

**Developing case for Senior Staff Course
conducted by BPATC**

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Any accomplished work consumes quality time, resources and cordial efforts of multiple stakeholders. This research report is no exception as this is an output of supports of BPATC authority, trainees of some previous courses, prospective participants, researchers, city planners, experts, and incumbents of some specific cases.

Conducting this research was felt while facilitating training sessions on Evidence-Informed Policy Making at SSC level. We used to use cases developed by Lee Kyan Yee School of Public Policy. Although these were selected based on nature of subject matter, complexity, socio-economic context and the quality of write-up. Participants took part actively while working on exercise given by us. However, participants, in most cases, gave us feedback to provide them cases developed centering our social and economic crisis which would be more learning-centred, pragmatic and enthusiastic. This propelled our understanding and instigated us to undertake initiative to write cases and subsequently utilize for the participants of various courses, particularly at SSC. As the SSC participants kindled the issue, they deserve thanks. We acknowledge the contribution of participants of three SSC participants of 99th, 104th and 107th as they worked on the developed cases and put remarks for further development. As an acknowledgement their output has also been attached as appendices.

Primarily it was thought to develop cases based on the secondary sources. Latter it was found that cases enriched by using primary data and views of different stakeholders pertaining to the problem area would be phenomenal. Since it needs financial support to visit field and garner data, a project was submitted to BPATC. We would like to convey our thanks and gratefulness to BPATC authority to accept our proposal and become part of the project. This inclusion served as pressure to complete these cases.

All research participants of this research who contributed a lot in generating ideas, sharpening the issue, strengthening data, developing cases in various ways, deserve our heartiest thanks without whose input we could not be able to materialize the expected outcome.

The research team

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Abstract

The effectiveness of training programme significantly depends on richly designed curriculum and effective delivery through suitable training methods where the second one contributes more to create better learning environment and brings the positive changes among the learners, particularly the adult learners. Among the various training methods used in training environment, some methods are found most effective in terms of accelerating knowledge area, changing behaviour and upgrading skills. Case study method is treated as one of the highly effective training methods because of its engagement that enhances the various levels of learning. BPATC-designed courses like SSC lack of case-based learning as these are mostly delivered using lecture method. Participants of various courses including SSC emphasized on the effectiveness of training by incorporating participant-centric training approach. This research has an action-oriented objective of developing cases for SSC (to be used for other courses too) to benefit the participants and eventually bring the effectiveness of the course. Six cases are expected to develop to address the issues of policy formulation, problem solving and strategic management or the issues fit to the contemporary contents. Intended cases have been developed based on the secondary data and later strengthened by the primary data in order to situate and contextualize the issue. Six cases have been developed which are 'Bhabadah Conundrum: Hopes and happiness are submerged', 'Burnt hopes and smoked future: The deadly fire in the Capital Dhaka', 'Herd immunity or hard humanity: Bangladesh's response to coronavirus pandemic', 'The City under water: Where do we live and how do we live?' 'The Neglected Epidemic: Unraveling the Crisis of Road Accidents' and 'Social stigma of Becoming Entrepreneur'. This research aimed also at developing the guidelines for the speakers so that they can effectively utilize the case in classroom settings and enable the participants with the intended learning outcomes. The two cases i.e. 'Bhabadah Conundrum: Hopes and happiness are submerged' and 'Burnt hopes and smoked future: The deadly fire in the Capital Dhaka' were also utilized in 99th, 104th and 107th Senior Staff Course of BPATC. The output of those courses indicates that these were much effective as they came up with expected output by incorporating the theoretical understanding on public policy.

Chapter One: Introduction

1.1 Background and Problem Statement

Public administration is more dynamic at present time than before because of multi-dimensional and voluminous activities, demand of citizen and pressure of globalization (Christensen and Lægreid, 2011; Farazmand, 2012). Highly experienced and knowledgeable civil servants have the key role to address those challenges and utilize the opportunities. Hence, continuous learning is a must not only to aggrandize oneself but also provide state expected services to the citizen. Learning through practical experiences and theoretical knowledge in training bridges the learning expectation and help creating a knowledgeable cohort (Kabir and Mitul, 2017). Training is instrumental to develop civil servants that makes competent on the issues necessarily important to meet challenges of time. Additionally, the success that Bangladesh has recently achieved needs to continue with the same or faster speed. Numerous policy initiatives have been taken and are being implemented. Bureaucrats are the key players of undertaking and implementing these initiatives. However, the challenging future requires more dynamic and knowledge based human resources that is expected to be the prime concern in days to come. In order to lead the country's development progress and contribute significantly, civil servants need higher level of learning through training. The question is whether the trainings are really suitable enough to translate expected cognitive level. It is also a pertinent query whether the various training methods are used in the classroom environment are effective and to what extent.

It is evident that case based and problem-solving techniques capacitate learners more accurately and effectively. The participants of different courses opine in the course-end evaluation to use case studies. It is also supported by both external and internal speakers. Traditional approach of conducting session with mostly lecture is usually delivered at all levels at BPATC including Senior Staff Course (SSC). Moreover, when cases are also used for the learning purpose, mostly are of foreign country specific and different from our business process and context. It evidences that participants demand cases, which are dominantly of our culture, and own problem that can be effective for brining better learning outcome too. It is found that no or rarely cases written by both internal and external speakers are used in the classroom at BPATC. Additionally, when cases relating to our country problem are usually opinions or viewpoints published in the newspapers. These are not written following the teaching case rules. Thus, poorly designed

cases and absence of good academic cases result in poor learning and dissatisfaction of both training providers and receivers.

Researches evidence that appreciation and valuing case study approach has been increasingly growing attention of academics and practioners in recent years because this has a long stride to enhance the analytical skills at higher level likening to the traditionally practiced methods (Harling and Misser, 1998). It stimulates discussion, promotes analytical thinking, fosters creativity and encourages learners to check their assumptions. Sometime, it challenges the traditional way of thinking. Because of dramatic nature of case, leaners get into the issue with conflicting environment and possibility of multiple way of solutions and enhances the learnings capacity.

1.2 Objectives of the study

The research aims at achieving three objectives, which are:

1. To identify the areas including topics and modules where participants and trainers emphasize to use case study as learning method;
2. To develop six cases pertaining to the modules of SSC as well as other core courses of BPATC; and
3. To prepare the guidelines for the session speakers how to effectively use these cases.

1.3 Rationale of the study

This is the only research that its outputs are ready to use for courses of BPATC. This creates value as it surpasses from micro-level benefit (individual gain) to macro-level development. The output is expected to directly contribute to the vision and mandate of BPATC. Although 38-year-old BPATC should have sufficient number of teaching cases to utilize in the classroom, there is a paucity of that. These cases are expected to fulfill that scarcity. Home-grown cases developed basing on problems and issues of our country would certainly create active participation and eventually create better learning. Participants expect to deal with the practical problem related to the environment where they are working in. Having comparative benefit over other methods, the case stimulates participants' brain, engages them actively and produces practical solutions. Moreover, a case study method is a combination of multiple techniques such as discussion, brainstorming, group work and presentation that brings the benefits of various techniques together. It is noted that learning effectiveness depends on multiple issues

such as learning modalities, learning environment, level of trainee, trainer presence, proximity, interaction level and time (Martin, et al., 2014). The research is expected to contribute to the literature as no research in this regard has been conducted at BPATC. Two cases on waterlogging at Bhabadah and increasing fire accidents at Dhaka have been utilized in some SSCs where participants have interactive outputs. They have accepted these cases as they face the problem and can deal practically to solve the problem which was also an intension of this research.

1.4 Scope of the study

This study expects to enrich the training methodology of different courses of BPATC. The developed case will be utilized for the participants of SSC with a target to the module 'Public Policy Formulation'. However, these cases are also applicable for the other modules of different courses such as Economic Development and Contemporary Issues of SSC; Policy Planning, Project Management and Financing of ACAD; and Leadership & Organizational Development, Public Administration and Governance, Economic Planning & Development, Project & Procurement Management of FTC.

Modules relating to public administration and development are scoping area of preparing these cases. Rohynga crisis, road accident, water logging at Bhabadah, government's response to grappling coronavirus, development paradox of projects, policy implementation performance, workplace safety, increasing unnatural deaths, problems of social transformation are the plausible areas of developing cases. These are some selected areas of case development from a wide range of topics included in the course curriculum of course courses of BPATC. One case may cover multiples issues of course contents.

The whole case can be utilized for the mid-level and higher-level civil servants at ACAD and SSC whereas shorter version can be used for FTC and other courses organized at BPATC.

1.5 Organization of the report

This report consists of five chapter where the first chapter presents the background of the research and problem statement to situate the research. The next chapter is about the literature germane that describes relevant concepts about the case and case study method how these are conceptualized and linked to enhance the analytical skills to be transferred to learners. In the third chapter, total methodology of the study is detailed out how it was carried out, data were

collected and analyzed. The fourth chapter is the most important part as this is the reflection of key objective of the research. Some cases were presented in details so that these can be readily used in the classroom settings. For the benefit of the speakers, a teaching guide has also been developed and stated in this chapter. The chapter five presents discussion on case that describes essence of each case. The last chapter is conclusion of the study followed by recommendations.

Chapter Two:

Literature Review

This study is categorically designed to objectively achieve the purpose of some cases to be used for academic purpose, particularly for the participants of SSC conducted at BPATC. Thus, case writing concepts, framework, strategies are the key issue of literature which are practically followed while developing case.

2.1 What is a case

A case is a story combining the totality of the subject matter that gives the readers description of a particular problem or issues, key issues of thinking with in-depth analysis. The case intends to give the experience of practical world by reading the story that provides realistic worldview. Learners can learn techniques and skills from the case when put into teaching ground (Naumes and Naumes (2012).

The case study is an approach, methodological issue which is designed to elicit discussion analysis of a specific situation or even. The study of studying case is allowed the participants to learn how evaluate a situation or identify the real problem in a variety of settings and multiple narratives. The process of evaluation moves centring the case and the skills of trainees. It broadly and specifically aims at enabling the learners to gain knowledge to utilize in future in similar or likely situation. The case has some distinct characteristics (Table 2.1).

Table-2.1: Characteristics of Case

Sl. No.	Criteria of a good case
1.	The case tells a story
2.	The case issues arouse the readers' interest
3.	The case situation is accessible to the readers
4.	The case teaches a managerial skill
5.	The case requires the solution of a managerial problem
6.	The managerial problem in the case has a history
7.	The case includes quotations
8.	The case permits empathy with the central character
9.	The case is set within the past five years.
10.	The case is short and simple

Source: Harling and Misser (1998)

The case study method is deemed as one of the best training methods in terms of creating longer and active learning effect on the participants (Islam and Hosen, 2021; Read and Kleiner 1996). Learners of two core courses of BPATC i.e. ACAD and SSC marked case study method as the top-rated training methods along with group work which is inbuilt in case delivery (Imam, 2015; Rahman and Roy, 2009). Moreover, case-based learning is treated as a superior instructional method that promotes learners' critical thinking ability particularly for adult learners (Kim, et al, 2006; McGuire and Whaley, 2017). As adult learners are influenced by multiple extrinsic and intrinsic factors and have to work with numerous issues, the more complex environment demands to study and come up with practicable solutions. Moreover, the present working environment and future work may be coupled with more dynamic and complex worldview that demands organization leaders equipped with multi-dimensional learning experiences. Participants of SSC who are treated as the strategic leaders for policy formulation necessarily pledge higher level of learning usually not possible through lecture method. Researchers remark that adults having experience on the subject matter do not want to be taught through lecture that indicates the necessity of choosing best alternative method (Smith, 2017). Case study method is regarded as one of best options. Because it is written in such a way where controversy, contrast, conflict, dilemma and dramatic elements are inbuilt features; and it conforms to the structure and learning philosophy of the case (CDC, 2015).

Bloom's taxonomy indicates the fixation of learning pyramid with higher-level knowledge at the top level that recognizes the analytical skill, which can be suitably achieved through case study. The experienced civil servants having both theoretical and practical knowledge need to have insightful and problem-solving techniques. Cases developed with various dimensions and contrasts are deemed to provide skills and insight to solve the problem. A case study can truly stimulate interest of participants because of bringing strong realism in the classroom setting (Read and Kleiner 1996). A case usually a description of a real problem from real life or contemporary setting that provides the opportunity to solve the problem aligning with the learning and experiences of learners (Creswell, 2013; Read and Kleiner 1996; Yin, 2009). The process of utilizing case study approach exercises initiation, inclusion and imagination from the theoretical part and engagement, evaluation and solution from practical part. As a result, using case study not only creates demand from participants and also advocated by the training specialists (Rahman and Roy, 2009). In order to obtain better learning results, preparing good case for the participants is the prerequisite. While writing a case, the writer should ruminates some important issues such as theories to be taught, interesting hooks to bind story together,

dynamic tensions, learning approach, competing views and rich contextual nuances of setting, patterns, cultures and urgency (Farhoomand, 2004, McGuire and Whaley, 2017).

2.2 Case study for academic purpose

Among the various methods of training, case study-based training is highly impactful according to the researchers and participants. Evaluation reports produced by the evaluation department of BPATC after every course is completed indicate that participants have preference on case study approach, specially pertaining to case of our own country perspective.

Renown universities across the world are emphasizing executive learning for development of human resources of both public and private sector. Apart from the lecture-based teaching methods, they widely use cases; for example, Harvard Business School, Harvard School of Governance, Lee Kyun Yee School of Public Policy of National University of Singapore. They have professional group of experts to conduct research and develop cases to be used for professional development course.

As public policy is a crosscutting discipline, studying it requires connects to multiple issues and analyzing public policy becomes more complex. Therefore, a detailed account of a policy issue or problem must be presented for the policy analysis so that it provides the scope of situating readers in a complex real policy making work, adopting vintage points, applying higher theoretical knowledge for developing analytical skills and acquiring wider policy principles (LKYSPP, 2023). It indicates the framing of policy situation within the tension because diverse ideas, competing interests and different institutions. In developing a case, ideas from political ideology to social attitude influence policy makers and help deterring the exact problem, its explanation and expected solutions. Case gives wider view to interpret a situation and allows readers to reflect their knowledge. By defining and purpose of policy, it creates both winners and losers who are involved in the making. Case illustrates how these interests of various stakeholders can be intervened, addressed and consequences are dealt. Since public policy concerns about the public problem and value of public as public goods, various public and private institutes with their rules and regulation play significant role in creating policy outcomes. A case study, by incorporating these multiple issues and interests, is a best tool to teach the civil servants and help developing their capacity.

It is found that cases developed in these academic institutes are research based, problem oriented and complex which aligns with the public policy as this discipline is a cross-cutting subject and circled with multiple issues. There are multiple dimensions of problems leading to multiple way of solving those as well. Since public policy is a complex issue connecting to multi-dimensional issues and perspectives, a case represents complexity and details for which case for teaching public policy usually big in size as well. Moreover, a detailed case is required to incorporate and teach multiple tools and techniques.

2.3 Area of Case Study in Course Curricula of BPATC

The course guidelines of SSC indicates that module-2: Public Policy Formulation is trained on problem based issue which seems best-fit to the case study on a particular problem. Participants can easily understand the problem area, analyze those utilizing policy formulation tools and finally come up with policy options. It is very related to the topic ‘Evidence-Informed Policy Making’. The main objective of the module which aims at enabling the participants understanding and realizing the different dimensions and criticalities of public policy formulation and implementation (BPATC, 2023). In fact, total six topics of thirteen hours can be well-taught using the case study approach. Case study approach demands important of utilization in some other modules of SSC such as Public Sector Ethos for ‘Corruption and Unethical Practices in Governance and Development: Combating Strategies’ topic; Partnerships and Negotiations for ‘International Development Partnership/Cooperation: Changing Dynamics and Ramification for the Recipient Countries’; ‘Geo-Politics and Geo-Economics in Asia: Implications for Bangladesh’, Economic Development for ‘Bangladesh’s Economic Development: Strategies, Drivers, Opportunities and Challenges (Explaining Bangladesh Enigma)’, ‘Climate Change and Adaptation: Implications on Development in Bangladesh’; Contemporary Issues for ‘Emerging Trend of the Private Sector and the Public-Private Partnership in Bangladesh: Opportunities and Challenges.

Similarly, Advanced Course on Administration and Development (ACAD) of BPATC designed for the deputy secretaries and their equivalent officials has the wide scope of utilizing case study methods. The module-6: policy planning is the best-fit to the case based learning approach (BPATC, 2022a). The EIPM topic is mainly problem-based policy formulation technique where the developed cases can be effectively utilized. Other topics such as ‘Policy Argument, Formulation and Implementation Challenges in Bangladesh’, ‘Policy Implementation Process in Bangladesh: Institutions, Process and Interaction’, ‘Strategic Focus

of the 8th Five-Year Plan' are suitably fit to the case study method. Through cases, some other topics of ACAD can be taught which are 'Public Service Management and Reform Initiative', 'Business Process Reengineering' and 'Change Management' of module-2: Public Service and Operational Issues; 'Challenges of SDGs Implementation in Bangladesh: Financing Strategies and Institutional Arrangement', 'SDGs Progress Monitoring and Voluntary National Review (VNR): Bangladesh Perspective', 'SDGs as a Catalyst in Poverty Reduction in Bangladesh', 'Goal-3, Goal-4, Goal-5' and Goal 16 & 17: Peace, Justice and Strong Institutional Partnerships to achieve inclusive Development' of Module-8: Sustainable Development Goals; 'Project Risk Analysis' and 'PPP in Bangladesh: Status, Opportunities and Challenges' of Module-9: Project Management Financing; 'International Diplomacy and its Dimensions', 'Simulation on International Negotiation', 'International Trade Negotiation: WTO Perspective', 'Current Discourses and Dynamics in International Development Cooperation', and 'International Arbitration: The Case of Maritime Boundary Dispute between Bangladesh-India and Bangladesh Myanmar' of Module-11: Diplomatic and Development Partnerships and Negotiations'; 'Ten Initiatives of Honorable Prime Minister', 'International Investment in Bangladesh: Opportunities and Challenges', 'Bangladesh's LDC Graduation: Process and Implications on the Economy', 'The Current State of Rohingya Crisis', 'Harnessing the Potentials of Marine Resources', 'Climate Change and Disaster: Global Targets and National Action Agenda', 'Demographic Transformation: Dividend, Opportunities and Challenges of Bangladesh', 'Prospect for Overseas Employment', and 'Leadership in a Challenging Time: Covid-19 Experiences' of Module-13: Contemporary Issues. Considering the suitability of the content's delivery, higher level learning mechanism, analytical skill development, criticality of the subject matter, above mentioned topics demand different training methods where participants can engage them and come up with more evidence-based solutions. About 50 hour-content delivery can be effectively utilized following case study approach where cases developed on the country's problem or international issues are the primary inputs (BPATC, 2022a).

BPATC-run core course includes Foundation Training Course which is designed for the entry-level civil servants. It is the longest course of BPATC with wide range of course contents targeting to disseminate to the participants. Therefore, there is a wider scope of utilizing case study method with different topics. Evaluation report of BPATC indicates that participants have the preference of case study method along with the other methods which are mostly based on participation and team work. Generally, a good number of modules can be taught using this

approach which include ‘Poverty Reduction and Rural Development’, ‘Fundamentals of Foundation Training Course’, ‘Leadership and Organizational Management’, ‘Economic Planning and Development’, ‘Sustainable Development Goals’, Project and Procurement Management’, ‘Office Management and Communication’, ‘Governmental System and Essential Laws’, ‘Public Administration and Governance’, ‘Child Rights and Gender Equality’, and ‘Contemporary Issue’ (BPATC, 2022b). A number of topics can be imparted to the participants which include ‘Socio-cultural transformation of Bangladesh’, ‘Potential Resources of Bangladesh’, ‘Poverty Alleviation and Different Models’, ‘Rural Economy’, Cooperative Movement’, ‘Civil Service Values’, ‘Effective Crisis Management’, ‘Teambuilding’, ‘Change Management’, Conflict Management and Negotiation’, ‘Decision Making Process’, ‘Human Relations’, ‘Conduct Rules and Discipline and Appeal Rules’, ‘Forms of Written Communication’, ‘TA, DA rules’, ‘Delegation of Financial and Administrative Power’, ‘Consumers’ rights’, ‘Rules of Business’, ‘Local Government Institutes’, ‘Land Management’, ‘Decentralization’, ‘Public Administration Reforms’, ‘Public Administration System’, ‘Public Policy Making Process’, ‘Policy Implementation’, ‘Business Process Reengineering’, ‘Total Quality Management and Result-Based Management’, Social Accountability Tools’, ‘Empathy Building’, ‘Women and Child Rights’, ‘Prevention of Violence Against Women’, ‘Women Leadership’, ‘Gender-Responsive Budgeting’, ‘Rehabilitation of Street Children’, Creating Gender-friendly Working Environment’, ‘Development Trajectory’, ‘Development Concept’, ‘Education and Development’, ‘Infrastructural Development’, ‘Poverty and Inequality’, ‘Environment Management and Sustainability’, Startups business’, ‘Basics of SDGs’, ‘SDGs in development priorities of Bangladesh’, ‘Localization of SDGs’, ‘Feasibility test’, ‘Project Risk Management’, ‘Prospects of Blue Economy’, ‘Covid-19 in reshaping the world’, ‘Overseas employment’, Public-Private Partnership’, ‘Ten Initiatives of Honorable Prime Minister’, ‘Road Safety and Initiatives of Bangladesh’, ‘Demographic Dividend’, and ‘Waste Management’. Total of more than 100-hour session can be effectively disseminated using case-based approach (BPATC, 2022b).

