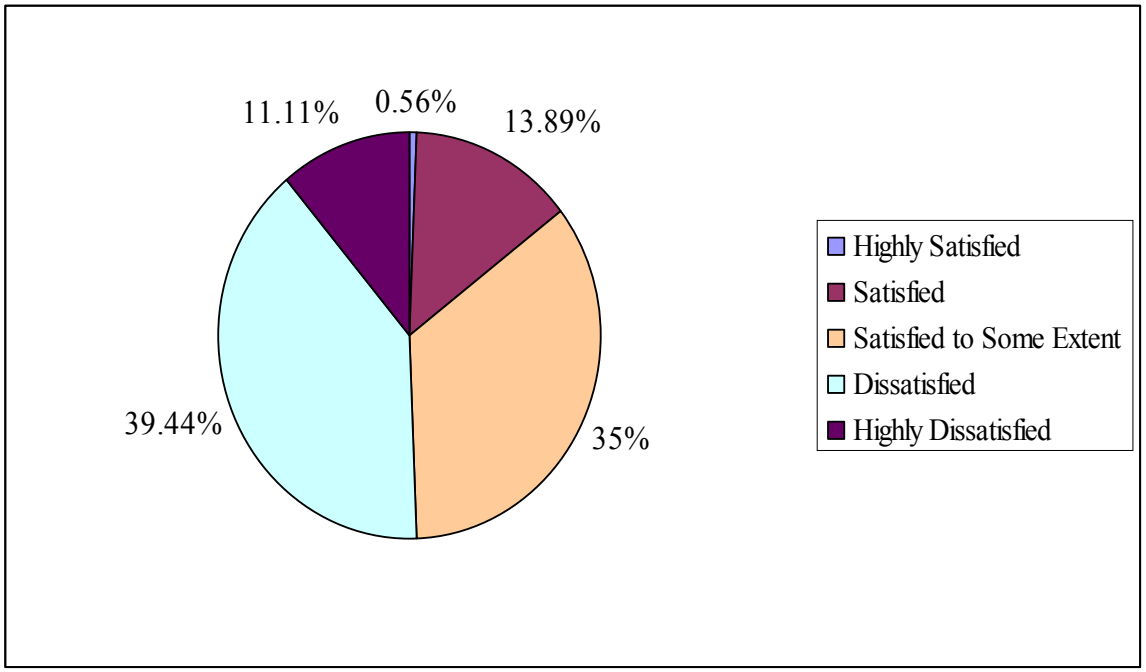
To evaluate the state of governance in conservation of ponds of the city, it is important to know the level of satisfaction of the inhabitants of the city. In this regard, 180 respondents of the stakeholder category have been interviewed.

It is found from the analysis of data that large numbers of the respondents (39.44%) are dissatisfied with the governance of conservation of ponds in the city. 35% of respondents are satisfied to some extent. 13.89% of respondents are satisfied with conservation of ponds in the city. Only 0.56% and 11.11% of respondents are highly satisfied or highly dissatisfied with pond conservation in Rajshahi respectively (Chart 7.2)

[14] *The Daily New Age*, 3 February, 2011.

Chart 7.2

Level of Satisfaction with the Conservation of Ponds in the city



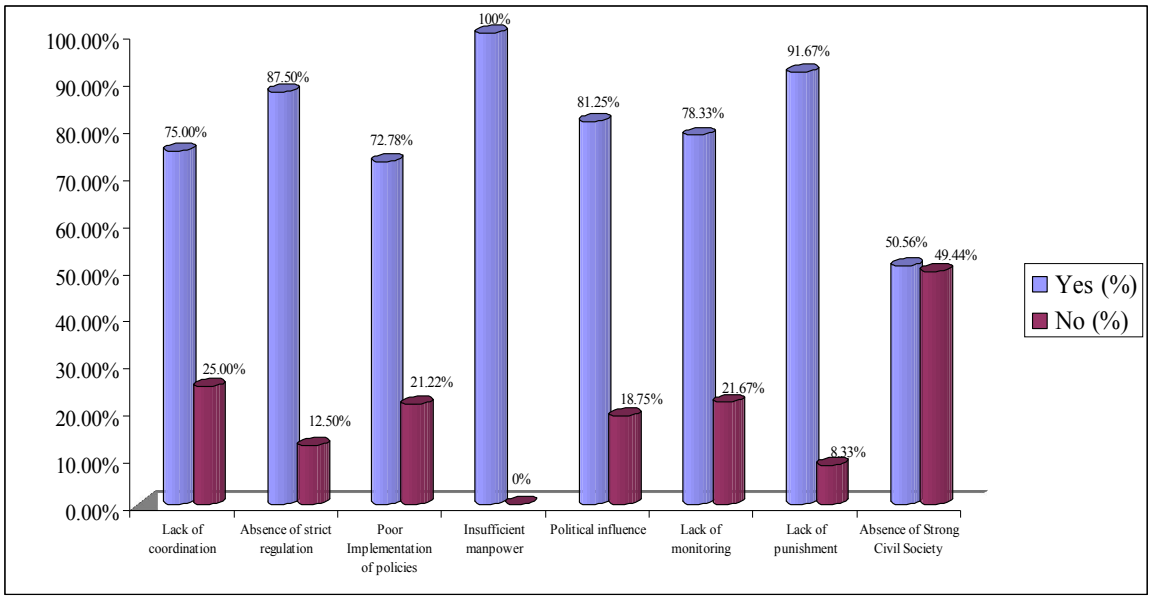
[Source: Field Survey 2014]

7.5.15 Identifying the Barriers in the Conservation of Ponds

100% of the respondents have identified insufficient manpower of the governing authorities as the main cause of lack of action to conserve ponds. Some other major problem in implementation were: EA regulation (87.50%), poor implementation of policies (72.78%), political influence (81.25%), lack of monitoring by RCC (78.33%), lack of punishment of the law violators (91.67%), and absence of strong civil society (50.56%). Chart 7.3 shows the data.

Chart 7.3

Barriers in the Conservation of Ponds in the city



[Source: Field Survey 2014]

7.6 Problems of Governance in the Conservation of Ponds

The data in this study suggest the following problems that resist the effective governance in conservation of ponds of the city.

7.6.1 Lack of Coordination

Coordination means participation among concerned organizations for the achievements of common goals. Yet there is a very little coordination and cooperation among the service-providing authorities like RCC, RDA and DoE in the governance of water body conservation of the city of Rajshahi. The existing legislation also does not clearly spell out the particular responsibility of governing organizations like RDA, RCC, DoE and DAR in conservation of ponds in the city. For this reason, blaming each other for weak performances is a common matter. As a result, the ponds are rapidly disappearing.

7.6.2 Problems of Capacity Building

Almost all the agencies, especially RCC, RDA, DoE and DAR, are incapable of undertaking any successful steps against the illegal filling of ponds in the city, due to lack

of adequate trained manpower and technical capacity. In RDA, the Town Planner is in charge of ponds conservation. In DoE, a Chemist and in DAR, the ADC (revenue) is mainly responsible for these activities. But none of these have relevant training on the conservation of ponds.

7.6.3 Shortage of Manpower and Transport

Having sufficient manpower is a must for ensuring effectiveness and efficiency in service delivery. In interviews, the executives of almost all the governing organizations have agreed that they do not have sufficient manpower, transport and logistic support and that this hampered the effective governance of ponds conservation in the city.

In RDA, the town planner is only person who looks after this matter, in addition to his prescribed duty of approving housing plans in the city. In DoE, there is only 1 inspector and 1 Senior Chemist. They have to do a high volume of work regarding inspection of the environmental conservation situation in the city, including approving environmental clearance certificates. So, due to huge shortage of manpower and transport, RDA and DoE cannot regularly inspect the state of conservation of water bodies in the city. They cannot check whether the concerned rules and regulations are being properly implemented in the governance of water body conservation.