It indicates that a good number of topics of all core courses of BPATC can be taught using the case study method. Cross-cutting issues and cross cases can also be development for multiple use in classroom setting.

Chapter Three:

Methodology

This study employed qualitative study that helped developing required quality cases based on both primary and secondary data. Secondary data were the prime choice in order to conceptually develop the case and kindled by primary data. Research articles, policy documents, government reports and newspapers were the key secondary data. Qualitative data were also collected using Key Informant Interview and Observation techniques.

3.1 Identification of case writing area and Data Collection

Primarily the SSC was the main focus of the study so that the participants can get homegrown cases and learn realistic problem and eventually skills of policy analysis. The course guideline has as many as 10 modules including policy formulation as the prime module designed for the joint secretaries and their equivalent level officials from defense, Bangladesh Police, Foreign Affairs.

Primary data were collected from different places across the country. This area was dictated by the selection of case issue.

3.2 Research participants

The research demands multiple stakeholders. Affected persons of particular problem, policy makers and case researchers, participants of different courses are the key respondents of this research. For area identification, the course guidelines of SSC were analyzed and it was found that policy formulation, negotiation and partnership, economic development, contemporary issues are the suitable module where case study method is most appropriate. So, the participants of SSC-graduated are the prime participants for selecting the area of case. Five participants of 99th and 107th batch were selected to discuss which areas are the best-fit to use the case study method and why. Besides, three participants from 141st ACAD and two from 75th FTC were also interviewed for identifying the area of cases and effectiveness of case study approach.

Researchers, city planners, expert on road communication, incumbents of case topics were also the research participants who contributed to providing data to develop cases.

3.3 Data Collection

In order to address first objective, primary data were collected from the participants who have already completed SSC, and also from ACAD & FTC. For meeting the second objectives, total 16 Key Informant Interviews (KIIs) were conducted. Six participants from 99th and 108th SSC, five trainees from 139th and 140th ACAD, two from 75th FTC were interviewed to understand about the training methods specially application of case study method and relevant modules and contents where case can be used for better learning. Some experts, former Deputy Commissioner and ADC (General) of Jashore, Director of FSCD, one Urban planner, two disaster management experts were also interviewed. As the case demanded, observation method (both/either overt and covert) was also utilized specially for Bhabadah, fire accidents, Dhaka city waterlogging cases.

3.4 Data Analysis and Case Writing

The goal of case writing, which is also the purpose of this research, is to produce clearly and vividly written documents using both primary and secondary data. After collecting data, both ‘hands-on’ and ‘hands-off’ cases were developed following case writing techniques (Creswell, 2013). The study was be ended up with six cases developed based on both primary and secondary data. Following the standard procedure, theoretical part was developed based on the secondary data, which was strengthened by using the primary data from the relevant respondents. Broad area of cases was finalized once the participants and trainers set their opined and prioritized areas. Each case is expected to address number of issues within one issue in order to get their uses for multiple areas of modules.

Each case centres a key problem and is associated with multiple issues and problem. Since public policy is a complex issue influenced by various factors, a policy problem is thus pictured in such a way that can give the learners broader picture of the problem and creates necessity of solving that. As of theoretical underpinnings of policy, there is no state forward issue of solving any public problem, the case delivers no direct solution which trainees can do as the task. Six key problem areas were selected and cases were developed on those issues which are perennial water logging and about sixty-year unsolved problem of Bhabadah; increasing fire hazards and huge loss of economy and society; road accident and its recurrent problem in Bangladesh; addressing COVID-19 and managing crisis in spite of having multiple problems; waterlogging of Dhaka city due to unplanned urbanization. These areas were selected based on national

problem to be immediately addressed, wider and increasingly hazardous problem, demands of participants about our own problem, prioritized area of researchers and other relevant stakeholders. It is not the area of developing case, it is also an important issue of methods of teaching so that the trainees can be capable of acquiring knowledge and skills to solve problem prevalent nationwide.

Prior to developing these cases, the module of SSC was used to deliver using the cases of Harvard Business School of Harvard University, Lee Kyan Yue School of Public Policy. Although these cases are free of use in the classroom settings and are on various issue of development, these are foreign cases which explains problem of other country. Trainees felt that the exercise on our problem is always better as the environment and culture is known to us and they are experienced too. This demands more practically driven objective of developing these cases. It was also echoed by the trainers and researchers.

A case teaching guide has also been developed so that any faculty member or speaker can utilize how to use the case and create the learning environment. It also follows what are theories to be taught. While developing teaching guide, it follows the standard guide for using the case (Table 3.1).

Table 3.1: The eight sections of teaching note

Sl. No.	General criteria
1.	Where and when to use the case
2.	Lessons supported by the case
3.	Introductory comments
4.	Synopsis of the case
5.	Study questions
6.	Teaching strategies
7.	Additional material
8.	Follow up to the case

Source: Harling and Misser (1998).

After getting a developed case based on the data, a case needs to be tested in teaching mode. It is also the only way of knowing whether the case works as intended and whether the key stakeholders are getting benefit from these and/or they can produce what exactly is expected.. Teaching a newly written case can be a sobering experience, especially when it does not work well. Yet even when a case seems to work well, modifications may be required to align with

the objectives of the case and purpose of key learners. This is especially likely when the case is taught by the case writer or developer (Harling and Misser, 1998). The case user can understand whether additional information is needed, providing explanations need to be done or clarification of concepts need to be further strengthened during the classroom test. The intimate knowledge the writer has of the case situation allows this to happen. This problem can be identified by having an observer sit in class the first time the case is taught. The case writer observes and takes notes what to do and how to develop further. Testing a case before a full fladgate execution is pivotal.

3.5 Trial-run of case in classroom

Two cases ‘Bhabadah Conundrum: Hopes and happiness are submerged’ and ‘Burnt hopes and smoked future: Deadly fires in the Capital Dhaka’ were used in 107th (May and June 2023) and 109th Senior Staff Course (September and October 2023) respectively as a teaching of policy formulation module. The team leader of the research along with guest speaker Dr. Rizwan Khair utilized this case to train the participants of SSC the tools and techniques of Evidence-Informed Policy Making (EIPM).

Usually, EIPM starts after the introductory session on public policy is held. Participants were given the case few days before the session starts with a request to go through it as EIPM module would be training through tools based on the case. It requires overall understanding of the case and its problem. After identification of the core problem of the case participants were trained about ‘problem tree analysis’, ‘stakeholders’ mapping’, ‘SMART goals and objective setting’, ‘identifying policy options’, ‘analysing impacts on five criteria’, ‘identifying risks and mapping of risks’, ‘utilizing multi-criteria analysis’, ‘prioritizing policy options and choosing best alternatives’ and finally ‘preparing action plan’ for implementing chosen policy option(s). Sequence of learning stages of EIPM is stated below:

Table-3.2: Stages of EIMP practices based on the given case and justification

Sl. No.	Stage of EIPM based on case	Connection
1	Problem tree analysis	Between core problem and causes and effects
2	Stakeholder analysis and mapping	Associated all important stakeholders
3	SMART goal and objective setting	Goal targeting to core problem and objectives targeting to main causes
4	Identification of policy options	Targeting to specific objectives

5	Analyzing impacts under five criteria (Administrative, Economic, Fiscal, Social and Environmental)	All relevant impacts under each policy option
6	Identification of risks and their mapping	Possible risks derived from the stakeholders and impacts
7	Utilization of multi-criteria analysis	evaluating each criterion under certain value
8	Prioritization of policy options and choosing best alternatives	Selecting the best and appropriate one based on value achieved
9	Preparation action plan	It is detailed plan to how implement within the specific timeframe

Through these exercises, participants achieve the skills of policy making. It is rolled out through few sessions gradually once one stage is achieved; another stage is introduced. After each tool and stage, feedbacks from both resource persons and participants are sought to enrich the presentation. The outputs of those two courses are also attached as an appendices.

Chapter Four:

Findings of the Study

The research is designed to have developed some cases for classroom uses. After garnering data from both secondary and primary sources, every case was framed how to present a particular problem with a view to impart some skills to the participants. Cases are on waterlogging at Bhabadah area of Jashore, fire accident problem of Dhaka city, road accident in Bangladesh, waterlogging in Dhaka city, social problem of becoming entrepreneurs. The detailed cases are presented along with the shorter version of each case:

4.1 Case Presentation

4.1.1 Case-1: Bhabadah Conundrum: Hopes and Happiness are submerged¹

Prologue

Bhabadah is a waterlogged area situated in Jashore district which is often called the sorrow of Jashore as water of this area symbolizes untold sufferings of thousands of inhabitants including hunger, diseases and death. The perennial waterlogging from Bhabadah points affects about 1.5 million people of three upazilas namely Abhaynagar, Keshabpur, Manirampur of Jashore. The area is crisscrossed by seven rivers, which are the Mukteshwari, Teka, Hari, Sree, Aparbhadra, Harihar and Buribhadra. The area becomes inundated all-time not only during rainy but also in winter session. People neither can enjoy their normal life nor continue their economic activities. The problems started in the 1960s when the 21-vent sluice gate was constructed on the river *Sree* to turn a vast swamp land into arable land. Immediately after the sluice gate was built, people saw bumper production in the area stating a beatific smile on the face of the poor farmers. However, in next two decades it turned as the problem for the locality because of unintended consequences mounting the sufferings. It is now a key cause of decade-long waterlogging conundrum. The Bangladesh Water Development Board (WDB) authority agrees that people from 426 villages are affected in various degrees of waterlogging. More than four decades, people have been suffering from this problem.

¹ The case is developed by Dr. Mohammad Rezaul Karim to utilize it for the academic purpose at BPATC. The author duly acknowledges various sources of data, both primary and secondary sources. The author is also grateful to Dr. Rizwan Khair, former MDS of BPATC for his valuable comments to enrich this case.

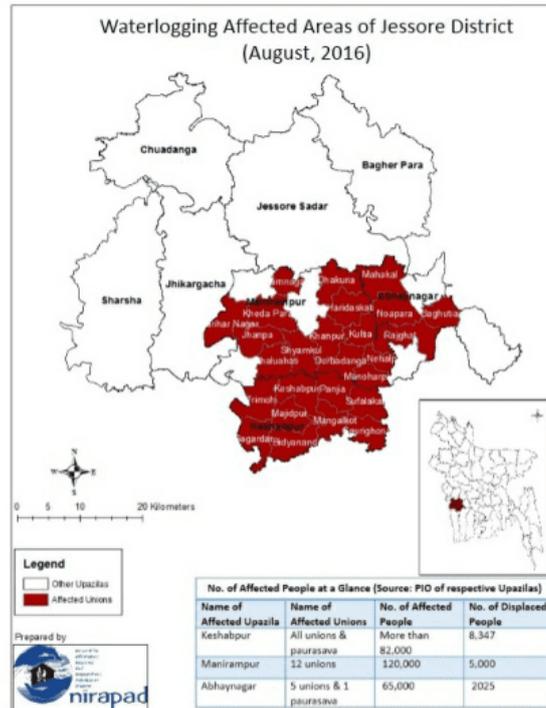
Location and surroundings of Bhabadah

Bhabadah is situated in the area connecting to Abhaynagar, Manirampur and Keshabpur Upazila of Jashore District. The area spread over 478 square kilometers covering 200 villages in three Upazilas in Jessore and two in Khulna district of Bangladesh. Water logging in the Bhabadah area situated at 23°10'03.5"N 89°08'03.6"E to 23°10'37.0"N 89°13'54.6"E of Jashore and Khulna districts. The area is crisscrossed by seven rivers, which are the *Mukteshwari*, *Teka*, *Hari*, *Sree*, *Aparbhadra*, *Harihar* and *Buribhadra*. The area becomes inundated not only during rainy but also in winter session. There are 52 beels in this Bhabadah. Although the Bhabadah is of three upazila of Jashore, it is also geographically and socially connected with the broader area of the southwest part of the country. People of *Phultala* and *Damuria* of Khulna, *Tala* Upazila of Satkhira district are affected with the perennial problem.

Table 4.1.1.1: Water logged area

District	Total affected area of Upazilas	Total area of Districts (ha)	No of Upazila	% of total waterlogged area of Upazila (ha)
Jashore	94911	260694	3	16.6
Khulna	51245	438900	2	37.1
Satkhira	96298	381729	3	34.8
Total	242454	1081327	8	28.1

There are 1.5 million people from 426 villages connected to this area. It is not just the number of the affected area; it is more than that that connects to the life, livelihood and homestead and the future.



Picture 4.1.1.1: The Bhabadah Waterlogging Area

The beginning of the problem

The problem started about six decades ago. The deep-rooted waterlogging problem of Bhabadah emanated from its origin in the 1960s. This low-lying region had different problem that it would be inundated during the rainy session by rising waters of major rivers crisscrossed this marshy land before failing into the Bay of Bengal about 60km to the South. The inundated water is mainly extreme saline water that posed serious threat to crops, cattle, fish, birds, human and the like.

In order to solve this problem, Embankment project was initiated which turned as problem again rather than solving it in fact. The then Pakistan government undertook a huge project funded by the Asian Development Bank and assisted by the USAID in 1960s. The project built 1500m of embankments, 282 sluice gates, 35 polders² along the rivers from 1961 to 1967. On the *Sree* river alone, a 21-vent sluice gate was built at the Bhabadah point that turned the vast swamps into arable land. This change made the bumper food production and made people happy. Seeing the positive externalities of the coastal project, the local farmers became so

² Polders (a Dutch word) are a low-lying tract of land enclosed by dikes that forms an artificial water body. They have no connections with outside water other than through manually operated devices.

happy that they gave a ‘gold scythe³’ to Abdul Monem Khan, the then governor of East Pakistan.

However, the project becomes a ‘sorrow’ of the region in two decades mounting the untold sufferings for the community. The whole project turned out to be a catastrophe in two years and now Bhabadah waterlogging is a conundrum. Before constructing those polders, there was a balance of natural and substance created by trapping the saline water, flowing the inland water with tides and depositing sediments at high time. This natural process got interrupted and polders came to a halt in 1980s since silt started to deposit on the riverbeds and subsidence of the land inside the polders continued. It is cogently evident that changing the natural process turns to a problem as a consequence of man-made embankment. Moreover, structural change without considering the indigenous system makes problem more complicated and impractical.

The Bhabadah conundrum worsened when the Farakkah Embankment on the Ganges was built and India started withdrawing water in the 1970s. Because of the Farakkah barrage currents in the upstream rivers mainly the Padma and Bhairab that flows through *Abhayngar* grew weaker. Researchers, professor M Shahjahan Mondal of the Institute of Water and Flood Management at the BUET in particular, raised other pertaining issues that Coastal Embankment Project lacked of silt management and long-term plan for river dredging. As a result, currents of these surrounding rivers and canals lost their primordial force that resulted in siltation, drying up of rivers and eventually the exit points of the sluice gates got blocked. Chief Adviser of the *Bhabadah Pani Nishkashon Songram Committee*, a platform campaign for a solution for over a decade, endorsed that the embankment was the beginning of the problem wrecking the ecosystem and causing harm to the livelihood of the area.

Untold and multifaceted sufferings

Although the problem stays around the year, sufferings increase during the rainy session more. Even farmers cannot cultivate *boro* during the dry session. Most of the cropland remains submerged in July by knee to waist-deep water, even in October that indicates their grim prospect. Floodwater recedes not only in farmland but also their homestead. People lead a

³ A scythe is an agricultural hand tool used for mowing grass or harvesting crops.



Picture-4.1.1.2: A displaced person making homestead on the road

miserable life with whatever they manage during the dry session. It is the only demand to get its permanent solution, not relief from the government. In August when it rains more, miseries tripled. In August 2016, a farmer, Hari explained that he took with his elderly parents, wife and college son in a hut that he build on a road after the entire village went under waist-high water following a heavy rain. This picture-1 is of many other hundred families of this area.



Picture 4.1.1.3: A Couple with their child wade across the flooded Noapar-Kalipur road in Abhaynagar Upazila of Jashore; Photo was taken by Dikankar Roy, The Daily Star on 5 October 2017

As agriculture is the main occupation and agricultural land is under water, hundreds of people are unemployed. It was found that total 16442 acres of land crops were damaged, 16652 fishing enclosures and ponds washed away in 2015. Small business-like poultry and other framings have gone bankrupt. The change of employment from farming to other seasonal business is believed to have socio-cultural effect for the community. A significant portion of time of hundreds of people is frequently used for demonstration, protests, sit-in and rallies for which their invaluable labor is not being utilized for productive purpose.

Education is one of the most affected sectors in the area. At least 45 education institutes are floating that are inaccessible for students and teachers. Only very few schools and colleges are open that also can't operate in full swing because of the poverty, limited scope of study at home and so on. If these children are not educated, their lives would be ended up with more miseries and big section would be illiterate or less-education with an adverse cultural effect on the society.



Picture 4.1.1.4: A college is partially submerged, Photo was taken by Dikankar Roy, The Daily Star taken on 5 October 2017

Graveyards and Cremation grounds are also under water that indicates the miserable conditions of people. Muslims who mandatorily need to use dry land to bury the dead bodies which almost impossible to get in this area. The similar problem remains for the Hindu community. As

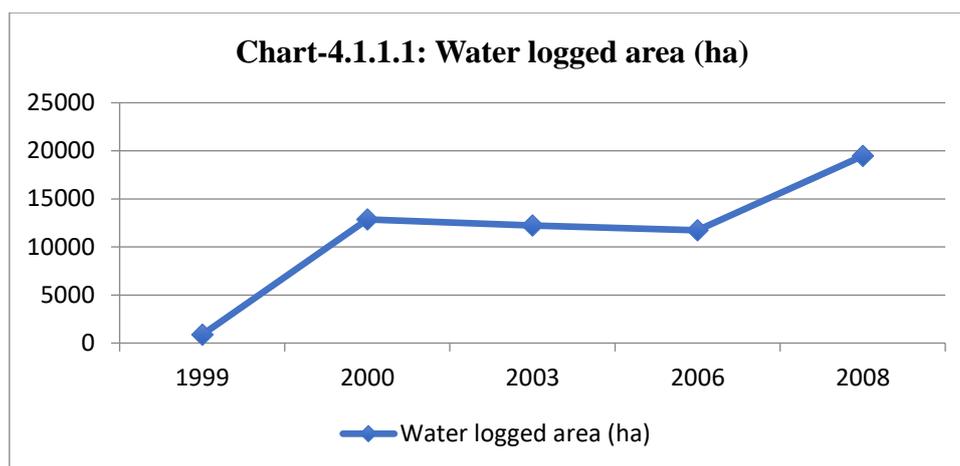
Bangladeshi people are religious minded and accustomed to follow religious practices, this difficulty of maintaining religious custom hurts them.

The most dreadful effect appears, as a result of waterlogging, is the change of ecosystem of the area. Rivers are dried up keeping adverse effects on flora and fauna. Croplands are being transformed to shrimp *ghers*, sweet-water water bodies are contaminated with saline water causing harm to the agriculture production. Different types of fishes and aqua species are in danger.



Picture 4.1.1.5: Locally made passage using sand-bags to move from one place to another

The water logged area increased over the years indicating the problem deepened the crisis rather than solving it. A study indicates waterlogged area increased from 865 in 1999 to 19467 in 2008 (Chart-1); more than double in one decade.



Uttaran, a local NGO found that new area of three districts went under water adding the suffering to the livelihood and cultivation (Table 3).

Table 2.1.1.2: Comparative waterlogging problem in 2003 and 2008

Damage/Loss	2003	2008
District	Jashore and Satkhira	Jashore, Satkhira and partly Khulna
Upazila	Jhikargacha, Manirumpur, Keshabpur	Jhikargacha, Manirumpur, Keshabpur, Kolaroa, Tala, Paikgacha
Union	16	55
Affected villages	73	426
Waterlogged area (Sq km)	126.87 (12,687 ha)	223.89 (22, 389 ha)
Total	101800	845000

Getting no permanent and practicable solutions of the decade-long waterlogging problem and no hope of solution in future, the inhabitants of Bhabadah blamed their fate and God's disgrace leaving the solution by a miracle.

The problem is political too

Finding the benign effects and intended positive outcomes of TRM and support of the local farmers, WDB included TRM system in the project in 1997 and applied first in Beel Bharat Bhayena of Keshabpur and in *Beel Kedaria* in 2002. Because of TRM, two beels were relieved from the waterlogging that proves the indigenous system worked well. However, local political

elites influenced to stop the *Beel Keadria's* TRM project saying that croplands were being damaged because of the water entering the beels through openings. It is thought to favour the local *gher* owners, local elite businessmen.