7.6.4 Absence of Strong Civil Society

Lack of civic participation in policy decisions and in the implementation process of RCC, DoE, and RDA is a major problem of governance of environment. In the city, there is an absence of strong civil society organizations which can lead any movement against the illegal filling of urban ponds and awareness-building campaigns for environmental protection.

There are some environmental civil society organizations in the city, which are working on the environment, like Heritage Rajshahi, NGO Forum, BELA, Rajshahi Paribesh Andolon (RAPA). Occasionally, they go on demonstrations and start movements to raise public consciousness. However, they fail to influence the authorities as they lack widespread public support.

In spite of this general observation, the contribution of Civil Society Organizations cannot be denied in some cases. In December 2010, the Heritage Rajshahi filed a Writ Petition in the High Court. That led the court to issue a rule prohibiting the filling up of ponds and other water bodies under the RDA area without the approval of the DoE. It has protected the ponds in the RDA Master Plan since 2011 and caused the formation of the Water Bodies Conservation and Monitoring Committee.

7.6.5 Lack of Accountability

Accountability means the answerability of the decision-makers of concerned organizations to the citizens. The field survey shows that there is no active body or committee which effectively or regularly supervises, monitors and inspects the state of governance of the ponds in the city. The data shows that the role of governing authorities, like DoE, RDA, RCC, is limited only to serving legal notices against the illegal filling operations.

7.6.6 Problems in Rule Application and Adjudication

The Rule of law *vis-à-vis* environmental justice is essential for effective environmental governance. Yet lack of efficient application of existing rules and regulations and improper adjudication indicates the governance failure to conserve ponds in the city. Lots of building has taken place on the illegally filled-up water bodies in the city, which is prohibited by law. RDA, in this regard, approves the plan and design of the proposed building. It should check the classification of the land while passing on the design of building in this regard. It is possible in theory but not done in practice.

7.6.7 Lack of Active Role of Law Enforcing Agency

Law enforcing agencies like the Rajshahi Metropolitan Police are empowered to take legal action against illegal filling of ponds in accordance with the Rajshahi Metropolitan Police Ordinance. However, they do not do so. In this case, proper coordination between the law enforcing agencies and other governing organizations should be strengthened. Action should be taken by the Police Commissioner to force owners to re-excavate the filled by putting them on remand and threat of full prosecution with fines and imprisonment.

7.6.8 Lack of Strategic Vision

Lack of strategic vision about the environmentally-friendly development of Rajshahi City is another problem of urban government bodies and parastatal service providers in environmental governance. There is no local or national consensus about the infrastructural development of the city. Rajshahi Metropolitan Development Plan (2004-2024) was prepared by RDA without consultation with civil society and concerned service providers. Political leaders of urban-local government have no vision and commitment about the long-term development needs and opportunities of the city dwellers.

7.6.9 Pressure from the Influential Person

The governing organizations cannot perform their duty properly to conserve ponds in the city because of being pressure from political persons, high officials, and influential persons of the city. The Daily Star (February 20, 2012) reports that "a pond in Rajshahi is being filled up by a Member of Parliament of the ruling party for the construction of a multi-storied building, despite a court ruling and RDA's warning twice. The MP, however, said that RDA had no right to serve notices as the land was not earmarked as a pond in land documents." Besides, the officials of RDA and DoE cannot perform their duties properly because they are sometimes threatened by the miscreants and criminals. Sometimes it is impossible even to take pictures of illegal filling of ponds.

7.7 Chapter Conclusion

Rajshahi has a piped water system but it does not extend everywhere and pressure is often low. So, people still use ponds for washing themselves, their clothes and their animals: sometimes even for drinking. Ponds also are important reservoirs for rainwater in the dry season and contribute to the weather and ecosystems of the city. They help make the storm water and waste water sewerage system workable: without them, flooding will again become a common problem every monsoon season.

Once there were a huge number of ponds in the city but these ponds are disappearing everyday. Owners fill them full of drain and septic tank water so people cannot use them and then sell them to land developers for illegal earth-filling to accommodate

housing and other commercial building. Due to the high price of land and high demand, the developers turn toward low-cost wetlands like ponds.

Multiple authorities like RDA, RCC, DoE, and DAR are responsible to govern the ponds of the city. There is little coordination among them, their respective jurisdictions are unclear and they often shift responsibility to one another. Their normal response to illegal destruction of a pond is to issue a notice to stop and then take no further action. They are subject to political, and sometimes criminal, interference in doing more. Most landowners know that they cannot destroy a pond without permission but most do not even bother to apply. According to the Water Body Reservoir Conservation Act 2000, the authority only can fine not more than 50,000 Taka or ask a court for 5 years jail. On the other hand, according to RDA Ordinance, the RDA can fine only 500 Taka if someone fills a pond. The Police have power to arrest and prosecute illegal pond fillers but never do. 88 Civil society organizations exist in the city but lack widespread public support. Their one major success was getting action by the High Court but the agencies complied only with the specific language of the court order to protect only ponds on the RDA 2004 Master Plan.

Again, as in the case of solid waste management, an overall strategy and vision is needed, with consolidation of overlapping agencies into one capable of strict law enforcement. Awareness-building has been ineffective and needs much more attention. Since there is a lack of a public constituency for ponds, the state agencies and City Corporation need to create one. They should strengthen and listen to civil society organizations like Heritage Rajshahi. Destruction of ponds should be made a cognizable offence and not bailable, so that perpetrators can be arrested and detained until they undo their damage. Laws and penalties should be updated to make jurisdiction clear and penalties credible. Rajshahi's ponds are worth saving: a little good policymaking and management could do the job.

Chapter 8
Key Findings, Suggestions and Conclusion

8.1 Statutes

The main purpose of this study was to explore the state of environmental governance of urban-local government in Bangladesh. To do so, the study has examined the legal framework that regulates the urban solid waste management, conservation of ponds, and environmental assessment of development and other activities of Rajshahi City Corporation (RCC) as a case study.

From the investigation, the study finds that environmental governance in urban Bangladesh is strong on paper and weak in practice. The enactment of Bangladesh Environment Conservation Act (BECA) 1995, Local Government (City Corporation) Act, 2009 and Water Reservoir Conservation Act, 2000, etc. are the major strengths. These Acts provide important provisions for effective and sustainable management of environment, particularly for environmental assessment in development activities, controlling environmental pollution, adequate arrangement for collection and removal of solid waste, construction and maintenance of drainage, conservation and management of water bodies, controlling land filling, and excavation and re-excavation of ponds, etc. There is little to criticize in the ideals which they set up. They have followed best international practice and demonstrated the commitment of Parliament to environmental protection in development. Parliament has already decided that Bangladesh need not choose between development and the environment: it must do both and that is no longer a debatable topic.

Where the statutes are weak in enforcement provisions: penalties are not credible and there is no single agency for policy making and implementation to protect the environment, including pond protection and solid waste disposal. Maybe the Department of the Environment was intended to be that: if so, it should be given universal jurisdiction and all overlapping jurisdictions should be abolished. Intentionally or recklessly causing harm to the environment should be a crime with criminal penalties and the Police should be held liable for their detection and arrest of such criminals. Environmental Impact Assessments should be mandatory for all projects, not just industrial ones.

The statutes could also be improved by providing more explicitly for community involvement and participation in the process of environmental protection. The current Government did reformation in local government in 2009 when it required community participation in local government decision making. This played roles to create awareness of local government, make it transparent, educate the people in democracy and make local government efficient and effective. Without claiming that the Local Government (Union Parishad) Act 2009 was perfect (there were shortcomings in truly transferring power from local male elites and Parties to common people and women), it would make a good model for environmental protection law, in solving many of the problems that previously plagued local government.