In the early 1990s, Bangladesh sees a phenomenal growth of potential shrimp production and increase of shrimp *ghers* or hatcheries in the coastal areas including the *beels*. It is found that each beel has about 40 percent of *khas* land. Most of the *beels* belong to shrimp owners who have allegedly managed by force or trickery or by leasing hundred acres of private land of farmers. These shrimp owners are businessmen, locally influential persons having political links and muscle power. As the shrimp cultivation needs saline water and thus flow of tidal water, influential elites never want this problem solved. It is reportedly said that there is a multi-million-dollar business because of shrimp *ghers*. Since the *gher* involves a lot of money, owners often inhibit undertaking government projects to solve the waterlogging problem. The civil society members acknowledge the fact and mentioned it as one of core causes of keeping this unaddressed. It can easily be understood from an incident that happened on 2 June 2012 how the *ghers* owners are powerful and arrogant. The TRM project in *Beel Kapalia* launched on 1 May 2012, was cancelled because of the muscle power. Moreover, Whip Sheikh Abdul Wahab was attacked by *gher* owners and their goons when he went to inaugurate a peripheral embankment. His car was set on fire and his men were beaten up. Because of the attack government initially suspended the project and eventually canceled it in 2015 terming it as complex for implementation.

Apart from the shrimp *gher* owners, some project officials of the government and contractors are also thought to be the beneficiaries in delaying the project. CS members think that some corrupt government officials and influential people keep the problem alive as the Bhabadah problem resembles as proverbial goose that lays golden eggs for those vested groups.

Notwithstanding obstacles from the muscle power and obstacles from various corners, Government undertook project to bring the remedy of the problem for which WDB introduced TRM project in *Beel Khukshi* in *Keshabpur* in 2006 and to continue it in other *beels*. However, the project was not implemented and people could not grow crop although the project extended until 2008. Moreover, because of procedural problems, a good number of land owners did not get their compensation that was promised. It sparked among the agitated people who finally closed the cut-point of the TRM. Finally the project ended in January 2013 without given much hope of solution to the problem.

Ultimately politics and influence of shrimp *gher* owners are found as the reasons of stopping river dredging projects or implementation of TRM except an emergency excavation project.

Attempts to solve the permanent problem

Pumping out water from the waterlogged area

To solve the waterlogging problem, many strategies were taken by the government. Pumping out water from the waterlogged Bhabadah was one of those. If the problems are not solved, numerous actions are taken to get better results and effective solution. Some are termed as long-term and some as short-terms although none of these cannot claim success. WDB sometimes pumps out stagnant water from the Bhabadah using 20 pumps in 2022, which was also followed before. Each pumps have the capacity of draining five cusecs of water that is equivalent to 28.32 litres of water per second. Government has already spent 2.5 crore on the project to set up the pumps, pay electricity bills and do excavation works. In order to continue the activities of the project, the WDB proposed an estimated cost of taka 50 crore. However, pumping water from huge water seems impractical solutions.



Picture-4.1.1.6: Pumping out water from the waterlogged area

Government has taken a river excavation project recently at *Hari* and *Teka* rivers in order to recede water from the Bhabadah region. As a part of the project, workers are dredging the riverbeds to extend the width of the rivers. However, it could not solve the problem rather exaggerated. Because the contractors are dumping excavated earth back onto the river banks which in terns may go back to the riverbeds again and create the similar problem.

Joaradhar

In order to get rid of perennial waterlogging problem of the area, local people introduced an indigenous water management system called '*Joaradhar*⁴'. Later it is officially named as Tidal River Management (TRM). *Joaradhar* is an indigenous agriculture system of hundreds of years practiced in this southwest region of Bangladesh. In past, farmers used to cultivate by restricting saline water by constructing embankment and again they used to cut the embankment to allow tidal to enter sediment that raised the bed of *beels*. It is called eight-month embankment (*Ashtamsi bandth*) that they used to embank during the moonlit night of *Magh* and open it again in the moonlit night of *Asharh*. This is the way how cultivation runs using the *Joaradhar* system. When the problem turned bad in 1983 because of rivers silted up, people were trying to solve the problem using their local knowledge. The TRM is the controlling system of sediment of the rivers as high tide brings muddy water flow with a dense concentration of sediment. It is termed as a strategic innovation appreciated by people and used in master plans to address congested rivers and waterlogging in Bangladesh.

In order to deposit the sediment into the floodplain, locals cut the embankment to a certain point to get the tidal water into the floodplain. This process of disposition of residue helps raise the land level over the period of time. The system makes river accessible as it does not let the sediment settle on the riverbed. TRM is considered the most effective method of not only saving rivers but also sustaining the ecosystem. Water management experts opine that TRM is a unique solution to the waterlogging problem because it is environment-friendly, cost-effective, technically viable, socially acceptable & participatory method and endorsed by the scientists and researchers. TRM is a community approach in another term. The recent study based on sophisticated modeling techniques, TRM is being used in 106 beels in the coastal area of Bangladesh and found TRM reduced flood susceptible areas by 35 percent and enhanced agriculture production.

Khulan-Jessore Drainage Rehabilitation Project (KJDRP): Water Development Board has taken a big project named 'Khulan-Jessore Drainage Rehabilitation Project (KJDRP) to address the river drainage and waterlogging problem of the entire southwest part of the country

⁴ It is a Bangla term meaning a place for tidal waters

including Bhabadah. Government allotted 2720 million taka to implement this massive project between 1995 and 2004. The project included dredging of rivers, construction of regulators, building dams and embankments. It reportedly found that the said project brought more negative consequences than doing good as the rivers died because of the drainage system. Another good try turned out as worst consequence resulting in no solution for the problem.

EPZ in Jashore for creating alternative livelihood

To find the alternative solutions, particularly for alternative livelihood for the affected people, government has started working to set an EPZ to create about 1,50,000 job opportunity and change the livelihood of 5,00,000 people. A DPP has been drafted and 503 acres of land of Rajapur, Prembagh, Chengutia, Arji, Bahiraghat, Baliadanga, Mohakal and Alamdanga of Abhaynagar Upazila are being process to acquire. This EPZ is expected to change the socio-economic transformation of the locality.

Community Engagement and volunteer work

Bhabadah waterlogging problem is deep-seated problem that hundreds of people of the region are suffering for more than four decades. In about 40 years, the time passed but not the miseries although there was and is a try to solve and bring benefit to the affected section. Government initiates projects to address the problem to solve using different strategies.

As the affected people are the poor farmers mostly, they need some immediate actions. Apart from the government projects taken by WDB, people of Bhabadah put hands together to minimize the sufferings doing something at their own. They removed barriers from *Amdanga* canal to resolve the perennial water stagnation at their homesteads and croplands.

Around 500 affected people were organized to re-excavate canals on their own to get rid of the perennial waterlogging problem at the Bhabadah in 21 September 2016. Although it was a volunteer work, quite good number of people joined that. While joining the volunteer work to benefit to them, they also urged the government to take initiatives which they can not at their own that includes the excavation of *Shrinadi* and *Horinadi* rivers, opening of Bhabadah sluice gate and making it fully functional, and creation of another sluice gate at the entrance of the *Bhairab* River.

Community engagement also happens as the part of demonstration and procession demanding the problem to be solved. This engagement usually happens as the part of non-violence activities taken by the civil society groups, which are mostly local. Community engagement is actively supported by the local units of community party of Khulna, Jashore, Bagerhat and Satkhira.

Procedural obstacles in implementing TRM and policy snags

Researchers found that TRM can be potentially much cheaper than hard infrastructure. It indicates not only indigenous system but also provides beneficial values that enhanced livelihoods and river systems. However, the TRM projects are taken by the Ministry of Water Resources and approved by the Planning Commission and finally implemented by the WDB. People have very less to do with its initiation and implementation. In implementing TRM, there are some issues pertaining to the Water Policy 2013. It is stated that landowners have a right to compensation when affected by a water project like TRM, though the right for compensation is not clearly described. It is found that formally, land owners should receive compensation based on maximum production, as determined by agricultural and fisheries officers. But they did not receive.

The compensation mechanism is meant for landowners, and thus does not offer compensation for farmers leasing land from other landowners or for day labourers working on other's land. In order to get compensation, affected people have to provide a list of documents including land settlement, cadastral survey, state acquisition, and mutation records of land ownership and heir certificates. These documents should cover any changes in landownership since the 1960s. It is reportedly found that compensation is denied when submitted papers do not match with governments records, when all papers are not submitted at once, when any papers contain a misspelling, or when one of three involved administrators reject the compensation for any of the above reasons. Researchers' findings show that the complex procedure is easier to fulfill for large landowners than it is for small landowners, farmers without land rights or those who are illiterate.

In a study conducted by a local NGO named Uttaran revealed that only two payments were made and 55% of the budget for the first year and 15% for the second year were distributed for the compensation for *Pakhimara* Beel, which was taken for four years from 2011. It is also

allegedly found that the ‘speed money’ was necessary for obtaining compensation. Mainly, the complex procedure of compensation system serves as the bottleneck for the project.

Water management experts remark that a market that should be influenced by the potential leaps in value TRM could offer to local livelihoods is the water projects’ market. This preference for hard infrastructure is visible in a range of master plans that provided people in the southwest with polders and hard infrastructure to regulate water (e.g. embankments, sluices, sluice gates). Examples include the Coastal Embankment Project (mid-1960s), Coastal Embankment Rehabilitation Project 2 (1986–1993, 17 million USD) and KJDRP (1993–2003, 62 million USD). The dredging that was needed to avoid drainage congestion in the tidal rivers created a related market for dredging operations, which was highly contested as stakeholders saw no use in dredging in the coastal area, or only when applied in strategic locations.

A new series of master plans have recently been developed. Those projects indicate that the values generated by TRM (e.g. natural rivers, improvement in livelihoods, land formation) are not broadly recognized. The Seventh 5-Year Plan (2015) of the Planning Commission mentions, in several instances, the problem of drainage congestion and waterlogging, yet does not list hard infrastructure as a prime cause, and interestingly conceives river dredging as a prime strategy to mitigate waterlogging and congested rivers in the Lower Bengal Delta.

Likewise, the Coastal Embankment Improvement Project (CEIP) (400 million USD, 2013–onwards) does not describe causes of river siltation and waterlogging in its formulation document, and merely seeks to strengthen existing embankments after the Government decided to upgrade them. The Bangladesh Delta Plan 2100 (2015), with an investment package of 80 projects worth 38,000 million USD, links river siltation to the construction of polders and proposes to overcome waterlogging in the southwest region through their appropriate management.

Demonstration and protest: A regular phenomenon for a constant problem

Bhabadah Pani Nishkashon Songram Committee (BPNSC), formed to work for a permanent solution, is constituted with its Chief Adviser (Ikbal Kabir Jahid), Secretary and members and regularly holds procession to attract the attention of concerned including political decision makers.

25 July 2018

The BPNSC announced to stage series of rallies for about a month started from 25 July that ended on 20 August 2018. Ranjit Bawali, convener of the Bhabadah's water problem mitigation committee, read out the written statement at the conference where Iqbal Kabir Jahid, polit bureau member of Workers Party of Bangladesh, Baikuntha Bihari Roy, Gazi Ahdul Hamid, Abdul Majid Gazi, Chaitanya Kumar Paul and other leaders of the committee were present. The committee extended the inclusion of affected people other than the Jashore which are Phultala and Damuria of Khulna, Tala Upazila of Satkhira district.



Picture 4.1.1.7: People staging sit-in for TRM

16 November 2021

Hundreds of Bhabadah waterlogging affected people staged a sit-in in front of the Chief Engineer's Office of Khulan Water Development Board on 16 November 2021 demanding a permanent solution. It was arranged by BPNSC. Their demands include adopting the TRM at Beel Kapalia to remove silt from the river Hari Sree, deepening the Amdanga canal, opening all doors of 21 vent sluice gate to drain water, cutting channel in the river 6-7 km downstream of the river and cancelling the proposed irrigation project worth Tk. 500 million.



Picture 4.1.1.8: People demanding excavating riverbeds

10 January 2022

The BPNSC organized a demonstration in front of the Office of Deputy Commissioner, Jashore with a slogan ‘Remove water, Save us’. About 1000 residents of the area attended the demonstration on 10 January 2022. The movement want to achieve six-point demand and demand TRM before the full moon. Advocate Abul Hossain, President of Communist Party, Jashore unit, Zillur Rahman Vitu, Secretary of Jashore Workers’ Party (Marxist) and Ranajit Baoali, Convenor of BPNSC raised their voices.

Epilogue

Whatever the reasons either seen or unseen, either identified or hidden, Bhabadah waterlogging problem remains unsolved for the last few decades. Much attention was tried to draw by the print media citing the miseries of more than 1.5 million of the area. Prolonged and recurring waterlogging due to inappropriate and poorly managed engineering interventions, diversion of river flows in the upstream, semi-intensive aquaculture and politics of *gher* owners has dramatically altered fate of human life along with their livelihood. The problem does not only bring sufferings for the inhabitants but also affects coastal ecosystem causing climate change that result in displacement of inhabitants. Because, the area has high concentration of rivers, canals that form a dynamic coastal ecosystem in four districts namely Khulna, Satkhira, Bagerhat and Jashore with a higher connectivity to Bhabadah Beel. The coastal ecosystem is also changing so rapidly at present than before due to multiple crosscutting social, political, economic and natural factors that ultimately keeps the problem alive until today and even for an indefinite period of time in future too. Researchers comment that ‘business-as-usual’

strategies cannot resolve the development challenges of urbanizing engineered deltas and dreadful waterlogging. As a result, they suggest undertaking strategic innovation to move from the conventional thinking and acting that requires strategic innovations.

Questions:

1. What is the key problem of the case?
2. Why is the waterlogging problem at Bhabadah so prolonged and unsolved for quite a long period of time?
3. What are structural, social, political and environmental issues that intensified the sufferings of the inhabitants of the area?
4. What are plausible solutions that can be adopted to permanently solve the problem?
5. What are the policy interventions specifically needed to solve the problem to reduce the miseries of affected people?

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Exhibit-1: Various projects taken by the government in 2000

Table 5.1: Cost Estimates for the South West Regional Programmes

MIS Ref	Title	COSTS (Tk M mid 2000)				
		ST	MT	LT	Residual	TOTAL
Exclusive to Region						
MC 004	Khulna Bulk Water Supply and Distribution Systems	450.0	2,500.0	4,429.0	500.0	7,879.0
MC 008	Khulna Sanitation and Sewerage Systems	150.0	900.0	4,114.0	500.0	5,664.0
MC 014	Khulna Flood Protection	166.5	233.1	44.4	-	444.0
MC 015	Khulna Stormwater Drainage	500.0	1,900.0	1,143.0	181.0	3,724.0
EA 009	Improved Water Management and Salinity Control in the Sundarbans	150.0	100.0	-	-	250.0
Shared with other Regions						
ID 003	FCD and FCD/II Management Rationalisation	147.4	201.0	-	-	348.4
MR 006	Regional River Management and Improvement	549.1	1,076.5	2,706.1	350.1	4,681.8
MR 007	Ganges Dependent Area Regional Surface Water Distribution Networks	-	962.4	6,736.7	-	7,699.1
TR 001	Urban Arsenic Mitigation	119.7	-	-	-	119.7
TR 002	Rural Arsenic Mitigation	180.8	142.4	-	-	323.2
TR 003	Large and Small Town Water Supply and Distribution Systems	315.1	1,701.7	3,284.2	252.1	5,553.2
TR 004	Rural Water Supply and Distribution Systems	1,446.6	4,568.2	4,908.4	380.7	11,304.0
TR 005	Large and Small Town Sanitation and Sewerage Systems	315.1	781.5	3,175.7	126.1	4,398.4
TR 006	Rural Sanitation	837.5	2,246.1	1,579.4	152.3	4,815.2
TR 007	Large and Small Town Flood Protection	303.8	668.3	736.7	113.9	1,822.7
TR 008	Large and Small Town Stormwater Drainage	756.3	2,268.9	4,285.7	756.3	8,067.2
DM 004	National, Regional and Key Feeder Roads - Flood Proofing	167.5	209.4	628.1	41.9	1,046.9
DM 005	Railway Flood Proofing	28.9	36.1	108.4	7.2	180.7
DM 006	Supplementary Irrigation and Drought Proofing of Rural Water Supplies	106.1	103.5	17.4	-	227.0
AW 001	Promotion of Expanded Minor Irrigation and Improved On-farm Water Managem	19.6	23.5	24.4	-	67.6
AW 002	Improved Performance of Existing Public Surface Water Irrigation Schemes	39.6	198.0	554.4	-	792.0
AW 003	New Public Surface Water Irrigation Schemes	-	200.1	400.2	-	600.3
AW 005	Improved Water Management at Local Government Level	127.2	247.1	1,137.9	75.9	1,588.1
AW 006	Improved Water Management at Community Level	5.8	50.0	182.1	12.1	250.0
AW 007	Rationalisation of Existing FCD Infrastructure	-	245.2	3,664.9	1,844.3	5,754.4
AW 008	Land Reclamation, Coastal Protection and Afforestation	50.4	122.9	413.4	-	586.7
EA 005	National Fish Pass Programme	107.2	268.0	428.8	-	804.0
EA 006	Unspecified Regional Programmes	-	17.7	57.3	-	75.0
EA 008	Environmentally Critical Areas and Integrated Wetland Management	12.6	26.2	78.6	-	117.4
TOTAL		7052.8	21997.7	44839.5	5293.8	79183.8

4.1.2 Burnt Hopes and Smoked Future: Deadly Fires in Capital Dhaka⁵

Prologue

Dhaka, the capital city of Bangladesh, is one of the densely populated mega cities in the world that accommodate 23 million people in 306.4 square kilometers. Unplanned urbanization leads to narrow road, lacks of modern extinguishing facilities, illegal vertical extension, non-compliance of building codes. Dhaka does not have required enough free space and even properly designed roads. The growth of urbanization with its higher population growth is highly related to the fire hazards in the city (Islam, 2023; Rahman et al., 2022; Tishi and Islam, 2018). Dhaka and its adjacent areas are developed with the quick expansion of the area and rapid migration from rural because of climate change that exacerbated urbanization problems (Islam, 2023; Rahman, et al., 2022). Expansion of Dhaka city buildings are dominantly vertical due to the scarcity of land which accommodates more people and resources within one structure with less admissible space.

Fire incidents which took place in 2023 in Dhaka attracted serious attention of not only affected traders but also of general people, government, security personnel and even a beggar in the street as all are directly and indirectly connected to such incidents. Bangabazar and Dhaka New Super Market fire incidents are recent ones that came as big blow to the economy because of the huge loss in terms of finance, employment and business with a cascading effect in the long run. However, this is not only a single incident which happened recently, in fact a significant number of incidents happened in a row during last few months. It is of course a matter of great concern. The Fire Service and Civil Defense (FSCD) has released a report recently indicating nine of 58 markets and shopping malls in Dhaka are ‘extremely risky, 14 are moderately risky and rest are risky (Dhaka Tribune, 2023a). The report found the markets from *Gulistan* area such as New Rajdhani Market, Shakil Anwar Tower, Sharif Market, Barishal Market Alauddin Market, Shahidul Market; Shopping places at Dhaka New Market, Gausia Super Market are extremely risky because of location, violation of building codes, illegal structural transformation, congestion, messy electric wiring, AC overheating, narrow passageway and presence of flammable materials. Another report of Rajdhani Unnayan Karttripakkha (RAJUK) indicates that 683 buildings in eight zones of Dhaka city use their basements to shore

⁵ The case is developed by Dr. Mohammad Rezaul Karim to utilize it for the academic purpose at BPATC. The author duly acknowledges various sources of data, both primary and secondary sources. The author is also grateful to Dr. Rizwan Khair, former MDS of BPATC for his valuable comments to enrich this case.

flammable items, violating building construction rules risking the buildings and its people (Daily Star, 2023c). Both building owners and RAJUK cannot avoid responsibilities for such violation of safety measures.

The devastating fire incidents at markets and factories: The final wake-up call for action

It is a surmise that the number of fire accidents and loss of resources are increasingly high with the upsurge every year. The loss is not only the economic one but also mental stress, opportunity cost and resettlements take longer period of time coupled with financial hardship that hampers city development and better livelihood of city dwellers. Dhaka is the most hazardous city with the highest number of fire accidents within the country. The FSCD report says that around 285000 fires occurred in the country between 1 January 1999 and 31 December 2020 (FSCD, 2020; Rahman et al., 2022). Table-1 shows increasing fire accidents in every year from 2017.

Table-4.1.2.1: Fire accidents and loss in crore taka (2017-2022)

Year	Fire Accidents	Total loss (in crore Taka)
2017-2018	16772	257.81
2018-2019	16772	297.96
2019-2020	22992	189.32
2020-2021	20,991	299.85
2021-2022	24,233	287.94

Source: FSCD, 2022; 2021, 2020, 2019, 2018, 2017

Residents of Dhaka city are experienced with some devastating fire accidents wreaking the economic flow. Data indicates that the economically important places are at high risk of fire accidents such as Dhaka New Market, Gulistan, Old Dhaka, Gulshan (Figure-1; Tishi and Islam, 2018).