Perhaps an Environmental Clearance Certificate should require the consent of a Ward open meeting ("*shava")* in the Ward where the development is to take place. Perhaps Ward open meetings, as well as non-governmental organizations, should have explicit power to prosecute offences against the environmental statutes. Such a solution may imply giving them a central government budget to carry on the prosecution and employ good Advocates. Perhaps solid waste disposal should be decentralized to the Ward level with a proper budget and including separation at source and real recycling, to end the hills of shame that every City Corporation must have, equivalent to Rajshahi's Nawdapara.

8.2 Rajshahi City Corporation

Rajshahi City Corporation really does try, in a hundred overlapping and inconsistent ways, to protect the environment. First, it needs a single agency charged with all responsibility for the environment, including ponds and solid waste disposal, in place of the current hotch-potch. That single agency should perhaps be headed by a representative committee, elected by Ward open meetings, rather than a bureaucrat. It should have the budgets of all the agencies now doing environmental work and a good deal more: in fact, the central government should fund such an Environmental Protection Council, heading an Environmental Protection Department, in each City Corporation of Bangladesh, because understaffing and inexpert staff are major problems. An Environmental Magistracy and Environmental Police Force should be included under the Council to provide the constant, systematic, monitoring and enforcement of environmental protection laws which is missing now. The Department needs a clear mission, vision and power to protect the environment in every act of the Corporation.

The Corporation needs a capacity building scheme for its officials dealing with the environment and for Rajshahi people as a whole. Awareness-raising, training, marketing and political leadership on the issue should all be included. Training should be mandatory so workers handling hazardous substances wear proper equipment: including dismissal of temporary employees who do not. If the Rajshahi residents could be won over to the idea of conserving water resources, disposing of waste properly and building in environmentally-sensitive ways, billions of Taka could be saved in enforcement and the environment really would be protected as it is not now.

8.3 Funds for the Environment

Rajshahi needs a new potable water system, a new drainage system and a new solid waste disposal system. It will never have the money for any of that and it is just an example of what all the cities of Bangladesh need. Dhaka must be an exponential version of this. Bangladesh started in 1972 as one of the world's poorest countries and has never had the capital to replace infrastructure left by the British before 1947 and the Pakistanis in 1971.

This is a problem of all poor countries. Maybe international sources like the World Bank and the Asian Development Bank can help. Yet Bangladesh would have to guarantee that the billions that would be needed to do these jobs would not wind up in politicians and bureaucrats' pockets and it has a bad record on those issues.

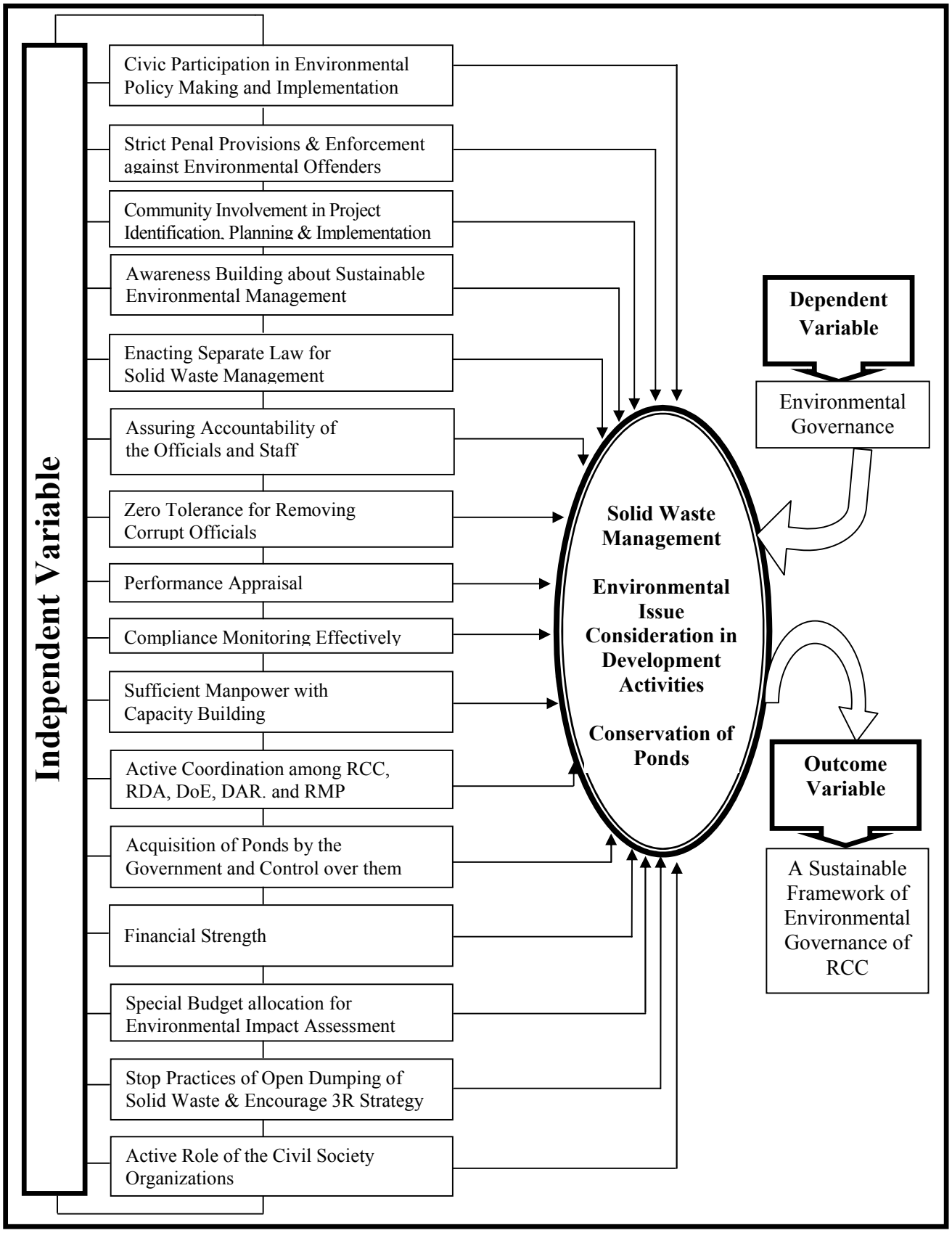
Maybe Bangladesh could consider denationalizing water, sewerage and solid waste disposal and invite international companies to carry out these functions with their international capital and expertise. Yet there may be few profits in water and rubbish, so it may be difficult to interest them. On the other hand, a state of the art water or waste disposal system which cost so much that 90% of the people could no longer afford any water or waste disposal service would not be a solution: it would be a new problem. There is no easy answer to these dilemmas of poor countries. Perhaps these problems will solve themselves when Bangladesh progresses economically and becomes a more-developed nation, allowing local capital resources to be sufficient: but that is in the long-term and, as Keynes observed "in the long-run we are all dead".

8.4 A New Model for Environmental Governance in Rajshahi

Based on the recommendations above, a diagram of a successful model for environmental governance for RCC is offered below.

Figure 8.1

A Model for Environmental Governance in RCC



[Source: Author's Framework]

8.5 Conclusion

Environmental degradation is a prime concern among the issues in the international arena. Biological diversity, along with the ecosystems throughout the world, is threatened and vulnerable due to continuous deterioration of the environment. As a result, the world itself is gradually becoming unfit for habitation.

Such a global environmental situation is also reflected in Bangladesh with the adverse impact of global warming, changes in the climate conditions, sea-level rise, etc. Environmental scientists have identified rapid but unplanned urbanization and industrialization as the main causes behind this situation. In Bangladesh, due to unplanned urbanization, the urban environment is now under serious threat and changing harmfully day by day.