In one fine morning of 4th April 2023, city people woke up hearing the noise of fire and the news spread across the country or world through social media particularly Facebook and also live cast of electronic media. Bangabazar, a popular clothing market, that was burned down with sudden fire and gutted 2931 shops, ruined livelihood of several thousand traders just weeks before Eid ul Fite. It is reported that the fire began at 6:10am and quickly spread across the crammed market while plumes of dark smoke blanketed the nearby neighborhoods. Bangabazar blaze also damaged the adjacent Annexco Tower, Banga Islamia Market, Banga

Homeo Market and a police barrack next to the Police Headquarters. After six hour-fight by 48 firefighting units, the fire finally was under control fully at 12:36pm (The Daily Star, 2023b). By that time every shop in the market was completely burnt down.

Later on, another devastating fire that broke out at 5:40am on 16 April at the New Super Market, Dhaka was under control after four-hours by 30 firefighting units. Members of FSCD, BGB, Police, RAB, Army, Air Force and Dhaka WASA took part in the firefighting operations. A total 1000 shops, mostly clothing stores in the South Building of the market and about 500 shops on the first and second floor were damaged. Although some of the traders managed to get their goods out of their shops, most of the shops were gutted causing damage to properties.

Dhaka city dwellers did not forget about the Churihatta explosion that exploded on 20th of February 2019 on the Nanda Kumar Lane in old Dhaka that caused a massive inferno engulfing three multi-storeyed buildings. This accident claimed 67 lives on the spot and injured a score (TBS, 2022). Burnt people had to suffer a lot including four more deaths even after 11 days of

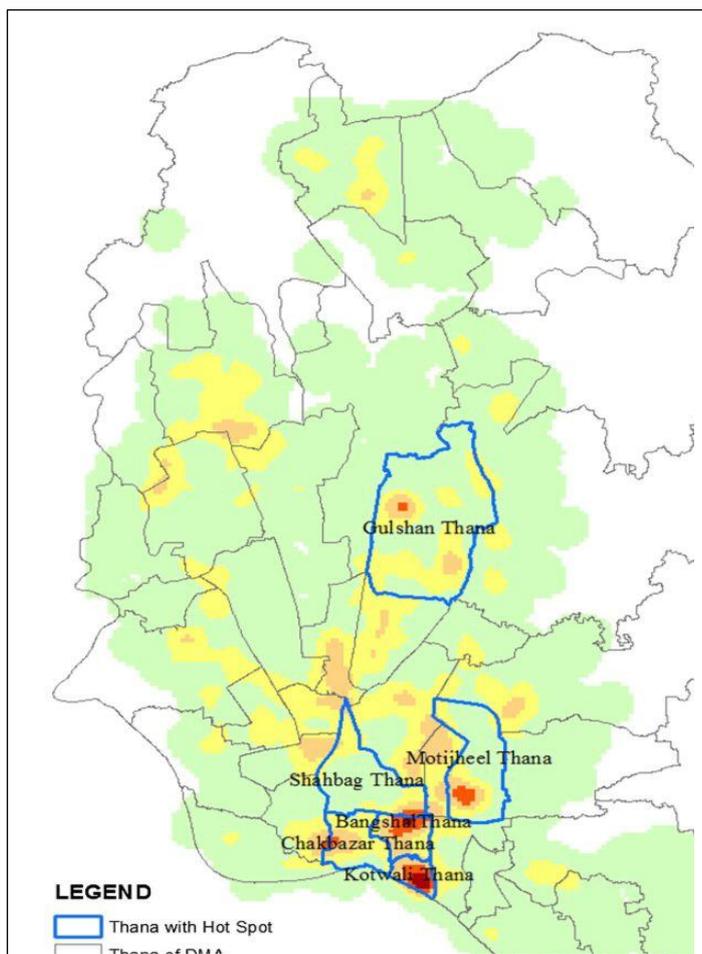


Chart-4.1.2.1: Density of fire incidents in Dhaka

the incident. It was a devastating as the old Dhaka is a home of various small business and store house chemical and plastic materials. Moreover, narrow road which is hardly accessible for rescue operation exaggerated the situation. Initially it was thought that the cylinder blast in Rajmahal Hotel and Restaurant was the main reason which was found wrong. A footage of CC camera of Rajmahal Hotel revealed that the fire broke out from Hazi Wahed Mansion, a five-storey building adjacent to that hotel. Several committees worked to identify the exact reason of the incidents and its severity. The team of BUET conducted the investigation at the site and claimed that the fire incident happened due to the chemical vapour explosion. Expert team of FSCD also claimed the same.

One of most devastating and horrific fire incidents happened in Bangladesh is the Tazreen factory fire. It is a garments factory which is situated at Ashulia on the outskirts of Dhaka. Since Bangladesh economy is highly contributed by the export earnings of apparel industry, Tazreen Fashion factory has a big contribution in helping the economy particularly by engaging workforce and reducing the unemployment of the country. It is no doubt that a significant number of female workers, who are termed as ‘golden girls’ work in this sector. They used to produce garment accessories of world renown brands such as Disney, Sears, Dickies, Delta Apparel, Walmart of USA; Edinburgh Woollen Mill of UK, Karl Rieker of Germany, Teddy Smith of France, Piazza Italia of Italy. Moreover, the Spanish department store, El Corte Ingles, the German discount retailer KIK, C&A and Sean John’s Enyce brand also have the business linkage with Tazreen. On 24 November 2012, golden girls of this factory were burnt into ashes as the factory caught fire. It took 117 workers leaving more than 200 critically injured (The Dhaka Tribune 2021). The blaze was believed to have been caused by a short circuit. The main reason of more deaths is believed that workers were trapped inside the building as all exit routes were locked after the fire began thinking that there might be the case of stealing. The only one route was jumping through the windows of the upper floors of nine storey building because the windows on the lower floors were sealed. The workers who tried to escape by jumping from the windows of the third and fourth floors sustained serious back and head injuries leaving them with the unbearable constant pains (Shovon, 2020). Other ill-fated workers were trapped inside the factory and burnt.

Before *Churhatta* fire incident, city dwellers, particularly from old Dhaka are experienced of horrific fire of *Nimtoli* near Dhaka Medical College on 3rd of June 2010. The ravenous fire claimed 124 lives on the spot and left many more injured (TBS, 2022). Fire was believed to

originate from a chemical warehouse at Nimtoli which was triggered when an electrical transformer exploded. The investigating team from the FSCD speculated that the fire was fanned by perfumes, chemicals and other flammable products stored in shops in the building and adjacent areas. As the old is a place of densely populated city, firefighters had to face huge difficulty to access to the spot and quell the blaze effectively. Moreover, the narrow roads of old Dhaka and staircases of old buildings also made it difficult for fire service equipment to enter the area. The fire started at 10:30 p.m. For these multiple reasons, the fire lasted for over three hours and left huge loss of people resources. The fire affected multiple residential buildings in the Nimtoli area, and trapped residents inside apartments.

Planned city is a must

For the last ten years, the development discourse has emphasized the concept of quality of life particularly because of exponential growth of urbanization. When the development has taken the central emphasis, lifestyle has been redefined in the modernized society. Migration from rural to urban has been a changing pattern of lifestyle with the updated facilities for livelihood. This migration forces rapid growth of urbanization. Therefore, strategic urban plan has become a dominated part of city plan. A planned city is not only a place of accommodating more people, is also hub of multiple activities. A good planning has the aim of improving the city's performance and ensuring future development to be planned and responsive. Urban planners and researchers advocate to utilize participatory approach to enrich the process, to create ownership, to ensure effective implementation. A truly planned city and its planning is part and parcel of strategic urban development plan (Khalil, 2012). This process ultimately facilitates modern facilities, brings comfortability to life and livelihood, and intended secondary and tertiary benefits achieved by the city dwellers in the long run. An effective planning, thus, includes structural issues such as water supply, uninterrupted electricity, modern sewerage system and waste management system, telecommunication. These are basic structures of city planning. Moreover, community infrastructure including education institutes, medical facility through hospitals, parks, police for law and order, fire service are equally important and needed for quality city life.

Urban planning is an integral part of government's policies and actions of physical and super-structural design that carries the tacit understanding of community and their futuristic expectations what they want to see and how they want to find the peacefulness in their city life benefitting to the present generation and aging population in future (Fischler, 2012). This

inclusion is beyond the general understanding of city planning. Urban planning is implemented by means of building projects (infrastructure, spaces, and buildings), regulations, and advice such as models, recommendations, and technical information. It is urged that good planning makes the city livable, environmentally fit, and socially acceptable, technically viable. In terms of Dhaka city, there are myriad problems identified which go against an acceptable urban city. Lack of planning leads to numerous negative consequences that includes disasters like fire and its management. The researchers found that unplanned buildings, construction errors, unauthorized industrial factories and businesses, less and less habitable urban spaces, non-compliance of residents and house owners: all of these factors contribute to development of new disaster points in urban Bangladesh (Islam and Adri, 2008; Karim, 2020a, 2020b). A study conducted by Bangladesh University of Engineering and Technology (BUET) found that half of the buildings of Dhaka city were constructed violating the building code, while RAJUK found violation of building code is about 70-80 per cent as 1.31 lakh structures out of 1.95 lakh completed buildings were constructed flouting RAJUK rules (Bangla Tribune, 2018, Hasan, 2020). In a meeting with 'Fire Service Reporters' Forum held recently, Director General of FSCD mentioned that 75000 buildings out of 90000 constructed annually in the Capital without the approval of appropriate authority. He also showed his shortcoming for not taking actions against those buildings owners as this department do not have any personnel with magistracy power (Bangladesh Post, 2023).

If city is not systematically planned, it may encounter multi-level and multiple problems as Dhaka city lies within a risk of earthquake zone. The recent study warns that nearly 865,000 buildings may collapse in Dhaka city if an earthquake of 6.9 magnitude strikes at Madhupur fault in Tangail, near Dhaka (Rahman, 2023). There is a possibility of more than two lakh death cases with more than two lakh injuries. The study also calculated the economic loss worth of US \$25 billion (2.62 trillion taka). About USD 44 billion would be required to normalize building structures by renovating and reconstructing the damaged buildings. Another survey said that about 41000 buildings would collapse in the Capital city if an earthquake of 7.1 magnitude strikes at Dauki fault. The calculated loss would also be huge including around 16000 death cases and 28,000 injuries (Rahman, 2023) along with the economic loss of USD5 million and SUSD 7 billion for renovation and reconstruction. Researchers warn because the severity and loss would be higher because of violation of building code in Dhaka City which accelerates the severity of earthquakes. As such violation of building code would be massive disaster in future. Pervasive building code violation makes Dhaka a ticking bomb as 98% of

buildings are found guilty in this regard (Islam, 2023; Kamruzzman, 2021). Weak laws and its weaker enforcement are treated as the cause behind this violation.

Cities are always attracted by usually higher income earning people for a better and comfortable life for them and their family members. Environmental issues and amenities are most important while unintended consequences must be thought while planning and designing cities. If cities are developed and requires change, that would be very difficult to change further which ultimately comes or may come as disaster in future. The question is how well planned the Capital is. To what extent, it a livable city right now or in future considering planning and planning faults.

Example from Malaysia: Putrajaya- a planned, green, smart and well-connected city

The Malaysian Federal government established new administrative capital city of the country in Putrajaya following the plan adopted in 1981. It is termed as major intellect garden city developed in this country. The total area is 14,780 hectares including 30 percent for the administrative centre. Government enacted Putrajaya Corporation act 1995 to monitor the implementation of this big project. The was designed to have two areas for population and administrative activities to accommodate 570,000 population including 250000 in the central area and remaining population would live in the surrounding residential areas (Omar, 2006).

Putrajaya is a symbol of modern city developed following a master plan. Thinking the theme of city in Garden, this was planned and developed. It is obvious that big area of the city (about 34%) was dedicated for parks, lakes and wetlands to beautifully design the garden city. Two-thirds area was fixed for public offices, commercial activities and people's residents. It goes without saying that the city was sufficiently equipped with the public utilities and amenities for public. The requirements of necessary civic facilities aligned with modern urban planning and targeted with the betterment of city dwellers are the central issue of Putrajaya. The total city was divided into 20 precincts with the employment and commercial area in the central and others are adjacent. And the remaining 15 are of various sizes for residential neighbourhood. In order for effective utilization and maintaining diversity, each precinct was designed for about 3000 dwellers of 15000 population with a mix of high, medium and low cost housing and variety of design; and each neighbourhood is equipped with all necessary important public utilities and amenities which include schools, shopping centres, mosques, multipurpose halls, learning centres and parks were mentionable among the facilities (Omar, 2006).

It is perfect combination of public and private investment as the city is built by Putrajaya Holdings Sdn Bhd with the ownership of 40% of the government's investment, 40% of the national oil company, and 20% of government trustee body (Mohammedi, n.d.). In order to create ownership and co-creation, private entities were also engaged as government cannot alone plan and provide all to the citizen. However, a peaceful and healthy life is the ultimate purpose of planned Putrajaya other than the only political issue of transferring capital from KL to Putrajaya. The plan targeted to have a sustainable city providing a high-quality living of its population.

Getting the theme of Putrajaya, researchers can understand that city is part of master plan featuring the building structures, open space, restricted number of residents, surrounding environment. The open space was fully designed for nature, wetlands, biodiversity etc. it has 400 hectares of a man-made lake and 200 hectares of wetlands. Besides, well-connected roads and transportation networks gave its citizen full comfort of the modern life. Emphasizing government control, the plan had a policy of modal split of 70:30 ration of public and private transport usage. For the betterment of the citizen and their better living at the peripheral area, parks and ride facilities were connected by rail base transport system as well. Residents from peripheral area were the part of neighbourhood-planning concept meaning to give them feeling of connectedness (Omar, 2006).

Institutions and Legal Provisions for Fire Safety: Are these adequate?

In order to control the fire-driven disasters, government established the Fire Service and Civil Defense and enacted public policies with the provision of fire safety.

The Fire Service and Civil Defense 1981

Merging two old organizations i.e. Fire Service department which was established in 1939-40, which was later renamed as East Pakistan Fire Service in 1947 and Department of Civil Defense in 1961, Fire Service and Civil Defense (FSCD) was established in 1981 as an attached body of the Ministry of Home Affairs. Later the Rescue department of Roads and Highways was also attached with FSCD. The mission of the FSCD is to protect and save lives and property for a safe and secure Bangladesh. As of now, a total 489 Fire Stations including 111 in Dhaka are in operation across the country.

Fire Service Ordinance 1959

This provides license to warehouse after examining standards and satisfaction regarding the safety measures. This Ordinance also empowers the relevant fire officers of the respective jurisdictions to investigate any warehouse and industry without notification.

Building Construction Laws 1996,

This law provides some measures for the fire safety at the individual building premises. According to this law, the buildings will be constructed within safe distance of open electric line, there will be at least 2.5 meters open space between residential and commercial site (setback standards), and the buildings must have the provision of emergency exits.

Fire Protection Act 2003,

This act mentions the fire safety provisions for all buildings, including high-rises and commercial establishments, to have sufficient firefighting equipment and conform to measures of public security (Hyder, 2017). The rules mentions that buildings of six floors and above must have an emergency exit, elevator and emergency electricity supply. Moreover, each of the high-rises must have an individual control room and gas and heat detection system. According to the rules, every high rise must have some trained employees to operate the equipment in case of fire occurrence. But it has been found that most of the high-rise apartments and commercial

establishments do not follow the rules and the equipment remain useless during occurrence of fires.

Dhaka Metropolitan Building Construction Act 2007

The section 67 of Dhaka Metropolitan Building Construction Act 2007 is subjected to fire safety that confirms all provisions stated in the Fire Protection Act 2003. Moreover, this rule fixes up standards, requirements and location of an emergency exit at the individual building level. It also provides the option to keep the directional making to the emergency exit.

The issues behind the accidents are deep-rooted

Once a lush green city full of canals, lakes and water bodies, Dhaka has now lost most of its natural beauty because of rapid growth of urbanization. There were a total 3454 ponds including 205 in the central area in its 1528 square kilometres. About 60% of water wetlands have been lost in 30 years from 1985 to 2016 while About 36% of the water bodies (3440 acres out of 9556) were lost in only 9 years between 2010 and 2019 due to individuals, businesses, real estate developers and other organizations (Daily Star 2023a). The remaining water bodies in the city is around 5% which should be around 12-15 percent according to urban planning experts. Water bodies hold great ecological and socio-economic values, help biodiversity flourish, are important rain water reservoirs, contribute to storm water drainage and most importantly as an alternative hydrant system to fires like Bangabazar or elsewhere.

It is urged to all concerned authorities need to mull over this matter with utmost sincerity before time turns out, and take stern action against rampant destruction of the last remaining water bodies.

A compliance failure, who is to blame?

Recent big incidents laid bare the inadequacy or absence of any fire-safety procedure and equipment. When any incident happens, nobody claims their responsibility rather bypasses others. For example, RAJUK said it is not responsible for the fire in the Bangabazar incident as the buildings in the market and surrounding markets were built by City Corporation. However, Dhaka South City Corporation denied that they built these buildings rather businessmen built these market buildings. It is be noted that Fire Service said they issued

warnings for several times in last six months treating this as high risk, but no agency paid attention (Chowdhury et al., 2023).

Bangabazar shop owners have alleged that there was foul play involved as certain quarters have been looking to evict the shop owners in a bid to occupy the area (Daily Star, 2023c). This type of rumor is also heard when any market is on fire. Victims demand this to be investigated properly.

Regarding Siddique bazar blast, the Bomb Disposal Unit (BDU) of Counter Terrorism and Transitional Crime (CTTC) claimed that a faulty Titas Gas line might be the potential cause of explosion, while Titas gas authority opposes this claim (Khan and Alam, 2023). Before setting up domestic gas line, there was a commercial gas line which was not changed. The gas connection pipe from the riser to the outer wall of the building was 1.5 inch wide where the sewerage line was also there. A ‘reducer’ was installed there by the contractor to convert the commercial line into a domestic one with a pipe of 0.25-inch wide which is not supposed to contain the pressure of gas supplied from 1.5-inch-wide pipe. The BDU also indicates that Titas Gas was supposed to install domestic gas line from the riser after serving the commercial line, but contractor provided the connection with a thinner pipe installing a reducer. As a result, gas might have accumulated in the space then flowed to the basement from there and ultimately led to the explosion. Moreover, the building owner built a store fitted with AC in the basement. While the building was permitted by RAJUK to build a five storied building that was extended upto seven floors. When an investigation team form by DSCC went to the spot, the owner complained about low gas pressure just one month before the explosion and a new riser was installed later to increase the pressure. Interestingly Titas Gas claimed that they were not aware of this new riser which contradicts the claim of the building owner.

Since the March 2023, the frequency of fire incidences have been quite high in number. Almost in every two –three days, there was a news of accidents of such nature. Just before Bangabazar, Siddique Bazar blast is significant one. Immediately after Bangabazar, Barishal Market, Dhaka New Super Market, Uttara Market and so on. It is pertinent question why such kind of occurrences are frequently happening and whether the cause is natural or something else. Dhaka South City Corporation (DSCC) and Department of Fire Service (DFS) claimed that they declared Bangabazar risky long ago. DFS hanged notices 10-12 times reiterating the same caution. For not listening to the notice of DSCC, the Major shows his deepest dissatisfaction. There are a number issues that may cause the fire incidence. Usually, poor electric ware might

be a key cause of accidents. The report says 38% of fire accidents out of 24102 in 2022 was due to malfunction of electrical system (Prothom Alo, 2023). It also indicates the fire from *biri* and cigarette as the second most reason that accounts to 16% in 2022, which is followed by fire from cooking stoves (14%). Defective line of gas is also a potential reason of fire accidents. These four vital reasons are responsible of more than 70 % fire accidents in Bangladesh. Besides, heated ashes of firearms, traditionally made light furniture and decoration, vehicle accidents and also fire created because of playing games by young children sometime cause fire accidents. About one score of reasons are found as responsible for fire accidents. Although the main cause is said to be the short-circuit of electricity for every fire incidence, the electrician of Bangabazar claimed that this not was not from the electrical short-circuit.

While the extinguishing is on, traders also blame the firefighting units to take action not in timely. In case of Bangabazar, guards of the market primarily tried to control with their necessary things like extinguisher and waters but when they could not control, they called fire service (Prothom Alo, 2023). Traders said that firefighting units arrived at the spot twenty minutes later which is an issue of spreading fire quickly. However, the DFS confirmed that they rushed to the spot immediately after the call but it took time because they could not reach the spot due to narrow road, and crowd of curious people. The first team of firefighting unit reached at the scene of Bangabazar at 6.12am, just after 2 minutes of the accident (Hossain et al., 2023). It took only two minutes as they were ready and the disaster place was close to the central fire service and civil defense. Similarly at Dhaka New Super Market as the curious people constricted the passage. Huge people gathered on the connecting bridge between the supermarket and Gausia risking the bridge and being another cause of new accident.

Controlling fire: A mammoth task

When fire incidents happen, during disaster actions are more crucial to control the fire to douse and save valuable items and lives. Controlling fire is also dangerous as it may change its flow and can be cause of expanding flammable areas. Moreover, explosive items may also deepen the disaster. Whatever the control of fire is, the loss incurred is huge. The loss of immovable and movable properties is the immediate effects of fire incidences. Record says that about 19,000 fire incidents occurred in Bangladesh in 2020, killing more than 200 people and incurring around 1.6 billion taka (\$19M) in damages (Kamruzzaman, 2021). A total of 184 people were killed in 2019 in more than 24,000 fires that cost an excess of 3.3 billion taka (\$40M) in property damage. The FSCD report found that 24,233 fire accidents happened in

2012-2022 which is more than the previous year indicating that every year the incidents are increasing. About 2879.40 million taka was estimated loss due to the fire accident during the last financial year where 1978 people died with about 12 thousand people injuries (FSCD, 2022).

A modern city must have sufficient budget to support the fire service department. Researchers comment that the ratio of police and firemen should be 2:1 meaning one firefighter against two policemen. However, there are less than 14000 firefighters against 2.13 lakh cops. These people are responders to fire, explosion, road accidents, landslides, launch capsizes, downing, falling into water and other calamities and endure physical and mental trauma on a regular basis (The Daily Star, 2023c). The FSCD has a budget of 733.57 crore of taka which translates to 44 taka per capita. This is also too less to manage activities related to fire safety. It is found that Delhi in India spends about 332 taka and West Bengal spends taka 65 per capita which are higher than Dhaka (The Daily Star, 2023c).

Epilogue

There is a local saying regarding disaster that if any house is attacked by robbers, something is left to live but if it is fired, nothing is left. It reminds the consequences of Bangabazar and New Super Market fire or like as this devastatingly affects lives and livelihood. Whatever the reason is, fire burns all properties to ashes. It is noticeable that the recent fire burnt markets mostly, business in particular that has ripple effects in the economy and society. From the evidence it is also alarming that the Capital Dhaka is the most vulnerable disastrous point. What is the most remarkable in these incidents, fires broke out mainly early in the morning and March-April period is the period of almost all occurrences.

It is argued that the amount of money that would have to be invested to ensure safety in market place is very less compared to the total damage which shows the importance of pre-fire action. For example, if the automatic fire safety system is installed and operationalized in Bangabazar, the cost won't be more than 1% of total damage recently happened (Rashid, 2023).

Although government is made responsible for ensuring enforcement of building codes and make necessary reforms, facilitating import of fire safety equipment, preventing import and marketing of defective and substandard fire safety equipment, encouraging banks to invest in the purchase of fire safety equipment on easy terms, popularising fire insurance, taking action

against those who construct dangerous buildings and structures in violation of law; installing fire safety and disaster management in the education system; coordinating with all quarters; constructing street fire hydrants and adequate reservoirs in cities and enhancing capacity of fire service through new technology and manpower, other key stakeholders should also play their important role in controlling fire accidents. Businessmen and owners must avoid renting and using unsafe building; take basic training in use of fire safety equipment, construct building/structure in accordance with building codes and fire safety regulations, install appropriate fire safety equipment in every house, office, shop, factory; use standard and quality electrical and gas related equipment. Apart from these, the mass media should ensure that any dereliction of duty mentioned above should be pointed out and wide public awareness is conducted through publicity campaigns.

Questions:

1. What is the key problem of the case?
2. Why are the fire accidents frequently happening in Dhaka City?
3. How the problem is linked to society, economy, livelihood of business people?
4. What are plausible solutions that can be adopted to permanently solve the problem?
5. What are the policy interventions specifically needed to solve the problem to reduce the miseries of affected people?

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Exhibit-2: Places that saw blazes in 2023

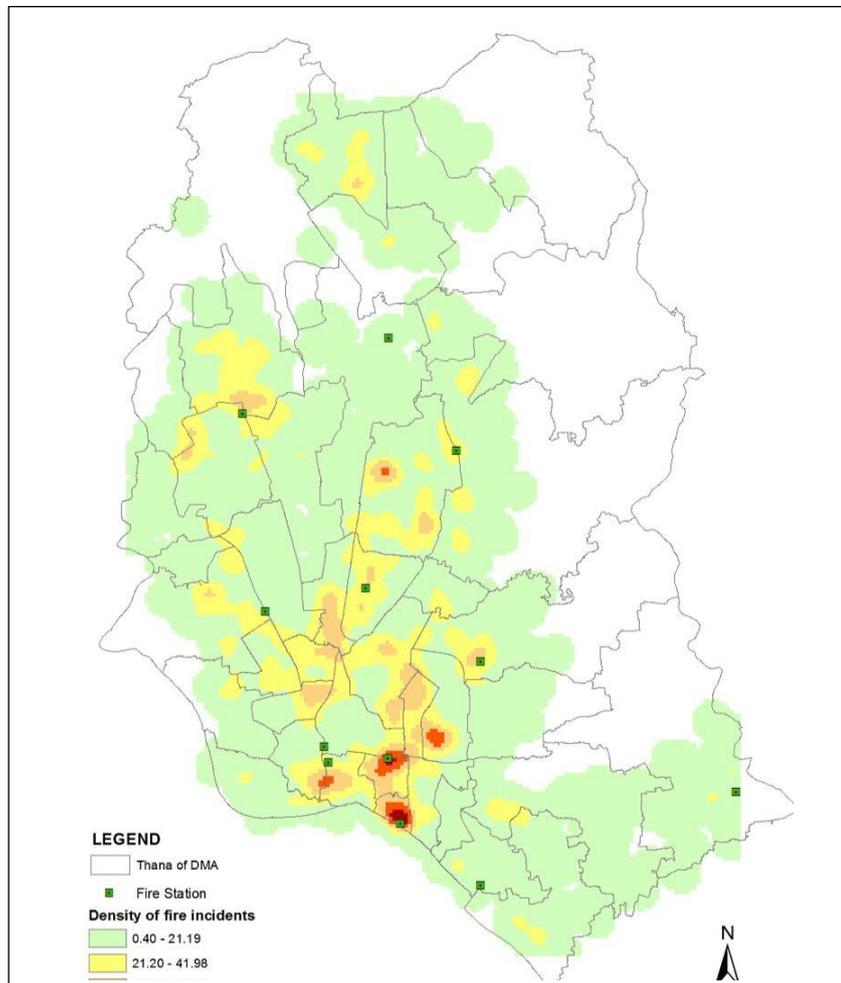
January 19	: Kamrangichar shoe factory
February 19	: Gulshan building
March 1	: Gopibagh rickshaw garage
March 5	: Building in Science lab area
March 7	: Siddiquebazar building, Sitakunda oxygen plant
March 11	: Sitkunda cotton depot
March 13	: Kunipara slum
March 18	: Narayangonj building
March 27	: Mohakhali Sattola-slum
April 3	: Wari Colony
April 4	: Bangabazar
April 15	: Dhaka New Super Market
April 16	: BNP Bazar slum at Agargaon, Dhaka
April 17	: A shop called SA Light house and AC centre in BGB Market, Uttara Dhaka
April 17	: A jewelry market adjacent to Baitul Mukarram National Mosque, Dhaka
April 17	: A factory of Orion Infusion Ltd at Rupgonj, Narayongonj
April 18	: A six-storied building of Wari, Dhaka
April 19	: A cold storage at Bakalia, Chattogram
April 21	: A Market Sylhet Zindabazar
April 23	: Sundarban Courier Service next to TCB building at Karwan Bazar

Sources: various newspapers

Exhibit-3: Bangabazar at a glance

2931	: Total shops
21250sqft	: Total area
1965	: Shops set near the then fulbaria railway station
1975	: Municipal administration proposes building market but railway refuses to transfer ownership. Shopkeepers take yearly lease to run the business
1985	: Areas ownership transfers to city corporation
1989	: City Corporation builds it as ‘planned shopping hub’
1990	: Developed s ‘garment market’ incorporating Guilstan, Mahanagar and Adarsha Hawkers market
1995	: Around 2220 shops gutted in fire
2017 ‘extremely	: Fire service committee finds Bangabazar’s fire extinguishing system risky’
2018	: Another Fire erupts burning several shops
2023	: Total Bangabazar burnt to ashes

Exhibit-4: Fire Stations in Bangladesh



Division	Class-A	Class-B	Class-C	Land cum river	River
Dhaka	33	36	18	1	5
Mymensingh	5	16	10	0	0
Chattogram	24	43	22	0	2
Rajshahi	8	47	17	0	1
Rangpur	6	35	11	0	0
Khulna	7	31	8	1	1
Barishal	3	36	10	0	2
Sylhet	2	17	8	0	0

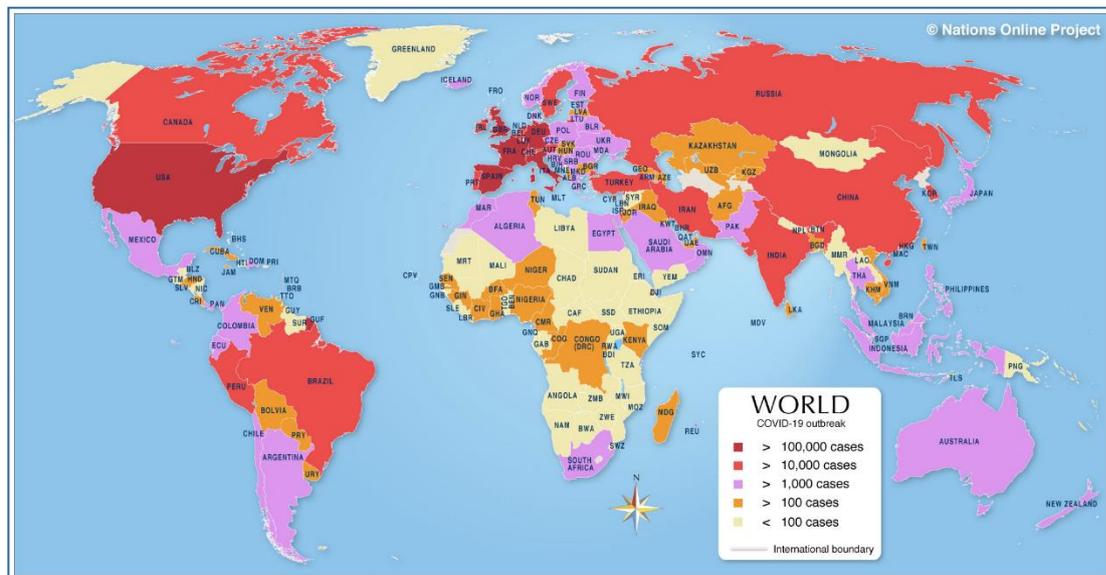
Exhibit-5: Hotspot of Fire accidents and Fire station in Dhaka

Source: Tishi and Islam (2018)

4.1.3 Herd Immunity or Hard Humanity? Bangladesh’s Response to Grappling Coronavirus Pandemic⁶

Prologue

The world including Bangladesh witnessed the austere attack of coronavirus and increasing death toll every day. Developed countries equipped with better healthcare facility are severely affected by the Covid-19 outbreak while developing and densely populated countries like Bangladesh were in a massive threat. As no vaccine has invented yet, maintaining WHO prescribed six-point protocol and keeping social distance (physical distance) are key issues to be protected from the virus. Health professionals had been a leitmotif for the few months at the very beginning of coronavirus outbreak. The picture shows how the world is affected by the coronavirus. Somehow, Bangladesh has shown remarkable progress in managing COVID-19 pandemic successfully because of its stringent actions throughout the pandemic period, follow-up actions and futuristic plan. In terms of COVID-19 crisis management, Bangladesh was the fifth successful country in the world.



Picture-4.1.3.1: Coronavirus affected area of the world

Source: <https://www.nationsonline.org/maps/World-Countries-coronavirus-map.jpg>

⁶ The case is developed by Dr. Mohammad Rezaul Karim to utilize it for the academic purpose at BPATC. The author duly acknowledges various sources of data, both primary and secondary sources.

Preparing guidelines, issuing orders and forcing to follow under the strong leadership of Prime Minister of Bangladesh were seemed to be quite helpful. Strong leadership of Prime Minister is considered as the key factor for the present success that proves her capability in leading the crisis successfully. This leadership style has unity of direction and command and little scope of misleading and distortion. Timely directives and briefing using electronic media boost up general mass. Civil society, general people, print and electronic media people, social media activist created pressure and demanded to the government i.e. head of the government to come up immediate actions to prevent from infection of coronavirus, future plan to protect society and economy. This indicates the government's capability and a place of last resort as hope. The opposition parties were also forcing the government to take actions.

The lockdown process followed might have a potential threat as service sectors, government offices, hospitals, communities are locked down if anybody of particular place is found Covid-19 positive. This process might affect and increase more lockdown areas and service provider officials to keep them quarantined and isolated. More than 250 doctors, at least 217 police officials, at least 4 Administrators, and some more government officials who were working to combat Covid-19, had tested coronavirus positive. Some more were in home quarantined because of providing services to coronavirus infected people. Widespread test covering maximum infected people could be one of the solutions so that persons and areas can easily be detected and appropriate measures could be taken.

Providing necessary goods to poor people were hampered due to overlapping and lack of coordination among the providers which was solved by creating IT based list. This list was prepared using the national database as all heads of families are of 18+ and included as voters.

Government was trying to ease the lock down and allows industries, particularly readymade garment sector to open by maintaining appropriate measures. About 4 million workers who are supposed to commute to the Capital or around, might be potential threat to spread again and can delay the process of combating pandemic. Appropriate measures must be maintained strictly by the industry management, although it would be almost impossible because of the structural problem of working environment and densely populated accommodation where the workers reside.

Directives from Head of the government and Stakeholders' involvement for implementation

All public departments and some private organizations (residential hotels and hospitals in particular) were directly and indirectly contributing to tackle the coronavirus outbreak. Some government organizations such as Prime Minister's Office, Ministry of Health and Family Welfare and its attached bodies, Ministry of Public Administration prepare and circulate public policies while some other such as Ministry of Home, Ministry of Public Administration, Ministry of Defense (including Bangladesh Army, Navy and Air force), Ministry of Disaster Management and Relief, Ministry of Food, local government bodies, all government offices at rural level, and all hospitals and medical colleges were actively involved in effective implementation and monitoring. Some other public organization indirectly played active role in protecting and preventing Covid-19. Media played a vital role to broadcast government orders to follow, health hygiene to maintain, staying home. Philanthropic organizations continued to contribute in assisting vulnerable group with food and hygiene items.

Migrant workers: welcome to remittance, refuse to remittance senders

Bangladesh is one of the beneficiaries of globalization and also the worst hit countries because of the dire COVID-19 outbreak. Travelers from China, Italy, Saudi Arabia and UAE were thought to be the primary carriers of the Coronavirus to Bangladesh, and later it spread across the country. International flights had been restricted with the exception of urgent operations. A huge number of overseas Bangladeshi employees were trapped, affected, and in critical situations (Palma, 2020). These overseas Bangladeshis comprise of migrant workers working in Middle East, Singapore and Malaysia, overseas employees in European Countries and the US, self-financed students in Europe, the US and India, as well as visitors and medical tourists, particularly in India. This equals to approximately 13 million Bangladeshis abroad, which is more than the total population of any 165 countries of the world (CIA, 2020; Karim & Islam, 2020a; 2020b; MoEWOE, 2019).

Bangladeshi overseas employees and temporary residents have great contributions in the national economy of Bangladesh, as they send back remittances to the country (Mannan & Farhana, 2014; Masduzzaman, 2014; TBS, 2020a). They were then going through quite a hard time abroad because of the restrictions in their economic activities. Most people of this group were in unstructured and non-mainstreaming jobs, and mostly work in the service

sectors as taxi-drivers, restaurant workers and others (Abdullah & Hossain, 2014; Ali, 2014). Their jobs were uncertain for an indefinite period of time. Besides, as sub-section of this overseas group comprised of doctors and nurses, which means they were the most vulnerable community around the world during the pandemic.

Because of COVID-19, Bangladeshi employees working abroad had been rendered jobless, quarantined in shabby living places, mentally disturbed because their family had no money, were fearful of being affected by the virus, and had the fear of being sent back to Bangladesh (Sumon, 2020). These groups resided in densely resident dormitories/houses, which were deemed as the epicenters for the COVID-19 outbreak (Siddiqui, 2020). Although the governments of receiving countries had taken effective initiatives, the surrounding environment may work against it. It is evident that the total Bangladeshis staying abroad mostly in in UAE, Qatar, Kuwait, Oman, Bahrain and Malaysia was a significant number. The numbers of Corona-infected Bangladeshi populations were more outside the country, than in Bangladesh itself. The brief note explained the reason why the government of Bangladesh must utilize its diplomatic endeavor to secure their job as well as health security (TBS, 2020b).

COVID-19 and vulnerability of overseas Bangladeshi

It is evident that more than 654 overseas Bangladeshis died of COVID-19 in 19 countries, among whom were a good number of doctors based in the US, the UK, Italy and Saudi Arabia (Siddiqui, 2020). Self-financed students were another group who are going through a hard time outside the country because the banking transactions have been restricted. Although the Bangladesh Bank issued an order to allow Banks to send money to the overseas Bangladeshis without the consent of the Central Bank of Bangladesh, it was not possible earlier, putting students studying in the US and Europe in a critical situation (BB, 2020b). However, the problems persisted as the countries were facing a lockdown since then.

Similarly, Bangladeshi visitors who went abroad for business and medical purposes were stuck there without any cash, or with expired visas. Even the number of financial transactions one could make in foreign countries was limited and this was extended because of pandemic (BB, 2020b). Bangladeshi patients overseas, especially in India, faced severe troubles because of the uncertainty about when the lockdown would end. In addition, they would have to face a financial burden. The regular patients (about one million) who usually saw Indian doctors

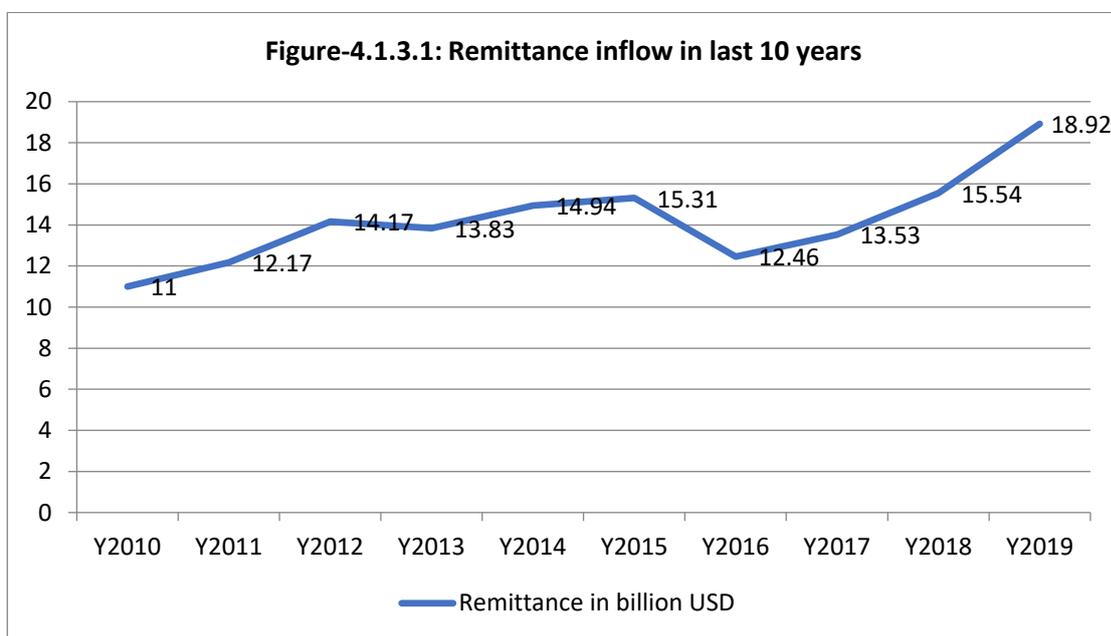
are now worried as they were not in the situation to get their follow-up checkups (Altstedter, 2020).

The social acceptance of Bangladeshis overseas fell dramatically, which was not the case earlier. Bangladeshi people were also denied to accept overseas people, especially from Italy, Saudi Arabia and the UAE, and ignored their financial contributions to the national economy. General people were agitated on the establishment of an institutional quarantine for them. Denial of being institutional quarantined and moving to their own home started community transmissions in Bangladesh. It was reportedly said that there were fights that had to be restricted to prevent their entry. Family members were also apparently meant to not welcome them because of the fear of spreading infection (Karim & Islam, 2020a; 2020b; RMMRU, 2020). On the other hand, thousands of Bangladeshi migrants who came home on leave and those who were waiting to fly after securing work visas are not being able to join work abroad as the destination countries had imposed travel bans in face of the Coronavirus outbreak, which, according to the experts, was then threatening to cause a global recession (DS, 2020; RMMRU, 2020).

Recession might prevent Bangladeshis from working abroad, even if they have secured visas, because of the setbacks being faced by the receiving country. If this happened, Bangladesh might face multiple problems including unemployment, depletion of savings, and a general social crisis that resulted in poor schooling of children, malnutrition, poor health service, child labour, depression, broken family and even committing suicide (Asis, 1995; Chowdhury, 2011; Jan, Zhou & Stafford, 2017). Apart from this, the Bangladeshi economy drastically shrunk because of being most reliant on the remittances from overseas Bangladeshis, and from the garment-manufacturing income (Sutradhar, 2020). The increasing record of foreign remittance had already gone down to the lowest in the last 12 months (BB, 2020a; MoEWOE, 2019). The GDP growth rate was seriously affected. Realizing the pressure of increasing inflow, government emphasized the diplomatic channel for ensuring workers' job until it returned to normalcy and requested workers not to return unless they were forced (MoFA, 2020a, 2020b; TBS, 2020c).