In this regard, urban-local government, through its governance structure, can take necessary initiatives for avoiding or mitigating negative environmental changes. From this point of view, the study has been conducted on RCC, which is an urban-local government body in Bangladesh. The study focused mainly on two themes: firstly, to investigate the policy framework in governance of solid waste management, urban pond's conservation and consideration of environmental issues in development activities. Secondly, to explore the level of practices of these policies for regulating and managing the above issues in practice, the study conducted interviews and field work.

This study is empirical in nature. Data have been collected both from primary and secondary sources. Primary sources include stakeholders, field staff and officials of RCC, owners of ponds, professionals, experts and policy makers, NGO representatives, etc. and secondary sources include books, journals, study reports, and other printed materials.

The study findings reveal that, to govern the environmental issues at urban level, there is a good policy framework, but there is a gap between the policies and their practices in reality. Environmental compliance in development activities is very much necessary to ensure sustainable development of a country. In accordance with the environmental legislation of Bangladesh, local government bodies must consider environmental issues in their regular and development activities. Development projects have to be planned and implemented identifying the potential impacts on environment and natural resources.

They have to take appropriate steps to mitigate or minimize the adverse impacts of the development projects on environment.

However, the study finds that adequate assessment of adverse environmental impacts of development projects is hardly done by RCC at the time of planning and implementation of the projects. Thus, RCC does not exactly follow the environmental rules and regulations in this respect. Concerning the governance in solid waste management and conservation of ponds, the study also finds a gap between the policies and practices, as a result of which the process of environmental governance is being hampered considerably. Behind this gap, lack of responsible performance of the public officials, lack of proper knowledge of the elected representatives on environmental issues and laws, lack of commitment of policymakers, political influence in decision making and implementation, lack of effective planning and the knowledge gulf between mass people and authority, etc. are mainly responsible.

The study finds insufficient attempts of RCC to ensure public participation in environmental decision-making and implementation process and to raise the knowledge and awareness level of community people. Community people are also not well concerned about environmental issues. Apart from that, the role of civil society in environmental governance is also not strong enough to put pressure on the Corporation.

A previous study also revealed that lack of enthusiasm and awareness of the policymakers are major causes for poor policy implementation in environmental governance.[1] Similarly, from another study, it was found that most of the people are unconscious about environmental suitability of development activities due to poverty, lack of basic education and lack of community mobilization for creating awareness.[2] It is clear that the environment cannot be protected wholly in government offices. The people are an indispensable part of environmental governance and, in Bangladesh, they are left out.

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[1] A Nishat, "Policy and Legal Premise for Environment and Natural Resources Management in Bangladesh: Issues Concerns Trends and Institutional Framework", UNDP Bangladesh Policy Dialogue Series No-11, April 17, 2007, quoted in Golam Rabbani, "Environmental Governance: Policies and Practices at Local Government Level in Bangladesh", *Institute of Bangladesh Studies Journal,* Vol. 35, (Rajshahi University, 2012), p. 62.

[2] A. M. Sharafiuddin and A. Rahman, Environmental Education and Awareness, Environment and Development in Bangladesh, (Part-1) (Dhaka: University Press Limited 1994), quoted in Golam Rabbani, *Ibid.*

Therefore, major reforms in environmental governance are necessary. The immediate task in this regard, is to make good policies effective by implementation. Then ensuring effective participation of the stakeholders and general populace, both at the policymaking and execution stages is an essential part of real and effective environmental governance.

8.6 Further Research Indication

Environmental governance is a vast concept that includes many components. It is very difficult to involve all the issues related to environmental governance in a single dissertation. However, the study provokes further future researchers to explore a new dimension of environmental governance, in the context of Bangladesh or of a developed polity. In the light of the present study, the researcher intends to propose some future research priorities for environmental governance, as follows:

- Governance in management of urban waste water;
- Governance in urban water body conservation;
- Governance in water supply and sanitation;
- Civil society in environmental governance;
- Environmental governance in the different layers of local government, etc.

Apart from that, further research can be conducted on the same issues as in this dissertation, to validate or reject the current research in the perspective of urban-local government in Bangladesh. Similar case studies of other urban-local government bodies in Bangladesh seem a logical next step.

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ANNEXURE

Annexure I
(Questionnaires)

A. Questionnaire for 'Stakeholders' Category

[Translated from Bengali]

1. Background Information of Respondents

1.1	Name (optional)			1.2	Sex:		1.3	Age:
1.4	Residential Address		Mahalla/Ward:					
1.5	Occupation	Private job	Business	House wife	Farmer	Labor	Student	Others...
1.6	Educational Qualifications	Illiterate	Primary	Higher Secondary		Graduate	Post Graduate	
1.7	How long are you residing in this City Corporation?		0-5	6-10	11-15	16-20	20+	
1.8	Did you participate in any of the environmental programs in last few years (put tick mark in more than one option, if you think necessary)	1	In Rally					
		2	In Ward Meeting					
		3	In Tree Plantation					
		4	No Participation					
		5	Others					

2.0 Information about Solid Waste Management of RCC

2.1	Do you think that, in RCC, waste disposal places are sufficient?		Yes	No	
2.2	Do you think that RCC cleaners collect household waste regularly?		Yes	No	
2.3	Where do RCC inhabitants discharge their household waste? (please, put tick mark in more than one option, if you think necessary)	1	Wastes are given to RCC cleaners		
		2	Disposal in the adjacent drains		
		3	Disposal in the open place/roadsides		
		4	Disposal in the dustbin/RCC specified area		
		5	Disposal in the water bodies		
		6	Disposal in own land/ditch		
2.4	What type of transportation used for disposal of waste from secondary points?		Covered truck/trolley	Open truck/trolley	Not known
2.5	Whether nearby waste disposal place spreads bad smell, or not		Always	Never	often	Not known
2.6	Rate of sweeping of adjacent roads		Regular	Irregular	Never swept
2.7	Rate of removal of swept wastes from the road		Regular	Irregular	
2.8	Sufficiency of materials used in waste management of RCC		Sufficient	Not Sufficient	
2.9	Do the conservancy workers use health risk reducing materials?		Yes	No	Not known
2.10	Do the people dump solid wastes into drains?		Yes	No	
2.11	Are the collected solid wastes from drains kept on streets to dry?		Yes	No	
2.12	Rate of cleaning of market wastes		Regular	Irregular	Not known
2.13	Rate of cleaning of slaughterhouses		Regular	Irregular	No comment
2.14	Do you think, wastes of slaughter house are dumped here & there or thrown into drains?		Yes	No	No comment

2.15	Do you think industrial wastes especially chemical wastes are dumped into the drains?	Yes	No	Not known
2.16	Rate of disposal of clinical wastes	Regular	Irregular	Not known
2.17	Where are hotel-restaurant wastes disposed (please put tick marks on more than one option if you think necessary)?	Disposal into RCC specified points		
		Disposal besides hotel-restaurant		
		Disposal into drains or water bodies		
		No Comment		
2.18	Sufficiency of manpower engaged in solid waste management of RCC	Sufficient	Not Sufficient	

2.19	Do you think that there are infrastructural problems in waste management of RCC?	Yes	No	No comment
2.20	Do you think that weak infrastructural facilities hamper waste management process?	Yes	No	No comment
2.21	Does RCC use any technological instrument in collecting and disposing refuse/garbage and in keeping healthy sanitation system?	Yes	No	No comment
2.22	Do you help or participate in collecting and disposing refuse and garbage and in keeping your surroundings clean?	Yes	No	No comment
2.23	Do you think that low level of people's participation hamper waste management process?	Yes	No	No comment
2.24	Does the RCC provide the conservancy staff with training?	Yes	No	No comment
2.25	Does RCC follow or have any planning for proper delivery of the environment related services?	Yes	No	No comment
2.26	Do you think that there is coordination among all the environment related services that the RCC delivers?	Yes	No	No comment
2.27	Does RCC regularly monitor the waste management activities?	Yes	No	No comment
2.28	Do you think that weak monitoring system impedes pollution control?	Yes	No	No comment
2.29	Does RCC evaluate the services of waste management?	Yes	No	No comment
2.30	Does RCC collect any information of its service delivery from mass people?	Yes	No	No comment
2.31	Does the RCC take any punitive actions against the polluters?	Yes	No	No comment
2.32	Do you think that there is financial crisis in the RCC?	Yes	No	No comment
2.33	Do you think that lack of finance hampers waste management services of RCC?	Yes	No	No comment

2.34	What is your level of satisfaction with the waste management services of RCC?	Highly Satisfied	Satisfied	Satisfied to some extent	Dissatisfied	Highly Dissatisfied

3.0 Information about Environmental Issue Consideration in RCC

3.1	Does RCC consult with you during planning of development projects?	Yes	No	No comment	
3.2	Do you think that RCC considers environmental issues during planning of development projects?	Zero Consideration	Moderate Consideration	Fully Consideration	
3.3	Do you give any information to the RCC for improving environment of your area?	Yes	No	No comment	
3.4	Do you know anything about the committees related to project implementation?	Yes	No		

3.5	Do you know the duties and responsibility of such committees or other authority in regard of project implementation?	Yes		No		
3.6	Did any members of these committees discuss with you about consideration of environment issues during implementation of development projects?	Yes		No		
3.7	Does Ward Councilor occasionally arrange Ward meeting to discuss development issues of your Ward?			Yes	No	
3.8	Have you ever participated in such a type of Ward meeting?			Yes	No	
3.9	Does the Ward meeting discuss about environmental issue consideration during project selection and other regular and development activities?	Yes	No	No comment		
3.10	Do you hear anything about committee on waste management, urban planning and development, environment development, etc.?	Yes		No		
3.11	Do you know the role and responsibilities of these committees?	Yes		No		
3.12	Do you think that these committees are successfully performing their duties and responsibilities in environmental development of the city?	Yes	No	No comment		
3.13	Do you think that construction materials of any buildings or infrastructure development kept on the road and dumped into the drains?	Yes	No			
3.14	Do you think, wastes of road excavation are stored or kept along the roadside for long time?	Yes	No	No comment		
3.15	Do you think that RCC's open drains create adverse environmental impacts?	Yes	No			

3.16	Please identify the problems of RCC in consideration of environmental issues in regular and development activities (please put tick marks on more than one option if you think necessary).	Insufficient manpower			Yes	No
		Political influence in project selection			Yes	No
		Lack of monitoring			Yes	No
		Lack of people's participation			Yes	No
		Lack of people's cooperation			Yes	No
		Lack of punishment of the environmental polluters			Yes	No
		Other.....				
3.17	What is your level of satisfaction with consideration of environmental issues in development and regular activities of RCC?	Highly Satisfied	Satisfied	Satisfied to some extent	Dissatisfied	Highly Dissatisfied

4.0 Information about Conservation of Ponds in Rajshahi City

4.1	What is your level of satisfaction with the services of conservation of ponds in RCC?	Highly Satisfied	Satisfied	Satisfied to some extent	Dissatisfied	Highly Dissatisfied

4.2	Please identify the problems of RCC in conservation of ponds in RCC (please put tick marks on more than one option if you think necessary)	Poor Implementation of policies
		Lack of monitoring
		Lack of punishment
		Absence of Strong Civil Society
		Others....

5.0 Others			
5.1	Do you think that the initiatives of RCC in creating environmental awareness are sufficient?	Yes	No
5.2	What kinds of initiatives are taken by RCC in creating environmental awareness for the inhabitants? (please put tick marks on more than one option if you think necessary).	1	Distribution of leaflet
		2	Publicity through TV/newspapers
		3	Miking
		4	Arranging rally
		5	Ward meeting
		6	Others...
5.3	What kind of measures should be taken by RCC against the persons and institutions responsible for environmental pollution	1	Jail/Fine through Mobile Court
		2	Imposing fine through Mobile Court
		3	Serving notice
		4	Others....

B. Questionnaire for 'Field Staff' Category
[Translated from Bengali]

1. Background Information of the Respondents									
1.1	Name (optional)				1.2	Sex:		1.3	Age:
1.4	Residential Address		Mahalla/Ward:						
1.5	Position in Job:	Division:			Daily basis/Permanent			Length of Service:	
1.6	Educational Qualifications	Illiterate	Primary		Higher Secondary		Graduate	Post Graduate	
1.7	What is the nature of your job?								
1.8	Did you participate in any of environmental programs in last few years (please put tick marks on more than one option if you think necessary).	1	In Rally						
		2	In Ward Meeting						
		3	In Tree Plantation						
		4	No Participation						
		5	Others						
2.0 Information about Solid Waste Management of RCC									
2.1	Do you think that of waste disposal places are sufficient in RCC?						Yes	No	
2.2	Do you think that RCC cleaners collect household waste regularly?						Yes	No	
2.3	Where do RCC inhabitants discharge their household waste? (please put tick marks on more than one option if you think necessary).	1	RCC cleaners are given						
		2	Disposal in the adjacent drains						
		3	Disposal in the open place/roadsides						
		4	Disposal in the dustbin/RCC specified area						
		5	Disposal in the water bodies						
		6	Disposal in own land/ditch						
2.4	What type of transportations are used for disposal of waste from secondary points?			Covered truck/trolley		Open truck/trolley		Not known	
2.5	Whether nearby waste disposal place spreads bad smell, or not			Always	Never		often	Not known	
2.6	Rate of sweeping of adjacent roads			Regular	Irregular		Never swept		
2.7	Removal of swept wastes from the road			Regular			Irregular		
2.8	Sufficiency of materials used in waste management of RCC			Sufficient			Not Sufficient		
2.9	Do the conservancy workers use health risk reducing materials?			Yes	No		Not known		
2.10	Do the people dump solid wastes into drains?			Yes	No				
2.11	Are the collected wastes from drains kept on streets to dry?			Yes	No				
2.12	Rate of cleaning of market wastes			Regular	Irregular		Not known		
2.13	Rate of cleaning of slaughterhouses			Regular	Irregular		No comment		
2.14	Do you think, wastes of slaughter house are dumped here & there or thrown into drains?			Yes	No		No comment		
2.15	Do you think, industrial wastes especially chemical wastes are dumped into the drains?			Yes	No		Not known		
2.16	Rate of disposal of clinical wastes			Regular	Irregular		Not known		
2.17	Where are hotel-restaurant wastes disposed (please put tick marks on more than one option if you think necessary)?			Disposal into RCC specified points					
				Disposal besides hotel-restaurant					
				Disposal into drains or water bodies					
				No Comment					
2.18	Sufficiency of manpower engaged in waste management of RCC			Sufficient			Not Sufficient		
2.19	Do you think that there are infrastructural problems in waste management of RCC?					Yes	No	No comment	

2.20	Do you think that weak infrastructural facilities hamper waste management process?				Yes	No	No comment
2.21	Does RCC use any technological instrument in collecting and disposing refuse/garbage and in keeping healthy sanitation system?				Yes	No	No comment
2.22	Do you help or participate in collecting and disposing refuse and garbage and in keeping your surroundings clean?				Yes	No	No comment
2.23	Do you think that low level of people's participation hamper waste management process?				Yes	No	No comment
2.24	Does the RCC provide the conservancy staff with relevant training?				Yes	No	No comment
2.25	Does RCC follow or have any planning for proper delivery of the environment related services				Yes	No	No comment
2.26	Do you think that there is coordination among all the environment related services that the RCC delivers?				Yes	No	No comment
2.27	Does RCC regularly monitor the waste management activities?				Yes	No	No comment
2.28	Do you think that weak monitoring system impedes pollution control?				Yes	No	No comment
2.29	Does RCC evaluate the services of waste management?				Yes	No	No comment
2.30	Does RCC collect any information of its service delivery from mass people?				Yes	No	No comment
2.31	Does the RCC take any punitive actions against the polluters?				Yes	No	No comment
2.32	Do you think that there is financial crisis in the RCC?				Yes	No	No comment
2.33	Do you think that lack of finance hampers waste management services?				Yes	No	No comment
2.34	What is your level of satisfaction with the waste management services of RCC?	Highly Satisfied	Satisfied	Satisfied to some extent	Dissatisfied		Highly Dissatisfied