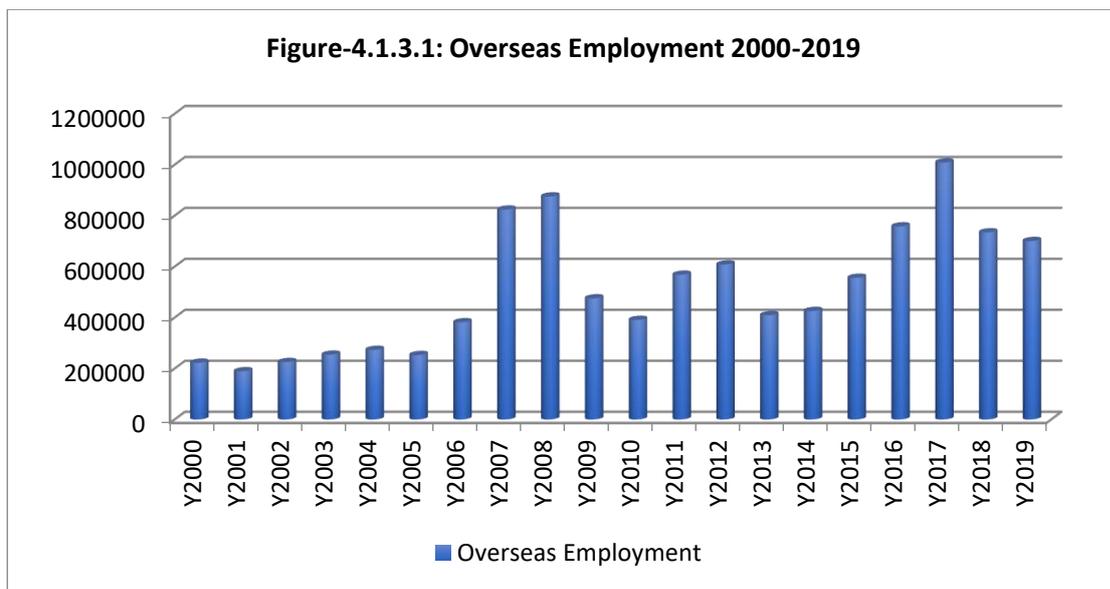
Apparently, Bangladesh had started feeling the bite of global shutdown due to Covid-19 pandemic. The incoming remittance from expatriates was one of the main pillars of the Bangladesh economy with a contribution of 12% GDP and 9% employment of total active workforce (Ali, 2014; Karim, 2020; Mannan & Farhana, 2014). The remittance ensured

livelihood of about 30 million dependents. But the Covid-19 pandemic has set to deal a heavy blow to the country's overseas job market and the amount of remittance inflow (Palma, 2020). The effect hit country's development activities drastically and rose a big deficit budget in the next few financial years. A large number of Bangladeshi migrants have lost their jobs or received low wages or no pay, which caused low remittance income. Besides, numerous Bangladeshi workers who came home on leave and those who were waiting to fly after getting work visas could not join work abroad. This is because in the meanwhile the destination countries had imposed shutdown or travel ban. This caused a significant plunge in remittance inflow in a few months.



The bulk of the remittance fighters came back from the Bangladeshis who work in the Gulf and Southeast Asian countries and the United States, Italy and the United Kingdom. To stem the Covid-19 transmission all these affected countries had also enforced lockdown. Moreover, the countries that usually receive foreign workers had cut their development expenditures that result in sending back thousands of Bangladeshi workers (Sumon, 2020). Those countries had instead allocated a big portion of their budget for the recovery of their economy. So, the development activities in those countries went dull and downhill. This means demand for foreign workers dropped in those countries - so would be the demand for Bangladeshi workers. As a result, economic analysts were of the view that given the looming economic recession, the Bangladesh economy was under serious pressure.

According to the Bureau of Manpower Employment and Training (BMET) statistics, around 60,000 Bangladeshis go abroad every month with jobs (BMET, 2020; MoEWOE; 2019). Hence, the queues of those waiting to join overseas jobs grew only because the Covid-19 pandemic. However, economists and migration researchers thought that the immediate need of the hour was to provide short-term financial protection and healthcare to the migrant workers. Concerned authorities should took up mid-term and long-term plan afterwards on ensuring their jobs abroad. The developed countries focused more on improving their healthcare system. This caused them needing more workforces.



In line with the migration strategy, Bangladesh focused on the skills training on nursing, health technology, management, medicine and hospitality (Karim & Islam, 2020a; 2020b). This may heal the wound that inflicted on the loss in the scope for exporting traditional development workforces in those countries. On the other hand, thousands of Bangladeshi migrants who came home on leave and those who were waiting to fly after securing work visas were not being able to join work abroad as the destination countries have imposed travel banned in face of the coronavirus outbreak, which, according to the experts, was threatening to cause a global recession.

Readymade garment workers: Long walk to work and longest to home

Although there was a warning of dangerous consequences of coronavirus outbreak, Bangladesh started to return to normalcy by reopening limited public offices, industries, restaurants, local shops and withdrawing lockdown for some areas. Researchers of Singapore provided rays of

hope of ending the Covid-19 pandemic by May 2020. Data says combating Covid-19 in Bangladesh is better than USA or any European Countries. As of 9 May 2023, a total 2038250 people had tested coronavirus positive while 29446 patients died. The comprehensive preparedness programme including lockdown, movement restriction, intuitional and home quarantine system, isolation, and preparation of Covid-19 patient treatment had a positive effect to relatively controlled pandemic. Moreover, inclusive plan for most vulnerable group had stopped massive spread. The main reasons behind this relatively low infection were the restriction of movement, effective implementation of government strategies, a smaller number of testing and relentless effort of public employees particularly at local level.

Meanwhile, movement garment workers facing trouble because of public holiday announcement and closure of factory increased the rate of infection. Moreover, sudden irrational decision of factory owners created exodus from village to Dhaka, Gazipur and Narayanganj where the most garment factories are located. As it raised question by the civil society, the decision was withdrawn. After 10 hours and a hectic & troublesome journey, workers were forced to go back. Movement of huge population bearing untold miseries was thought as the cause of faster spreading of coronavirus, which was relatively controlled. The similar case appeared for the second time as garment industries were instructed to open from 26 of April 2020 or near. It is reportedly found that workers were phoned to join the work without the formal notification because of huge repercussion. The repetition of the same mistake increased movement as the hording of garment workers were trudging back to factory that caused help spreading infections. It was reported that some people died of Corona symptoms across the country who either moved from Dhaka & Narayanganj or came from close contact of residents of these two districts. Later Gazipur where many garment factories are operated is also identified a hotspot. At the very beginning, total 61.46 % COVID-19 patients were reported from Dhaka, Narayanganj, Gazipur. Considering the situation and effects of the virus, reopening of garment factories seemed to be erroneous.

Extensions of opening time of local shops, opening of restaurants, reopening of with public offices mean Bangladesh started its gradual move to normal life. Eighteen ministries had been instructed for functioning of its office and its attachment departments which were mainly working implementation of strategies to combat COVID-19 pandemic. Public officials were trying to maintain their day-to-day activities although only emergency services relating to coronavirus and health services were delivered. The opening of businesses increases movement

of people in public area and maintaining social distancing is critical to maintain due to various limitations. Frontline fighters, law enforcing personnel, local government officials, bankers had a higher and continuous infectious record. At the very beginning, infection rate among doctors, magistrates, police personnel, bankers were higher. Besides, some police stations, part of hospitals, office where corona patients found have been declared temporarily shut. Moreover, it is noticeable that the increasing rate of test augments the number of infectious. Almost 60 districts were under lockdown and with the limited opening; public offices were struggling to combat the virus. Combating COVID-19 could encounter longer stay in Bangladesh that also might bring more threats.

In spite of having threats of reopening industries and public offices, it was the demand of time. Strong arguments were with the factory owners, Bangladesh government, and garment workers themselves were in favour of reopening factories. This labour-intensive sector not only provided employment opportunity for low-educated and unskilled or semiskilled workers, but also contributed a lot to the national economy (\$20.21 billion in 2018-2019). This sector is the main driving force for Bangladesh economic growth. It is the second largest producer in the world with a big market in European countries and USA. China, Vietnam, Cambodia, India are the key competitors where the first three countries opened their garment industries as they had successfully addressed the Covid-19 pandemic. If Bangladesh did not allow reopening, the market might be captured by the competitor countries. At this stage, cancellation of orders made by the exporters may be revived if industries could make it out. Factory owners could minimize the loss as well. Moreover, reopening factories could foster economic growth and ease the livelihood of 4 million and their about 20 million family members.

It was a dilemma whether garment industry would reopen. Considering the working environment and densely resident living condition, this situation could be the next hotspot of coronavirus outbreak in Bangladesh particularly in Dhaka and its neighboring districts of about 2.87 million people. Reopening was apparently seemed to be a suicidal and risk of life. On the other hand, closure of factories might incur huge loss as it had already faced loss of \$ 3 billion order cancellation in just in one month. Closure of factories might magnify other social problem too. Moreover, the post-corona effect resulted in unemployment in all sectors including readymade garments. In fact, stopping of economic activities was in risk of life of more than 20 million people as the consequence of starvation. Public offices were key stations to provide services to general people, made industries workable, helped creating economic activities

active. Only government along with its various departments protected from pandemic. Only judicious decision of government turned to normal life.

The paradox of reopening industries, particularly readymade garments stayed with the threats of joblessness, running out money, debts, mental depression, miserable living, malnutrition, poor schooling or no-schooling of children, non-availability of healthcare facility, separation of conjugal life and moreover, life and livelihood. Some factories had started firing workers and layoff. Hence, reopening was the game of trading off between life and livelihood. Any strategy resulting in deprivation of bread and butter did not work. Similarly, life in the working area was also issue of threat to life if proper social distancing was not maintained. Workers did not have the alternative except certainly choosing the livelihood with the opportunity to work at factories outrightly in spite of being at risk of health hazards including death.

Government's intervention importantly worked here, as the government has already announced a 5000 crore-stimulus package as a part to cushion the crisis, particularly to pay the salary to the workers. Government had also given the permission to reopen by taking appropriate measures to prevent Covid-19 spread among the factory workers. Only assurance of wages and job could induce them staying back to home. Ensuring social distancing in true sense and maintaining health hygiene could minimize the risk. Factory management sat and made a comprehensive plan and redesign the working setting as the working environment was against of crying need and requirements. Only strong monitoring by the government ensured a healthy working environment. Otherwise, it lurked severe consequences that Bangladesh might pay hugely for unwelcomed but intended loss.

Statistics lies: The reality speaks

The coronavirus originated from Wuhan, China hit the whole world. Highly developed healthcare facility of Europe and the US did in fact nothing to protect. Scientists across the world are trying their best to invent vaccine or medicine to prevent. Any country of the world supersedes other in terms of number of infectious patients and death tolls treating all assumptions and predictions wrong. The most powerful countries in terms of defense were the most hit. The most developed countries were the most vulnerable. The countries of responding late to protect, were the most sufferers. Poor countries were less sufferer. Once China topped the position, they were being pushed back and other many countries were forced to compete in terms of increasing number of patients and deaths.

Table-4.1.3.1: Number of infections and death cases in the world

	Country	Total	Total	Total	Total	
	Other	Cases	Deaths	Recovered	Tests	Population
	World	687,046,083	6,863,612	659,562,078		
1	USA	106,627,427	1,159,824	104,549,551	1,176,834,935	334,805,269
2	India	44,939,515	531,508	44,356,693	926,496,579	1,406,631,776
3	France	39,980,570	166,556	39,677,000	271,490,188	65,584,518
4	Germany	38,403,667	173,044	38,192,900	122,332,384	83,883,596
5	Brazil	37,449,418	701,494	36,249,161	63,776,166	215,353,593
6	Japan	33,714,017	74,528	21,725,273	100,072,848	125,584,838
7	S. Korea	31,157,272	34,474	30,896,033	15,804,065	51,329,899
8	Italy	25,788,387	189,738	25,468,617	271,449,155	60,262,770
9	UK	24,555,629	221,943	24,310,623	522,526,476	68,497,907
10	Russia	22,845,868	398,271	22,244,169	273,400,000	145,805,947
11	Turkey	17,232,066	102,174	N/A	162,743,369	85,561,976
12	Spain	13,825,052	120,715	13,665,628	471,036,328	46,719,142
13	Vietnam	11,559,862	43,188	10,621,473	85,826,548	98,953,541
14	Australia	11,441,894	20,272	11,394,719	78,835,048	26,068,792
15	Taiwan	10,239,998	19,005	10,220,993	30,742,304	23,888,595
16	Argentina	10,044,957	130,472	9,914,485	35,716,069	46,010,234
17	Netherlands	8,610,372	22,992	8,586,242	25,984,435	17,211,447
18	Iran	7,606,689	146,005	7,342,490	55,353,767	86,022,837
19	Mexico	7,583,417	333,876	6,828,311	19,903,879	131,562,772
20	Indonesia	6,773,146	161,272	6,598,775	114,158,919	279,134,505
21	Poland	6,513,804	119,555	5,335,940	38,663,557	37,739,785
22	Colombia	6,364,636	142,713	6,187,047	36,951,507	51,512,762
23	Austria	6,064,193	22,369	6,029,908	211,273,524	9,066,710
24	Greece	5,999,934	36,711	5,951,126	102,228,365	10,316,637
25	Portugal	5,580,792	26,550	5,548,480	46,082,209	10,140,570
26	Ukraine	5,518,614	112,023	5,372,913	32,603,805	43,192,122
27	Chile	5,283,617	64,497	5,217,926	49,375,779	19,250,195
28	Malaysia	5,066,877	37,011	5,015,705	68,344,917	33,181,072
29	Israel	4,821,234	12,484	4,798,473	41,373,364	9,326,000
30	Belgium	4,793,425	34,237	4,741,299	37,018,657	11,668,278
31	DPRK	4,772,813	74	4,772,739		25,990,679
32	Thailand	4,730,490	33,947	4,692,636	17,270,775	70,078,203

33	Canada	4,641,301	52,247	4,578,373	66,343,123	38,388,419
34	Czechia	4,640,306	42,765	4,594,614	57,177,919	10,736,784
35	Peru	4,501,130	220,122	4,277,138	38,521,551	33,684,208
36	Switzerland	4,401,379	14,452	4,383,180	23,833,472	8,773,637
37	Philippines	4,092,158	66,444	4,020,644	35,012,232	112,508,994
38	South Africa	4,076,463	102,595	3,912,506	26,795,090	60,756,135
39	Romania	3,387,788	68,047	3,312,844	27,242,332	19,031,335
40	Denmark	3,180,458	8,542	3,170,942	129,265,171	5,834,950
41	Hong Kong	2,890,430	13,537	2,870,920	76,127,725	7,604,299
42	Sweden	2,706,137	24,087	2,678,124	19,500,873	10,218,971
43	Serbia	2,534,036	18,018	2,506,652	12,782,645	8,653,016
44	Iraq	2,465,545	25,375	2,439,497	19,544,451	42,164,965
45	Singapore	2,340,779	1,727	2,149,583	24,756,666	5,943,546
	New Zealand					
46	Zealand	2,313,064	4,119	2,297,967	7,768,604	4,898,203
47	Hungary	2,201,355	48,846	2,148,647	11,394,556	9,606,259
48	Bangladesh	2,038,174	29,446	1,998,448	15,254,399	167,885,689

Source: <https://www.worldometers.info/> as of 30 April 2023

The Amphan that intensified the vulnerability: A case of crisis within the case

The super cyclone Amphan hit on 21 May when the corona patients (1773) and death toll (386) broke the previous records in Bangladesh. Due to Amphan more than 2 million people from coastal area have been evacuated and sent to cyclone shelter, which might be cause of increasing rate of COVID-19 patients in next few days because social distancing is impossible to maintain in this shelter. The MoDMR sanctioned 3100 Metric ton rice, 5 million cash taka, 3.1 million taka for children food 2.8 million taka for cattle feed and 42000 packets of dry food (MoDMR, 2020). These resources were sanctioned in addition to relief sanctioned for combating coronavirus. This Amphan intensified the vulnerability of people of those area and posed a threat to lingers the pandemic. The aftermath effects of cyclone multiplied in myriad ways in day-to-day life of those areas. The loss occurred due to Amphan definitely affected to combat corona and national economy.

Table-4.1.3.2: Effects of Amphan

No. of items	Loss due to devastating Cyclone
1	Total damage from the Amphan worth Tk 1,100 crore
2	Around one crore people in the South-western and North-western regions of 19 districts have been left without electricity
3	The cyclone storm caused around 60 percent network towers (13000 in number) of the region to be cut off the power supply
4	Coastal areas of Satkhira, Bagerhat and Patuakhali were affected most among the 26 districts.
5	Total 1100 kilometres of roads, 200 bridges and culverts were damaged
6	Total 150 kilometres of embankments in 84 places have been either damaged or completely broke.
7	Water that broke through the embankments affected 1,80,500 hacheries hitting to financial loss of Tk 325 crore.
8	The cyclone damaged mangoes worth approximately Tk150 crore.
9	Toal 6 kilometres of embankments and 763 hectares of crops destroyed in Bhola
10	The Amphan weakens into storm, signal lowered at ports
11	Total 16 people so far were killed in different districts
12	Nearly 2.20 lakh houses damaged

Source: Roy, et al, 2020; TBS, 2020e, <https://tbsnews.net/environment/cyclone-amphan/cyclone-amphan-causes-damage-worth-tk1100cr-84139>

Context of combating Coronavirus: why it differs from other parts of the world

As Bangladesh was fighting coronavirus pandemic that affected 212 countries and territories, assumptions about the virus, prediction of severity, and pattern of genome had all been changing, puzzling scientists and perplexing policymakers, disaster management experts in particularly. It was being apprehended that the virus might remain and continue attacking until 2021 or 2022 and even for a never-ending period with its modified version every season.

Although Bangladesh has a long experience in disaster management, it was difficult to deal with coronavirus, as it was quite different because of its nature. In that case, mitigating disaster meant treatment of patients and stopping or minimizing spread of the virus by maintaining social distance and health hygiene. Providing food to vulnerable group had been another vulnerable act in view of risks of community transmission due to movement of people seeking livelihoods opportunities.

However, in South Asia, Bangladesh was relatively better off in terms of cases of infection whereas the country was believed to be the next epicentre of this disaster after the Covid-19

outbreak in Wuhan, China. April 2020 was predicted to be the most critical period for Bangladesh and May 2020 was considered the peak of the country's coronavirus curve.

Such uncertainties affected disaster mitigation and created fears. At that stage, there were three major disaster mitigation functions – healthcare services to coronavirus-infected patients by health professionals; keeping the masses at home through proper enforcement; and ensuring food for vulnerable groups.

Treatment of Covid-19 patients without vaccine was a major challenge. The frontline fighters i.e. doctors, nurses, health officials, were trying their best in spite of being infected. The entire government machinery, along with health service providers, was in the battle against the virus. Regrettably, only public sector hospitals and doctors were providing services, with exception of Square Hospital. Other organizations and volunteers were distributing hand sanitizers among the commoners to stop infection.

Bangladesh declared public holidays since March 26, 2020 while educational institutions remained closed since March 18. While public holidays were effective till May 16, 2020 educational institutions might be kept closed until September if the situation does not return to normalcy.

In fact, decision regarding closure of schools, college and universities helped slow down widespread of virus. Apart from public holidays, restrictions were imposed on movement, and gathering in public places, time for opening necessary grocery shops, and also movement of vehicles. Law enforcement authorities were assigned to government orders in this regard.

Management of food distribution among the vulnerable people was a challenging task as their number exceeds 50 million. In a country like ours, it was a gigantic task unlike developed nations that either needed not to do so or have well-functioning social security system. However, the government of Bangladesh started providing relief materials, especially as part of social safety net programs, from the beginning of the crisis utilizing local administrations.

For smooth and fair distribution of food among those who deserved, administration officials proved to be neutral being non-local, prudent in decision making and non-partisan in serving the people on the ground. The Bangladesh government planned to continue food distribution until the pandemic ends.

Emphasis was also laid on the private organizations' involvement, mainly as a part of corporate social responsibility. Some of them offered donation to government funds apparently with an expectation of future favor. Exceptions were also there in supporting corona patients by building hospitals.

A more effective approach was the use of social capital that automatically builds bridges between the common but relatively well-off people, volunteers and charity organizations and the poor who could benefit from philanthropic activities. Social groups based on knowledge of others, social works, and social medic engagement, evolved during the crisis, raised funds, and provide necessary items to vulnerable groups, especially the poor who lived from hand to mouth.

A philosophy of 'being human and act accordingly' created stronger bonding among people, an approach which was deeply rooted to our culture of fighting together and living together by sharing whatever we have (Karim, & Islam, 2020a). In this disaster-prone country, such social capital was utilized when people needed emergency services such as harvesting crops when there was a crisis of labor.