C. Questionnaire for 'Owner of & Neighbors of Ponds' Category
[Translated from Bengali]

1. Background Information of the Respondents								
1.1	Name (optional)			1.2	Sex:		1.3	Age:
1.4	Residential Address	Mahalla/Ward:						
1.5	Occupation	Private job	Business	House wife	Farmer	Labor	Student	Others...
1.6	Educational Qualifications	Illiterate	Primary	Higher Secondary		Graduate	Post Graduate	

2.0 Information about Conservation of Ponds in Rajshahi City				
2.1	Whether the disappeared ponds contained water for the whole year		Yes	No
2.2	Whether the disappeared ponds were used for the fish cultivation		Yes	No
2.3	Whether the local inhabitants used the diappered ponds for their household works, washing and bathing		Yes	No
2.4	Do you know, if you want to fill any pond, you should take permission from proper authority?		Know	Don't Know
2.5	Did you take permission from the proper authority during filling your ponds?	Yes	No	No answer
2.6	Do you know that dirt filling of pond is continuing in RCC?		Know	Don't Know
2.7	Is permission taken from the authority during dirt filling of ponds?	Yes	No	Not known
2.8	Does RDA/RCC take any step to prevent dirt filling of ponds?	Yes	No	Not known
2.9	Have you filled your pond by yourself?	Myself	Powerful Persons	
2.10	What kinds of punitive measures are taken against the illegal filling of ponds?	Legal notice		
		Jail		
		Fine		
		No action		
		Not known		
2.11	What is your level of satisfaction with conservation of ponds in RCC	Highly Satisfied		
		Satisfied		
		Satisfied to Some Extent		
		Dissatisfied		
		Highly Dissatisfied		

D. Questionnaire for 'Executives & Public Representatives' Category
[Translated from Bengali]

1. Background Information of the Respondents						
1.1	Name (optional)		1.2	Sex:	1.3	Age:
1.4	Residential Address	Mahalla/Ward:				
1.5	Position in Job:		Division:		Length of Service:	
1.6	Educational Qualifications	Illiterate / Primary	Higher Secondary	Graduate	Post Graduate	
1.7	Special Qualification:					

2.0 Information about Solid Waste Management (SWM) of RCC				
2.1	What kinds of steps are followed in SWM of RCC?			
2.2	What kinds of health risk reducing materials are provided for SWM workers of RCC?			
2.3	To what extent RCC inhabitants cooperate with SWM process?			
2.4	Do you think that there are infrastructural problems in waste management of RCC?	Yes	No	No comment
2.5	Do you think that weak infrastructural facilities hamper waste management process?	Yes	No	No comment
2.6	Do you think that weak infrastructural facilities hamper waste management process?	Yes	No	No comment
2.7	Do you think that people participate in collecting and disposing refuse and garbage and in keeping their surroundings clean?	Yes	No	No comment
2.8	Do you think that low level of people's participation hamper waste management process?	Yes	No	No comment
2.9	Does RCC follow or have any planning for proper delivery of the environment related services?	Yes	No	No comment
2.10	Do you think that there is coordination among all the environment related services that the RCC delivers?	Yes	No	No comment
2.11	Does RCC regularly monitor the waste management activities?	Yes	No	No comment
2.12	Do you think that weak monitoring system impedes pollution control?	Yes	No	No comment
2.13	Does RCC evaluate the services of waste management?	Yes	No	No comment
2.14	Does RCC collect any information of its service delivery from mass people?	Yes	No	No comment
2.15	Do you think that there is financial crisis in the RCC?	Yes	No	No comment
2.16	Do you think that lack of finance hampers waste management services?	Yes	No	No comment
2.17	Do you think that RCC lacks of sufficient manpower in SWM?			
2.18	What kinds of recycling or recovery facilities are prevailing in RCC? Please identify problems and suggest solution in this regard.			
2.19	What are the weaknesses and problems prevailing in RCC regarding SWM?			
2.20	Is there any weakness in the legal framework of SWM?			
2.21	Maximum drains of RCC are open. Do you think that these open drains create environment hazards?			
2.22	What are your suggestions to improve SWM in RCC?			

3.0 Information about Environmental Issue Consideration in RCC	
3.1	To what extent and how environmental issues are considered in planning of development project?
3.2	Do the Ward councilors occasionally arrange Ward meeting to discuss development issues of their Wards?
3.3	Do you think that general people participate in such a type of Ward meeting?
3.4	If 'no' what are the problems in this regard?
3.5	Does the Ward meeting discuss about environmental issue consideration during project selection and other regular and development activities?
3.6	Please identify the problems of RCC in consideration of environmental issues in regular and development activities?
3.7	What are the processes of mitigating adverse environmental impacts of development activities of RCC? Please identify the problems in this regard.
3.8	What is the process of EIA followed by RCC during planning and implementation of development projects? In this regard, to what extent EIA guidelines are followed?
3.9	Is there any weakness of the laws and policies regulating EIA in development activities?
4.0 Information about Conservation of Ponds in Rajshahi City	
4.1	Which committee works in your organization in conservation of ponds of RCC?
4.2	What kinds of step are taken by your organization to stop illegal filling of ponds? What are the problems prevail in this regard?
4.3	Does RDA seek your opinion while approving building plan or design?
4.4	What matters are considered at the time of approval of the application concerning changing of class of land?
4.5	What steps are taken to stop dirt filling of ponds?
4.6	What measures are taken to stop connection of drains with ponds in the city?
4.7	What kinds of initiatives are taken for excavation and re-excavation of ponds in the city?
4.8	What kinds of steps are taken to re-capture of building or infrastructure that are taken place in the illegally filled ponds of the city?
4.9	What steps are taken to create public consciousness against illegal filling of ponds?
4.10	What problems are you facing to perform your duties to conserve ponds?
4.11	Is there any weakness of the legal frameworks in the conservation of ponds?
4.12	Please identify the problems of RCC in conservation of ponds in RCC.
4.13	What are your suggestions to improve the governance in the conservation of ponds in the city?
5.0 Others	
5.1	Do you think that the initiatives of RCC in creating environmental awareness are sufficient?
5.2	What kinds of initiatives are taken by RCC in creating environmental awareness for the inhabitants?
5.3	What kind of measures should be taken by RCC against the persons and institutions responsible for environmental pollution?
5.4	In which process, your institution ensure people's participation in environmental decision making and implementation process?

E Checklist for 'Key Informants'
[Translated from Bengali]

Information related to Regulatory Framework

1. How far do you know about the environmental laws in Bangladesh especially, The Bangladesh Environment Conservation Act 1995, The Local Government (City Corporation) Act 2009, Water Body Reservoir Conservation Act 2000, etc.?
2. To what extent policies are appropriate to effective governance of solid waste management?
3. To what extent environmental framework is appropriate to effective governance in the conservation of ponds?
4. To what extent environmental laws are appropriate to consider environmental issues in development activities?
5. Would you please give your suggestions to rectify the concerned laws to regulate the above issues properly?

Information related to Solid Waste Management

1. Do you think that RCC is success to make the adequate arrangements for the collection and disposal of solid waste from all public streets, drains, shops, markets, and all buildings and land vested in the Corporation?
2. To what extent the solid waste management activities of RCC are environment friendly?
3. What do you think about the problems in governance of solid waste management of RCC?
4. Would you please give your suggestions to ensure good governance in solid waste management of RCC?

Information related to Environmental Issue Consideration

1. Do you think that environmental issues should be considered during planning and implementation of development project?
2. How far RCC integrates environmental issues in planning and implementation of development activities?

3. Do you think that RCC ensures people's participation during identification, planning and implementation of development projects?
4. Please identify the main problems of RCC in considering environmental issues in development activities.
5. Would you please give your suggestions to ensure environmental parameters in development activities of RCC?

Information related to conservation of Ponds

1. Do you think that the number of ponds of the Rajshahi city is decreasing rapidly?
2. Do you think that the rapid decline of ponds is affecting the environment?
3. Do you think that the governing organizations like RDA, RCC, DAR, and DoE are playing their role properly in the governance of ponds conservation in RCC?
4. Would you please identify the factors that impede the governance in the conservation of ponds in RCC?
5. Would you please give your suggestions to ensure effective governance in the conservation of ponds in RCC?

Other Information

1. Do you think that environmental development committees of RCC are active to play their duties and responsibilities?
2. Do you think that the existing legislations are sufficient to ensure people's participation in environmental decision making and implementation process?
3. What factors are resisting the process of people's participation in environmental decision making and implementation process and what are your suggestions in this regard?
4. What is your level of satisfaction with the environmental services provided by the RCC?
5. Would you please give your suggestions to make the Rajshahi city healthy?

Annexure- II

A. Background Information of the Respondents

(Category: Stakeholders and Field Staff)

A1. Sex of the Respondents

The table A1 indicates that 93.3% respondents of the stakeholder category are male and only 6.7% are female, while 76.6% respondents from the field staff category are male and 23.4% are female. Collectively, 263 of the total 304 respondents (86.51%) have come from male and 41 respondents (13.49%) have come from female.

Table A1: Sex of the Respondents

Sex	Stakeholders	Field Staff
Male	168 (93.3%)	95 (76.6%)
Female	12 (6.7%)	29 (23.4%)
Total	180 (100%)	124(100%)

[Source: Field Survey 2012]

A2. Age Distribution of the Respondents

The age distribution of the sample (Table A2) indicates that respondents have come from different age groups. These age groups are, <25, 25 to 29, 30 to 34, 35 to 39, 40 to 44, 45 to 49, 50 to 54, 55 to 59, and 60>. Table shows that 30.6% (10.6% + 10.0% + 10.0%) respondents of the stakeholders category and 51.6% (12.1% + 22.6% + 16.9%) of the field staff category belong to the young and middle age group, which are 30 to 34, 35 to 39, and 40 to 44, respectively, while only a small number i.e. 17.7% (8.3%+9.4%) of stakeholders, and 12.9% (4.8%+8.1%) of the field staff belong the age group of <25 and 25 to 29. On the other hand, 51.6% respondents (12.2% + 8.9% + 17.2% + 13.3%) of the stakeholders and 35.5% (17.8% + 7.2% + 5.7% + 4.8%) of the field staff belong to the relatively higher age groups of 45 to 49, 50 to 54, 55 to 59, and, 60 and above, respectively.

Table A2: Age Distribution of the Respondents

Age Group (year)	Stakeholders (%)	Field Staff (%)
<25	15 (8.3%)	6 (4.8%)
25-29	17 (9.4%)	10 (8.1%)
30-34	19 (10.6%)	15 (12.1%)
35-39	18 (10.0%)	28 (22.6%)
40-44	18 (10.0%)	21 (16.9%)
45-49	22 (12.2%)	22 (17.8%)
50-54	16 (8.9%)	9 (7.2%)
55-60	31 (17.2%)	7 (5.7%)
60>	24 (13.3%)	6 (4.8%)
Total	180 (100%)	124(100%)

[Source: Field Survey 2012]

A3. **Educational Qualification of the Respondents**

Six different categories, that is, "Illiterate", "Primary" (I-V), "Secondary" (VI-X), "Higher Secondary" (XI-XII), "Graduate" and "Post Graduate" have been used to indicate the level of education of the respondents of the study area. Table A3 shows that in the stakeholder category, the highest number of respondents (20.0%) had higher secondary level of education, while 19.4%, 18.3%, 18.9% and 18.9% are of the primary, secondary, graduate and post graduate level of education respectively. The lowest number of respondents (4.4%) of the stakeholder category is illiterate. On the other hand, the highest number of respondents (62.1%) in the field staff category is illiterate. No field staff in the study area has post graduation education. Only 1 respondent (0.8%) in this category has a graduation degree and only 2.5% are of higher secondary level of education.

Table A3: Educational Qualification of the Respondents

Educational Qualification	Frequency (%)	
	Stakeholders	Field Staff
Illiterate	8 (4.4%)	77 (62.1%)
Primary	35 (19.4%)	28 (22.6%)
Secondary	33 (18.3%)	15 (12.1%)
Higher Secondary	36 (20.0%)	3 (2.4%)
Graduate	34 (18.9%)	1 (.8%)
Post Graduate	34 (18.9%)	…
Total	**180 (100%)**	**124(100%)**

[Source: Field Survey 2012]

A4. Occupation and Position of the Respondents

It is found from the Table A4 that highest number of respondents of the stakeholders is businessmen, while 27.2% are engaged either in government job (13.3%) or in private job (13.9%). The rest of the respondents of the stakeholders have come from students (7.2%), retired officials (5.0%), housewives (2.2%) and others (8.6%). On the other hand, in the field staff category, most of the respondents (35.5%) are doing their job in RCC as drain workers, while 28.2% are sweepers, 4.8% are pest control workers and 25.8% are van workers who carry the solid wastes from one place to another. Only 5.6% respondents are supervisors whose main responsibility is to supervise the activities of solid waste management at field level.

Table A4: Occupation and Position of the Respondents

Stakeholders		**Field Staff**	
Occupation	**Frequency (%)**	**Position**	**Frequency (%)**
Government Job	24 (13.3%)	Van Worker	32 (25.8%)
Private Job	25 (13.9%)	Drain Worker	44 (35.5%)
Business	90 (50.0%)	Sweeper	35 (28.2%)
Student	13 (7.2%)	Pest Control Worker	6 (4.8%)
Retired Official	9 (5.0%)	Supervisor	7 (5.6%)
Housewife	4 (2.2%)	…	…
Others	15 (8.6%)	…	…
Total	**180 (100%)**		**124(100%)**

[Source: Field Survey 2012]

A5. Respondent's Environmental Participations

As the study has been conducted on the environmental governance of urban area, it is important to measure the level of environmental consciousness and environmental participation of the respondents. As shown in Table A5, 82.7% respondents of the stakeholder category have not participated in any environmental program sponsored by RCC or other organizations. The respondents who have taken part in the environmental programs, 5.6% participated in rally, 4.4% in ward meeting, 6.1% in tree plantation and 1.2% in more than one programs. The picture is somewhat different in case of field staff. Here, the level of environmental participation is better than that of stakeholders. More than 54% respondents of the field staff have participated in environmental programs. Those who have environmental participation, among them 18.5% have participated in

ward meeting, 12.1% in rally, 2.4 in tree plantation and others are in more than one program. Though, as the RCC staff, the entire field staff should participate in the environmental programs organized by RCC, 45.2% of the field staff have not taken part in any of the environmental programs of RCC or of other organizations.