Only a one-off solution to the pandemic for April-May 2020 period was not enough to solve the crisis. It required a comprehensive but strategic plan to overcome the pandemic and take preparations until the virus was completely addressed and new effective management mechanism was developed.

Most assumptions about coronavirus in Bangladesh context proved to be wrong. Even if a vaccine was produced suitable for conditions in colder countries, that might not work in a tropical country and rather lead to a dangerous situation. Keeping that in mind and given the demand of the world market of vaccine, Bangladesh started investing in scientific research focusing on vaccine that is effective in our environment. Banking on its previous success in disaster management, Bangladesh needed to explore newer solution to the new crisis of Covid-19 that defined the global order and shaped our collective future

Public representative and local community

Distribution of relief among the poor community was as huge task, which was maintained by the public officials and public representatives, specially parliamentarians and ministers.

Strengthening local government is buzz word and academically much emphasized concept, which, in fact, produced very insignificant output. Local government representatives are thought very close to the general people can understand realize the sufferings of the poor and have the immediate opportunity to do something for them in need. During the pandemic, it was quite noticeable that very few came forward and did passionately for the wellbeing of the poor community, rather a significant number of public representatives specially UP Chairman and members were involved in misappropriation (Noman, et al, 2020; TBS, 2020d). This gave wrong message about the institution. As many as 42 Chairman and members were suspended because of corruption during this pandemic (UNB, 2020). Local government representatives were excluded from the relief distribution community and public officials were included. The latest scam was found when HPM declared EiD gift – cash money equivalent to 5 million for poor people (2500 taka each family), local government representatives included their and their relatives' phone numbers (Noman et al. 2020; Rahman, 2020; TBS, 2020d). In Habiganj District, 10 mobile number was inserted for 400 times (Noman et al, 2020). It seems distribution of relief and cash money by the government created an opportunity for some local government public representatives to indulge corruption. There were new ways of misappropriation and corruption identified. This involvement inhibited effective management of implementation of government initiatives.

Society heading towards new normal

The entire humanity was suffering from an unprecedented attack of eerie Coronavirus. From beggar to billionaire everybody was affected in myriad ways. Every country had stretched its full resources and energy to use for combating COVID-19. The world was experiencing new order as it had pure air but wearing mask is mandatory; roads were empty where going on a long drive was impossible; people had clean hands with a banning of shaking hands; ample time we had but no chance of getting together; new dishes were being cooked while no guest was invited to lunch or dine; students and working people lust for weekends but weekend did seem to end; people having money had no way to spend much; we had enough time but we could not fulfill our dreams; and realization was we didn't need much money to lead a good life rather a lot for showing life style (Ahmed, 2020). All economic activities were shut and the world was kept lockdown and people were forced to stay home. Lots of activities to lead a life were dragged down to minimal. Human beings were of only for having food, getting rest and passing time with family members. Staying home was a *sine qua non* that helps emerging the

society to a new normal. Effects were enormous affecting from individual to state level, and beyond that.

Policy Response

Bangladesh Government took prompt measures to combat Covid-19 pandemic where public policies were the key strategies. Broadly, public policy was the set of principles in the form of acts, guidelines, procedures, circulars, orders, action plan prepared by the ministries and approved by government in order for controlling behavior of public. As of 26 April 2020, total 444 public policies (Table-1) were made by different ministries to regulate and control people's behavior, distribute and redistribute resources to prevent Covid-19 mayhem. Key emphasis of the policy was the implementation and monitoring to prevent Covid-19. The 31-point directives of Prime Minister Sheikh Hasina served as the overall policy directives to combat Covid-19 pandemic. Combating this pandemic, three major stages; i.e. preparedness, prevention, protection were required.

Table-4.1.3.3: Number of public policies initiated to combat Covid-19*

Sl. No.	Name of the Ministry	No. of Public policy issued	Type of Public Policy	Level of Public Policy	Importance of Service	Level of Combating Covid-19
1.	Prime Minister's Office	11	Regulatory Symbolic	Agenda Setting Formulation , Implementation	Normal	Protection
2.	Cabinet Division	10	Regulatory	Formulation , Implementation	Normal	Protection
3.	Ministry of Public Administration	10	Regulatory	Formulation , Implementation	Normal	Protection
4.	Ministry of Health and Family Welfare	42	Regulatory	Policy Formulation , Implementation	Emergency	Preparedness, Prevention, Protection

Sl. No.	Name of the Ministry	No. of Public policy issued	Type of Public Policy	Level of Public Policy	Importance of Service	Level of Combating Covid-19
5.	Ministry Disaster Management and Relief	27	Redistributive	Policy Implementation	Emergency	Preparedness, Protection
6.	Ministry of Food	7	Redistributive	Policy Implementation	Emergency	Preparedness, Protection
7.	Ministry of Home	51	Regulatory and Security Service	Policy Implementation	Emergency	Protection
8.	Ministry of Defense	11	Regulatory and Security Service	Policy Implementation	Emergency	Protection
9.	Ministry of Agriculture	33	Distributive	Policy Implementation	Normal	Protection
10.	Ministry of Commerce	30	Regulatory	Policy Implementation	Normal	Protection
11.	Ministry of Social Welfare	16	Redistributive	Policy Implementation	Emergency	Protection
12.	Ministry of Women and Children's Affair	6	Redistributive	Policy Implementation	Emergency	Protection
13.	Power	3	Regulatory	Policy Implementation	Emergency	Protection
14.	Ministry of communication and bridges	12	Regulatory	Policy Implementation	Emergency	Protection
15.	Ministry of Expatriate's Welfare and Overseas Employment	13	Distributive	Policy Implementation	Normal	Protection

Sl. No.	Name of the Ministry	No. of Public policy issued	Type of Public Policy	Level of Public Policy	Importance of Service	Level of Combating Covid-19
16.	Ministry of Labor and Employment	10	Distributive	Policy Implementation	Normal	Protection
17.	Industry	5	Regulatory	Policy Implementation	Emergency	Protection
18.	Ministry of Post Telecommunication	2	Regulatory	Policy Implementation	Emergency	Protection
19.	Ministry of Religious Affairs	23	Symbolic	Policy Implementation	Normal	Protection
20.	Ministry of Primary Education	18	Regulatory	Policy Implementation	Normal	Protection
21.	Ministry of Shipping	19	Regulatory	Policy Implementation	Normal	Protection
22.	Ministry of Youth and Sports	2	Regulatory	Policy Implementation	Normal	Protection
23.	Ministry of Information	6	Regulatory	Policy Implementation	Normal	Protection
24.	Ministry of Finance	44	Regulatory Distributive Redistributive	Policy Formulation and implementation	Normal and Emergency	Protection
25.	Ministry of Local Government, Rural Development	33	Regulatory Distributive Redistributive	Policy Formulation and implementation	Normal and Emergency	Protection

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* Public Policies are issued in March and April 2020, as of 26 April 2020.

** Source: https://bangladesh.gov.bd/site/view/ministry_n_directorate_list/; Some orders are found overlapping and some appeared as extension of parent ministry's order, the number indicates policy issued by ministry and its attached departments.

Regulatory policies timely initiated

Being the prime responsible ministry, Ministry of Health and Family Welfare (MoHFW) has circulated 41 orders (including 25 regulatory) relating to combating Covid-19 that entails guidelines, assigning responsibilities, funding, food and accommodation for Covid-19 patients and frontline fighters, surveillance mechanism, burial of corpse, standard operating procedures (SOP) for dead body handling of Covid-19 patients, rational use of PPE, emergency replacement of doctors etc. These policies covered quite range of issues to combat Covid-19 outbreak. Moreover, the act titled ‘the Communicable Diseases Prevention, Control and Eradication Bill, 2018’ was a cornerstone public policy that bestows responsibility to the Department of Health to take any action to prevent Covid-19. By dint of responsibility, the ministry announced the whole country as risky. Ministry of Home and Defense utilized their armed forces departments to control people’s movement in order to prevent wide spread of covid-19 at the community level. Lockdown, restriction of shopping necessary items, restriction of communication, staying home were the key strategies to prevent and stop spreading the virus. A high-powered team comprising of 64 secretaries/ Senior Secretaries was formed and assigned to monitor relief distribution activities in 64 districts.

Distributive policies as key strategy

Because of all economic activities were kept shut, all industries faced huge loss. Bangladesh government declared taka 727.5-billion (later it reached upto about 1000 billion) stimulus package to cushion impact of Covid-19 outbreak. Since all industries and service sectors were stopped and management needs huge liquid money from the government to pay wage and salary to employees. Readymade garments, agriculture, livestock, pharmaceuticals, small business entrepreneurs were among all these stimulus seekers. It seemed government is the last resort of hope for all community, as all garment industries could not pay salary to their workers because of shortage of money.

Health professions who were the frontline fighters to prevent coronavirus were given special incentives to boost them up. Special health insurance covering upto 5 million taka was given to Covid-19 frontline fighters according to the rank. Public employees working at the field could get maximum 1 million Taka if infected and 5 million if any died of coronavirus. Bankers who were providing emergency services to make cash flow in the market was also provided

special incentives that equaled to one-month salary in each month during the coronavirus outbreak.

Redistributive policies to combat Covid-19

The major challenge of combating Covid-19 remained with the movement of about 22% people who lived under poverty line, as they needed to earn on daily basis and needed to go out. Risksha-puller, daily labourer, beggars, street children, elderly, widow, disabled, unemployed labourer, public transport workers, restaurant workers, tea garden workers, slum dwellers, transgender, bede (gipsy), low-income earners were potential vulnerable groups and entitled to receive relief. Redistributive policies served as key strategy to distribute food for vulnerable groups. Special care was initiated to distribute reliefs among the ethnic minorities in Chittagong Hill Districts, Mymensingh, Dinajpur, Biharis (Pakistani people who stayed back to Bangladesh after 1971) at Mohammadpur and Mirpur of Dhaka. Recently 1200 packets of relief goods have been given to Bihari community by the local representative. As ethnic minorities at CHT lived in remote areas, Bangladesh Army used helicopter to carry and distribute necessary goods. Rendering service to the remote and vulnerable groups forced them to stay home to prevent Covid-19. Distributing relief among 50 million poor people was also a means of combating Covid-19 as this relief forced them to stay home. The Ministry of Disaster Management and Relief declared to continue providing food support to this 50 million until June 2020 (Table-4.1.3.4).

Table-4.1.3.4: Relief Distribution amid Corona Pandemic in April-May 2020

Sl. No.	Activities	Coverage/relief/beneficiaries
1	District covered	64
2	Relief sanctioned	172467 Metric ton Rice
3	Relief distributed until 20 May 2020	142880 Metric ton Rice
4	Beneficiaries (Families)	12242000
5	Beneficiaries (Persons)	34266000
6	Cash money sanctioned	More than 970000000 Taka
7	Cash Distributed	666073000 Taka
8	Child food Assistance	207400000 Taka
9	Child food Assistance Distributed	157019036
	Beneficiaries families of Child food	513485
10	assistance	
	Beneficiaries (person) of Child food	1088598
11	assistance	

Source: www.ittefaq.com.bd

Symbolic policies: nationalism, values of major religion

Cultural integration and learning of fighting together has the symbolic value to combat the present crisis. Constitutionally Islam is the state religion in Bangladesh, as the vast majority of the country comprises of Muslims. Unity lies with the religious principles. Valuing the norms and principles of big section of the community, Bangladesh government moved slowly to impose restriction of social gathering in Mosques and other religious congregation. In mid-April 2020, Ministry of Religious Affairs declared guidelines to gather maximum 5 person five times a day and 10 on Friday prayers. Similar directions were also declared for Ramadan. This circular helped restricting corona virus spread at community level. Similar instructions were also given to maintain by other religious communities. This gathering restriction was regulated and strictly maintained with the help of law enforcing agencies. This order helped prevent spreading the virus at large scale at the community level.

The *status quo* policy was tried to follow until the normalcy of day-to-day activities returns. Only emergency crises related to Bangladeshi workers can be settled in consultation with the host countries that Bangladesh has done during pandemic with Middle East. Bangladesh Government should focus on the skill-training in nursing, health technology, management, medicine and hospitality, as part of its migration strategy. As the overseas employees of South Asian countries were some of the biggest sufferers, a collective South Asian platform could also be utilized to mitigate the problem. In this regard, Colombo Process, a platform of the Asian labour-sending countries, and Abu Dhabi Dialogue, a platform of the labour-receiving countries, could come together and find out ways that were beneficial for all. Above all, Bangladesh Government utilized its diplomatic endeavor to secure their job as well as health security.

Epilogue

Bangladesh had no alternative but utilizing the inflow and outflow of the overseas employees for sustaining country's economy. The strong agriculture-based internal markets was one of the solutions, which produced other backward linkages to agro-based industries, which in turn helped the receding economy. Secondly, the Ministry of Expatriate Workers and Overseas Employment, along with its departments, identified all legal and illegal migrants and force

them to enroll with the government's IT-based mechanism so that the Bangladesh Government could trace and track them easily to take necessary action whenever required. Because of the rise of a critical crisis due to COVID-19, illegal migrant workers could be taken under supervision and surveillance. Meanwhile, the Bangladesh government came forward with the future course of action for both legal and illegal migrant workers and set out a comprehensive plan for protecting their interest as well.

Questions:

1. What is the key problem of the case?
2. What are associated problems and causes linked to the problem that exaggerated problem?
3. Why the case was success story of managing crisis?
4. What are plausible solutions that can be adopted to solve the problem?
5. What are the policy interventions specifically needed to solve the problem?
6. What are learning of the case can adopted and utilized by the bureaucratic policy makers while addressing any crisis hit nationwide.

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4.1.4 The Neglected Epidemic: Unraveling the Crisis of Road Accidents

One day, Mr. Hasan, a conscientious member of civil society witnessed a tragic road accident involving a parent of a schoolboy. In August 2023, a father of a student was seriously injured in a road accident on the Dhaka-Aricha highway close to the school. It was a cloudy day. Hasan was on his way to pick up his kid from school. He was watching the two buses that were rushing against each other. Every now and again, they made an attempt to pass like though it were a game. In one place, the road was bent. He didn't notice that someone was walking beside the road, perhaps to pick up his child as Hasan's car was behind the bus. Suddenly, one bus abruptly made a left turn because of the curving road and moving into the pedestrian body. When turning left, the bus lost control of its brakes. The person was seriously injured. All of a sudden, the road became chaotic. The passengers from the bus dropped. A few passengers of the bus also got injuries. Moreover, the other busses, cars, trucks came to stop in the road. At that moment, the civil society member, who was also a parent of another student studying in that school, came close to the injured pedestrian.

Hasan was a little apprehensive and took a moment to approach the pedestrian. However, the worried person together with a few others, hurried the injured parent to the closest hospital, where he was taken to the emergency department. But after two hours, it was noticed that the injured person's body had merely been cleaned by the medical personnel; no other action had been done by them. Hasan had been waiting for the physicians' word that the patient will survive. At that moment, two other guardians and two teachers from the school had also come to the hospital. They also tried to contact with the doctors.

The concerned person felt disturbed by the seeming carelessness and overcome many barriers to contact with a senior hospital administration official. He communicated with a local politician who then spoke with the hospital's chief executive officer. After getting the instruction from the senior officer, the medical staff started working to save the life of the injured parent. Regretfully, in spite of their best efforts, the medical staff was unable to avoid the terrible consequence. It was discovered that the physicians delayed longer to accept the patient because of a procedural problem involving official paperwork.

Meanwhile, word of the incident spread across the campus. A few guardians notified the parent and let the school know. As soon as the son received the news, he went straight to the hospital.

This incident not only has affected a 14 years old student's life, a family, but it has also hurt, has extinguished the hopes of many other people.

On the other side, there was quite a lot of chaos on the streets. The accident bus was removed from the road by the traffic police. But moving the bus took two hours. This caused a severe traffic gridlock. The driver was grabbed by the bus passengers, who then turned him over to the police. The 18–20-year-old driver was hurt as well. Out of sympathy, Hasan visited the police station as well after leaving the hospital. The driver admitted, when being interrogated by the police that he was racing the adjacent bus and he momentarily lost control of his speed due to a bend in the road. It was discovered that he only completed his eighth-grade education and now works as a vehicle driver due to the family's low income. He did not have much knowledge about traffic rules and regulations. Also, he was not aware of road safety. For this reason, he saw that disobeying the law has no significant consequences. However, he did seem a little worried about injuring the pedestrian.

Mr. Hasan was touched by this experience. He was impacted by this and was unable to avoid it. Struck by the seriousness of the situation, Hasan, fueled by a commitment to road safety, decided to turn his witness testimony as a catalyst for positive change. With a strong desire, Hasan thought to interact with significant community members and leaders of the local government through his role in civil society. The next day, he saw on the news that school children were create blockade in front of the school and express their outrage over the occurrence. It also forced him to engage with the concerned people in an effort to prevent the incident.

Determined to make a difference, Hasan leveraged his role as a civil society member to engage with local authorities and community leaders. He spoke with other civil society members and planned to initiate his dialogue with traffic police, Accident Research Institute (ARI), academic and urban planners to propose improvements in road safety features and infrastructural change at accident -prone- intersections. The next day Hasan along with one of his colleagues went to the traffic police to discuss availability of accident data and the enforcement strategies in Bangladesh with regard to road accident.

The concerned police explicated that the primary source of accident data is the Bangladesh Police, who legally gather and document every accident that occurs in the nation in the form of a First Information Record (FIR). Out of more than 50 independently identified causes, road accidents were ranked as the eighth greatest cause of death or disability in the last year.

However, projections indicate that traffic accidents would rise to the fifth rank as a cause of mortality by 2030. With time, there are more and more traffic accidents and fatalities in Bangladesh. Police records from 2015 show that throughout the previous 21 years, there have been 84,000 traffic accidents, with 56,000 fatalities and 63,000 injuries. However, because not every victim of injury keeps a general diary at the police station, the real number is larger than the previously stated estimate.

Further, a senior official of traffic management was consulted, and he added that for 15 years from 1993 to 2007, accident and death statistics are gathered from Police Headquarters in Dhaka. It was also pointed out that pertinent data had been collected from the Bangladesh Road Transport Authority (BRTA) and the Statistical Yearbooks of Bangladesh issued by Bangladesh Bureau of Statistics (BBS) in order to determine accident and mortality rates based on registered motor vehicles and motor vehicles operating on public roads. He admitted that to create an inclusive data base, there exist gaps and some missing data.

In a similar vein, the person added that the police are unable to maintain a log of every vehicle collision. As a result, several governmental and non-governmental organisations are attempting to determine the precise number of traffic incidents and the number of casualties involved. According to accident records, there may have been RTA damages of forty thousand crore taka during the previous three years. The cop record databases might not match official results or data from other sources. It's possible that information from other sources and official findings don't match the police record databases.

Continuing conversations with traffic police on enforcement strategies, Hasan found that to ensure road safety in Bangladesh, a comprehensive piece of legislation called the Road Transport Act, 2018 was created. He stated that the main components of the 2018 Road Transport Act are firstly, stricter fines, jail time, and license suspension or revocation associated with moving infractions. An extensive driver licensing system that mandates regular license renewals and the possession of a valid driver's license.

Secondly, the establishment of a Road Transport Authority (RTA), whose duties include looking into traffic incidents and enforcing laws and regulations. Thirdly, the dissemination of information and instruction to all users of the road, including drivers, passengers, and pedestrians. Fourthly, the creation of the Vehicle Registration and Inspection Authority (VRIA) to guarantee the safety and use of every vehicle on the road. Finally, the use of modern

technology to enhance the enforcement of traffic laws and regulations, such as digital licensing and electronic monitoring systems. The mandate of the system is that all vehicles be insured in order to protect traffic accident victims financially.

He then went to discuss the matter with the Road Transport Authority (RTA). In terms of risk variables, the director of RTA thought that socioeconomic level was the main cause of traffic accidents. He mentioned that according to WHO data, nation with poor economic conditions is more likely to be involved in traffic accidents ((21.5 and 19.5 per 100,000 population) even in high-income countries (10.3 per 100,000). Furthermore, over 90% of traffic fatalities take place in low-and middle-income countries for example, Africa, South Asia. He continued by saying that bicycles, pedestrians, and riders of motorised two-wheelers— collectively referred to as "vulnerable road users"—make up over half of those killed in traffic accidents, and that number is greater in the world's weaker nations.

Moreover, Hasan talked with other high officials from RTA. He further added that the Road Transport Act, 2018 is anticipated to have a favourable effect on lowering the number of traffic accidents in Bangladesh and represents a major advancement in the promotion of road safety in that nation. The execution and enforcement of this Act, together with additional initiatives such as road user awareness, training for drivers, infrastructure upgrades, will achieve the safer driving environment for all. Following this discussion, Hasan and his teammate come to the conclusion that the legislation is not being applied properly for road safety.