Table A5: Respondent's Participation in Environmental Programs

Variables		**Frequency (%)**			
		Stakeholders		**Field-Staff**	
		Yes	No	Yes	No
Participation of the Respondents in Environmental Programs	In Rally	10 (5.6%)	170 (94.4%)	15 (12.1%)	109(87.9%)
	In Ward Meeting	8 (4.4%)	172 (95.6%)	23 (18.5%)	101 (81.5%)
	In Tree Plantation	11 (6.1%)	169 (93.9%)	3 (2.4%)	121(97.6%)
	Both in Rally & Tree Plantation	1 (0.6%)	179 (99.6%)	1 (0.8%)	123 (99.2%)
	Both in Ward Meeting & Tree Plantation	1 (0.6%)	179 (99.6%)	00 (00%)	00 (00%)
	Both Rally and Ward Meeting	00 (00%)	00 (00%)	9 (7.3%)	115 (92.7%)
	Participation in All	00 (00%)	00 (00%)	5 (4.0%)	120 (96.0%)
	No Participation	149 (82.7%)	31 (17.8%)	68 (54.8%)	56 (45.2%)

[Source: Field Survey 2012]

B. Background Information of the Respondents

(Category: Owners of and Neighbors of Ponds)

B1: Age Distribution of the Respondents

The age distribution of the sample indicates that respondents came from different age groups. These age groups are, 30 to 40, 40 to 50, 50 to 60, 60 to 70, and 70 above. As shown in Table B1, 16.0% respondents belong to the young age group of 30-40 years and 60% respondents (24.0% and 36.0%) belong to the middle age group of 40- 60 years while 14.0% and 10.0% belong to the higher age group of 60-70 years and 70 and above, respectively.

Table B1: Age Distribution of the Respondents

Age group (year)	Frequency	Percentage (%)
30-40	8	16.0%
40-50	12	24.0%
50-60	18	36.0%
60-70	7	14.0%
70>	5	10.0%
Total	**50**	**100%**

[Source: Field Survey, 2014]

B2: Gender of the Respondents

The far majority (72%) of the respondents is male, where as a little proportion (28%) is female (Table B2).

Table B2: Gender of the Respondents

Gender	Frequency	Percentage (%)
Male	36	72.0%
Female	14	28.0%
Total	**50**	**100%**

[Source: Field Survey, 2014]

B3: Educational Qualifications of the Respondents

Six different categories, that is, "Illiterate", "Primary" (I-V), "Secondary" (VI-X), "Higher Secondary" (XI-XII), "Graduate" and "Post Graduate" were used to indicate the level of education of the respondents of the study area. It was found from the Table B3 that the highest number of respondents (26.0%) had higher secondary level of education, while 20.0%, 24.0%, 16.0% and 10.0% completed the primary, secondary, graduate and post graduate level of education, respectively. The lowest number of respondents (4.0%) is illiterate.

Table B3: Educational Qualifications of the Respondents

Educational Qualifications	Frequency	Percentage (%)
Illiterate	2	4.0%
Primary	10	20.0%
Secondary	12	24.0%
Higher Secondary	13	26.0%
Graduate	8	16.0%
Post Graduate	5	10.0%
Total	**50**	**100%**

[Source: Field Survey, 2014]

B4: Occupation of the Respondents

Table B4 shows that most of the respondents (52.0%) are businessmen; while 30.0% are engaged either in government job or in private job with 18.0% have come from other categories.

Table B4: Occupation of the Respondents

Profession	Frequency	Percentage (%)
Job/Service	15	30.0%
Business	26	52.0%
Others	9	18.0%
Total	50	100%

[Source: Field Survey 2014]

Annexure-III

Development Project Proforma/Proposal (DPP)

PART-A

Project Summary

1. Project title :

2. a) Sponsoring Ministry/Division :

   b) Executing Agency :

3. Objectives of the project :
   (Please specify in bullet form and in number and/or%age)

4. Location of the project :

Division	District	Upazila
1	2	3

(attach map, where necessary)

5. a) Estimated cost of the project (In Lakh Taka) :
   i) Total
   ii) GOB
   iii) PA

   b) Exchange rate with date :

6.Location wise cost break-down :

Sl. No.	Division/District	Sub-District/Upazila	Estimated cost(In Lakh Taka)	Comment
1	2	3	4	5

7. Mode of financing with source :

(In Lakh Taka)

Mode of financing	GOB (FE)	PA(RPA)	PA Source
1	2	3	4
Loan/credit			
Grant			
Equity			
Others (specify)			
Total			

8. Project implementation period : i) Date of commencement
   ii) Date of completion

9. Components and Estimated cost summary :

(In Lakh Taka)

				Estimated cost				
Budget Head	Economic code	Code description	GOB (FE)	Project Aid			Total	% of the total cost
				RPA		DPA		
				Through GOB	Special Account*			
1	2	3	4	5	6	7	8	9
(a) Revenue Component								
Sub-total (Revenue Component)								
(b) Capital Component								
Sub-total (Capital Component)								
(c) Physical Contingency								
(d) Price Contingency								
Total (a + b + c + d)								

- DOSA, CONTASA, SAFE, Imprest, etc.

10. Log frame :

(i) Planned date for project completion :……

(ii) Date of this summary preparation :……

Narrative summary	Objectively Verifiable Indicators (OVI)	Means of Verifications (MOV)	Important Assumption (IA)
Program Goal			
Project Purpose			
Outputs			
Inputs			

11. (a) Attach proposed project management set-up :

(b) Attach procurement Plan :

12. Give year-wise financial and physical target plan :

13. After completion, whether the project needs to be transferred to the revenue budget :

(a) If yes, briefly narrate the institutional arrangement and technical & financial requirement for operation and maintenance :

(To continue the benefits of the projects required yearly costs and personnel should be mentioned) :

(b) If not, briefly narrate the institutional arrangement and technical & financial requirement for operation and maintenance :

(To continue the benefits of the projects required yearly costs and personnel should be mentioned) :

Signature of officer(s) responsible for the preparation
Of the DPP with seal and date

PART-B
Project Details

14. Background, objectives, priority, rationale, linkage, targets and outputs/outcomes of the project including findings of feasibility study/survey, if any :

15. Whether any pre-appraisal/pre-investment study was done before formulation of the project? If so, attach summary of findings & recommendation :

16. Mention the following:

(a) Net present value (NPV)
- (i) Financial
- (ii) Economic

(b) Benefit-Cost Ratio (BCR)
- (i) Financial
- (ii) Economic

(c) Internal Rate of Return (IRR)
- (i) Financial
- (ii) Economic

17. Lessons learnt from similar nature of projects :

18. Indicate the basis of total and item-wise cost estimate and the date of preparation of rate of schedule

19. Give comparative cost of major items of similar other projects:

Sl. No.	Name of the project	Date of completion	Name of major items	Unit/cost (In Lakh Taka)
1	2	3	4	5
1	Proposed project			
2	Similar completed project	i)		
		ii)		
3	Similar ongoing project	i)		
		ii)		

20. Attach detailed annual phasing of cost :

21. Signification/design of major components (attach) :

22. Attach amortization schedule for projects having involvement of loan from Government :

23. Briefly describe the effect/impact and specific mitigation measures thereof if any on :

(i) other projects/existing installations
(ii) environment like land, water, air, bio-diversity, etc.
(iii) women and children

(iv) employment, poverty alleviation, etc.
(v) institutional, productivity
(vi) regional disparity

24. Specific linkage with PRS and MDGs (in terms of number & percentage of policy matrix of PRSP) :

25. Whether private sector local govt. or NGO's participation was considered? Describe how will they be involved? :

26. In case of foreign aided project mention the major conditionality :

27. Does the project involve rehabilitation/resettlement? If so, indicate the magnitude and cost :

28. Identify risk during implementation & operation and mitigation measures thereof :

29. Any other important details, technical or otherwise (e.g., sustainability, governance, Steering Committee, Project Implementation Committee, etc.)

Signature of the Head of the Executive Agency
with seal and date

Recommendation and signature of the Secretary of
the sponsoring Ministry/Division with seal and date