Two days after speaking with RTA, Hasan visited the Accident Research Institute (ARI) to speak with the Director (Research). The Director said that over the past several years, there has been an alarming increase in road traffic accidents in Bangladesh, which has turned into a national issue. Approximately eight persons lose their lives in RTAs every day, while the real death rate is probably higher. He mentioned the data that was in 4702 traffic incidents nationwide in 2019, at least 5227 persons lost their lives and 6953 were injured. According to the Director, this resulted in higher healthcare expenses for Bangladesh. In addition, Bangladesh lacks traffic legislation, as evidenced by the country's lowest rate of traffic law compliance in South Asia. The Concerned person also mentioned that road accident cause Bangladesh to lose 1.51 billion dollars yearly, or 2% of its GDP and all of the international aid it gets each year. This data also made Hasan feel down and exacerbated his anxiety about the issue of traffic accidents.

However, after a few days, Hasan spoke with a professor from Bangladesh University of Engineering and Technology (BUET). The professor concentrated on the reasons behind traffic accidents in Bangladesh. He gave numerous studies to support his explanation, saying that the main reasons for traffic accidents in the country are careless driving, pedestrians not paying attention, drunk driving, using cell phones while driving, overtaking, poorly maintained roads, and continuing to drive use of outdated and defective vehicles.

During the conversation, the professor mentioned that in most countries the primary cause of this are the exceptionally heavy traffic on the roads and the comparatively large amount of freedom of movement allowed to drivers. Each year, thousands of individuals lose their lives and millions more suffer severe injuries as a result of traffic accidents. Approximately 80,000 individuals perish in traffic accidents in India alone each year, accounting for 13% of global fatalities.

Further, he stated an example of India and mentioned that age, gender, month, and time all have an impact on the distribution of road-related fatalities and injuries in India. There, the most vulnerable age range is 30-59 years old, yet men are more likely than women to die and get injured in these situations. Nonetheless, In Bangladesh, a survey (Anjuman, *et. al.*, 2020) reveals that among those between the ages of 15 and 44, traffic accidents are now among the top three causes of death. Furthermore, the primary cause of death for young individuals between the ages of 15 and 29 is road traffic injuries.

Referring to another research, the interviewee stated that insufficient road design, poor road maintenance, the nation's inadequate road network in relation to the number of vehicles, the absence of a pavement, and the usage of pavements by different vested interest groups were the main causes of traffic accidents. He further added that opportunistic groups have the opportunity to breach the law under false pretences due to poor governance in the areas of road safety and maintenance, traffic law disobedience, and turmoil in the transportation sector.

Furthermore, the professor stated the statistics from a study (Rahman, 2012) that speeding (46.5%) and reckless driving (48.8%) are major contributing factors to car accidents, which mostly happen on highways and streets. He argued that rear end collisions (33.3%), hit pedestrians (25.8%) and head on (17.4%) collisions are the major forms of collisions. Between 1998 and 2009, car accounted for around 7% of traffic accidents and 3% of fatalities. Additionally, in Bangladesh, 32.56% of all traffic-related deaths in urban areas occur in trucks, compared to 23.26% in buses.

The scholar again mentioned another point that was men had much greater rates of RTI morbidity and death than women did. Moreover, the bulk of RTI-related deaths and morbidities occurred in those between the ages of 15 and 29. Further, car passengers accounted for the largest percentage of morbidity (34%), with pedestrians coming in second (18%). The professor of BUET further added that according to the empirical findings' drivers of buses, trucks, and cars that drive recklessly, poor motor conditions, adverse weather, and other factors all contribute to traffic accidents.

He also discovered that reckless driving and rising motorization rates are the main reasons for traffic deaths, and in metropolitan areas, inclement weather is a significant contributor to traffic fatalities and injuries. He further argued that road deaths are rising, but the situation in Bangladesh, India, Sri Lanka have gotten worse due to a number of factors, including inappropriate investigative techniques, a lack of appropriate road safety regulations, a rise in vehicle usage, and increased urbanisation. By this, Hasan got a thorough understanding of the road accident.

He further, mentioned that there is no deny that transport is an extremely important part of the daily life especially in the developing countries. For example, in Bangladesh, 9.4% of the national employment is in the transport industry and 12% of GDP and 20% of the annual development budget is spent on transport sector. Thus, the safety in transport sector especially the road safety is very crucial in developing nations.

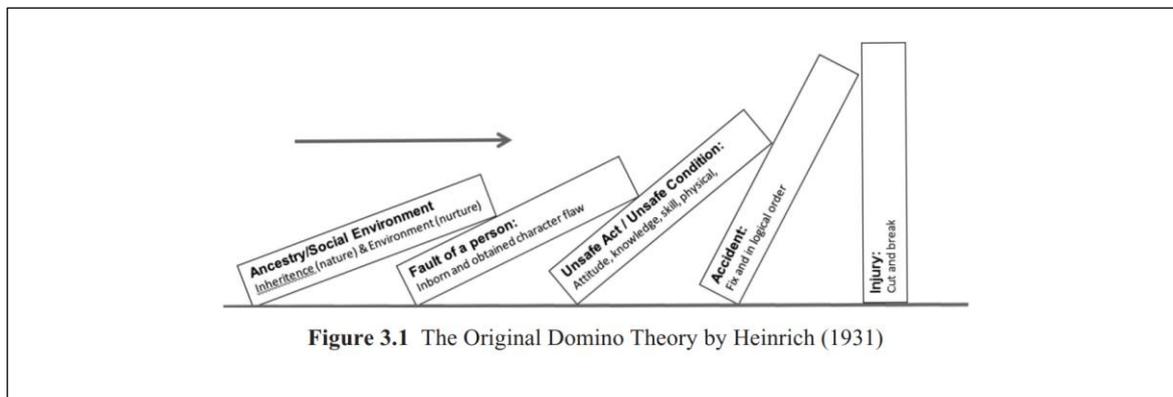
After this conversation, Hasan met a different professor from BUET to speak. The professor proceeded to discuss the theoretical structure of traffic accidents. He explained the theory of Heinrich's Domino, where accident was defined as – “an accident happens as a consequence of a series of consecutive events that fall in a metaphorical manner, much like a line of dominoes. When one domino falls, it sets off the next one next to it, and so on. However, by stopping the initial domino from falling, the chain reaction or sequential falling occurrence can be avoided”.

In explaining the theory, the scholar argued that the first domino labeled as Social Environment and Ancestry addresses the source of undesirable personality traits for instance, ignorance, stubbornness, carelessness, impatience, and poor judgement. Psychological factors are the fundamental cause of accidents, according to Heinrich. The second domino, Fault of a Person, that is flaws in the worker's family or life, the third domino, Unsafe Acts, or unsafe

conditions. Heinrich clarified that occurrences were caused directly by the third domino, unsafe acts and/or unsafe conditions.

The professor further added that according to Heinrich, the fourth domino, the most important thing to keep an eye on to prevent incidents is risky behaviour and harmful situations, He identified the four main causes of risky behaviour: an inadequate physical state, an inappropriate attitude, a lack of knowledge or skills, and an inappropriate environment. Additionally, Heinrich separated the causes into "direct" and "underlying" groups. An employee engages in risky behaviour, for instance, it might be due to two factors: poor supervision (work system or management component) as the underlying cause of the accident, and the worker's lack of conviction that the right preventative step is essential (human factor). The other professor clarified the basic causes of road accident from a theoretical viewpoint.

Thereafter, Hasan searched the theory and observed that **Theory of accident causation** elucidated an accident happens as a consequence of a series of consecutive events that fall in a metaphorical manner, much like a line of dominoes. When one domino falls, it sets off the next one next to it, and so on. However, by stopping the initial domino from falling, the chain reaction or sequential falling occurrence can be avoided (Sidek, *et. al.*, 2014).



Heinrich used his well-known 88-10-2 ratio to support his argument, which holds that human component is the primary cause of disaster incidence. The ratio comes from his research of 75,000 industrial accidents during the 1920s, which came to the conclusion that 88% of accidents were caused by people acting in a hazardous manner, 10% were caused by a dangerous environment, and 2% were unavoidable—what he called an act of God (Sidek, *et. al.*, 2014). Then, as seen in Figure 3, Heinrich put forth five metaphorical sequential dominoes that he named *Ancestry and Social Environment*, *Fault of Person*, *Unsafe Act or Mechanical or Physical Hazard* (unsafe state), *Accident*, and *Injury*. The research findings indicate that

drivers of buses, trucks, and cars that drive recklessly, poor motor conditions, adverse weather, and other factors all contribute to traffic accidents.

As stated in the theory, the first domino labeled as Social Environment and Ancestry addresses the source of undesirable personality traits for instance, ignorance, stubbornness, ignorance, carelessness, impatience, and poor judgement. Psychological factors are the fundamental cause of accidents, according to Heinrich. These characteristics exist within a person either inborn through inheritance or develop from socialization. Today, these factors are sometimes referred to as “natural” and “nurtured” personalities. According to Heinrich (1931), both natural and nurtured personality can potentially contribute to faults of a person (second domino). The second domino, Fault of a Person, explains that the natural or environmental flaws in the worker's family or life are contributors to the third domino, Unsafe Acts, or the existence of Unsafe Conscience.

Heinrich (1931) clarified that occurrences were caused directly by the third domino, unsafe acts and/or unsafe conditions. According to Heinrich, the most important thing to keep an eye on to prevent incidents is risky behaviours and harmful situations, which are also the easiest to fix. Heinrich identifies the four main causes of risky behaviour: an inadequate physical state, an inappropriate attitude, a lack of knowledge or skills, and an inappropriate environment. Additionally, he separated the causes into "direct" and "underlying" groups. An employee engages in risky behaviour, for instance, it might be due to two factors: poor supervision (work system or management component) as the underlying cause of the accident, and the worker's lack of conviction that the right preventative step is essential (human factor).

Therefore, the Heinrich Domino Theory (1931) offers a universal, straightforward, and easily understood solution from the confusion of information spillovers around the incidents. Although this conventional method was first developed in an industrial setting, its universal and generalised expression enables it to be modified in order to comprehend the process of a traffic collision. The primary reason for this is there are many similarities between the situations in the industry with road driving conditions. While maintaining the original Heinrich (1931) immediate cause of accident as unsafe act and condition, he proposed organizational factor as the underlying cause of operational error.

Furthermore, according to sociological and anthropological studies that Hasan examined, cultural differences among different groups—including those inside and between nations—

such as socioeconomic classes and the genders—have an impact on traffic accidents. These variations may impact various perspectives on transportation and create communication challenges amongst drivers, which raises the risk of an accident. The importance of utilising social theory's power to investigate road safety was highlighted by Haddon et al. (1964). In support of this claim, Zaidel (1992) said that it's critical to comprehend how an individual's behaviour interacts with other drivers in the social setting. The environment, which includes other road users, societal norms in general, and traffic rules that specify the interactional components of driving, affects all drivers, which is why this is the case. Bjorklund and Aberg (2005), who looked at how other drivers' actions affected a driver's behaviour at junctions, and Connolly and Aberg (1993), who examined social comparison and contagion models, reiterated these calls. Huguenin has critiqued the individualistic approach recently. Thus, scholars assert that culture shapes a behavioural range of driving.

However, Hasan again met with the urban planners subsequent to his meeting with university researchers to know the context of road accident and suggest changes to the road infrastructure and safety elements in high-accident areas. The urban planner mentioned that the economic loss is around US \$ 65 billion per year, but it is approximately US \$ 518 billion per year in high-income nations. It shown that the annual GDP loss resulting from traffic accidents in Bangladesh is between 2% and 3%. Any economy needs transportation, and Bangladesh is no exception. Unfortunately, though, because of the increased pace of population expansion and mounting transit issues, the authorities are unable to adequately address traffic and transport. Due to the quick changes in socioeconomic conditions and the need to accommodate an expanding population, traffic highways are being built in an unplanned and uncontrolled manner.

He further mentioned that approximately 27% of the population resides in urban areas, and throughout the past ten years, urbanisation has increased at a pace of 7–8%. There are now over 2,71,000 kilometres (km) of roads in the nation, including roughly 21,000 km of main routes. He said that a major factor influencing road safety is road design. All users of the road, including bicycles, motorcyclists, and pedestrians, are covered by this. When building roadways, it is crucial that the safety of all users be taken into account. It is also vital to implement traffic calming measures such as bike lanes, safe crossings, and streets to lower the risk of accidents for drivers.

Subsequently, there are dangerous vehicles that are either poorly made or do not adhere to basic safety standards. It goes without saying that preventing traffic accidents and lowering the risk of accidents are highly dependent on vehicle safety, the urban planner argued that. The evidence that is currently available indicates that there is a large rise in the probability of traffic accidents for pedestrians and transport occupants when basic standards for vehicle safety and basic regulations governing road safety are not met. He recommended installing suitable safety measures, such as speed limit signs, road dividers, speed breakers, and well-designed signals, to stop these kinds of accidents based on the data they had.

Another researcher identified that delays in identifying and treating people those injured in road accidents worsen their conditions. It is also seen to be one of the essential duties to raise the level of healthcare for post-crash care, to ensure that injured people in traffic accidents receive pre-hospital treatment as quickly as possible and thereafter receive the required care at a hospital.

The Researcher further mentioned that in a global context, around 1.3 million people are killed and 50 million are wounded in traffic accidents every year. From a policy and engineering standpoint, perhaps the most appealing aspect of these figures is their persistence and the inability of better road safety systems, changes in highway design, and other security countermeasure regulations to significantly diminish these figures. Between 2000 and 2020, the overall number of road traffic fatalities is expected to rise by nearly 65%. This figure is predicted to reach 80% in developing and least developed countries.

Moreover, Hasan was simultaneously looking up reports and news articles about potential traffic accident scenarios and their implications for policy. He could not stop wondering how this incident could have been prevented. He realized that the alarmingly high frequency of crashes that leave people dead or seriously injured narrates the story of the global road safety crisis. Hasan discovered a study report by Rezaur (2005) that stated 20–50 million people suffer non-fatal injuries and 1.24 million people die annually on the world's roadways, according to the World Health Organization (WHO). A different study further mentioned that more than 500,000 people worldwide are said to die in traffic accidents each year. Approximately 70% of these fatalities take place in underdeveloped nations, and pedestrians are involved in 65% of these cases.

Further, about 15-20 million people suffers severe injuries. According to a research conducted by the Accident Research Institute (ARI), BUET said that in Bangladesh as a developing country, road accidents take an average of 12,000 fatalities and around 35,000 injuries per year. Shaik and Hossain (2020) also reported which Hasan discovered that at least 6,284 persons died and 7,468 were injured in road accidents between January and December 2021, up from 5,431 deaths and 7,379 injuries in road collisions in 2020. This information sparked his interest in the problem. He could understand that there is no deny that transport is an extremely important part of the daily life especially in the developing countries. For example, in Bangladesh, about 9.4% of the national employment is in the transport industry and 12% of GDP and 20% of the annual development budget is spent on transport sector. Thus, the safety in transport sector especially the road safety is very crucial in this country.

After compiling all the data, Hasan linked his eyewitness account of the road collision. Recognizing the importance of community awareness, Hasan organized public forums, seminars and workshops on road safety. These events aimed to educate drivers, pedestrians and local residents about responsible road behaviour, the consequences of reckless driving and the significance of adhering to traffic regulations.

He also organized workshop with the officials Ministry of Transportation, Road Transport Authority, Accident Research Institute and academicians of the engineering university. to identify the strategies of revisiting the regulations and implementation approaches.

Hasan's efforts extended to collaborating with schools and educational institutions, integrating road safety education into curricula and organizing awareness campaigns involving students and parents alike. He also worked with media outlets to amplify the message, ensuring that the broader public was informed about the importance of safe road practices. Numerous meetings and in-depth conversations with academics, policy makers, urban planners, and other government officials were held by Hasan and his team.

Besides that, Hasan coordinated an awareness campaign involving members of civil society. He gathered ideas that indicated a thorough approach is needed to ensure road safety. And the representative from different sectors recommended a comprehensive strategy to road safety that entails analyzing the interactions between the vehicle, the road environment, and the road user, i.e., the potential places for interruption. In Bangladesh, the frequency of traffic accidents and deaths is increasing over time. Severity and mortality in road accidents require further

consideration in addition to numbers since they are the result of a complex combination and interplay of several road user, vehicular, environmental, road, and roadside variables. To comprehend or appraise an accident scenario appropriately, the influence and contribution of all connected aspects must be considered, and on the basis of these suitable and rational accident rates and corresponding trends must be established. Fundamental to putting this strategy into practice is the collection of accurate data on the severity of traffic crashes and on risk factors. The countries those have adopted this comprehensive approach, have made the most progress in road safety.

Over time, Hasan's advocacy gained momentum, leading to increased public consciousness and a collaborative effort between civil society, local authorities, and the community to eliminate road accidents in Bangladesh. The issue was taken extremely seriously by the Ministry of Roads and Highways and the Government. Through his unwavering commitment, Hasan transformed a single witness account into a powerful force for positive change, making strides toward a safer and more responsible road culture in the country, Bangladesh.

Question:

1. What is the key problem of the case?
2. Why are the road accidents frequently happening in Bangladesh?
3. How the problem is linked to family, society, economy, different walks of people?
4. What are plausible solutions that can be adopted to solve the problem?
5. What are the policy interventions specifically needed to solve the problem to reduce the miseries of affected people?

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4.1.5 Social Stigma of Being entrepreneur⁷

Emran had been living at Mohammadpur area with his parents since he was born in 2000. They are treated as local as their forefathers came from Mymensingh about 70 years ago. He was brought up in this area and associated with other friends of the community. So elderly people of this area have automatically become guardians who has the social right to take care of him, guide and suggest for his future. Although this social value is gradually diminishing, some elderly people try to follow and willingly become the counsellor. As Emran is young and educated and his father is a well-known person, he is loved by everyone.

Once he was having tea in a local tea-shop where other local elderly people were also doing the same. An aged person asked him what he was doing for his livelihood as his father grew older and he needed to support his family. It is pertinent query about a young when he is adult and finishes his study. He replied that he actually did nothing but searching for job. The old person having the experience of current social and economic situation gave an option of doing small business of selling green coconut at Agargoan area. This place is known for medical services and green coconut has the good market for the patients. Emran can easily do the business with less amount of cash. He just needs to follow the style, maintains the system. The experienced person gave him detailed about the marketing strategy and selling pattern.

Emran was convinced by the words and reasoning of social uncle. He is the eldest son and his father cannot earn now. It is familial duty that he should support family as well as needs to be self-dependent for a better living. In addition, unavailability of expected job is kept on top of that. He knows the disguised unemployment specially after the higher education. Being a moderate student, it would not be possible to get good job in this highly competitive market. Honorable Prime Minister encourages young generation to be the job provider as entrepreneur instead of being job seeker. Social uncle told many things and also did not tell everything. He told Emran to muddling through the situation and learn to survive amid some social and unstructured problematic areas. Uncle, from his life-long experience, knew to assess the ultimate value of learning through experience from the real field.

In one night of May in 2015, Emran went out of his residence and went to Karwan bazar with some 5000 taka that he had with him and borrowed from his mother. He walked around the

⁷ This case was developed based on the real-life experience of a young entrepreneur who attended a course titled 'Emperorship development' organized by Sheikh Hasina Institute of Youth Development, Savar 2022. During my session with them he was discovered and later was interviewed. Pseudo name is used in this case.

area, saw the culture of shopping at the Karwan bazar kitchen market, enjoyed people's diversity of business and realized the struggles of people. This is the biggest market in Dhaka, even in Bangladesh. He bought a knife at 200 taka, a *tool* (Chair) to sit while working at taka 300, some straws at taka 30, and hired a rickshaw van at taka 500 to carry green coconuts. Usually, a bunch of green coconuts are sold. It cost 2000 taka. Total number of coconuts is more than 100. He was thinking if he could sell these at taka 60, he would get about 3000-taka profit in one day. In that case five-day work is enough.

Agargaon was chosen to sell those coconuts as this place has buyers from hospitals and morning walkers. In front of the National Institute of Traumatology & Orthopaedic Rehabilitation (NITOR), popularly known as *Pongu Haspatal*. The wider 60-foot road is also suitable for walking in the morning that supportive to his business. He set his green coconuts and started to sell in the early morning at around 4:30 am. Buyers were buying as these were reasonably priced likening to others. Other sellers were used to sell these at taka 70. Emran thought he did not need enough profit rather people who bought these for their patients could be benefitted too. One seller who continued his business for few years came to him and threatened him for selling the coconuts at low price. Emran did not pay heed to him as it is his business and all about his profit. The other seller grew angry and he managed the second seller and came together to argue with Emran. Emran started feeling pressure. However, he managed as he was also local and agreed to sell at the same price others were doing. Two previous sellers were not only arguing about the price but also charging about the place he was using. Although they could not take any fee, Emran was forced to change the place. By this time, he changed this selling point twice. Other sellers did not feel happy with the new seller rather became angry.

When he was about to sell half of the green coconuts, he faced another difficulty with the law enforcing agency. Two constables came and demanded *Chanda* taka 500. Emarn argued with them why he should pay but could not go further rather he compromised with them to continue this business with the payment of three hundred taka per day if wanted to do business. Emran was also threatened to pick up and send to Thana. The deal was the 300 taka per day even if these are not sold. Other coconut businessmen were happy as they did the business paying less than that. Emran noticed that two other security persons of the locality came to him and demanded two coconuts. Although he did not want to give him, he had to give as they were also supported by those two sellers.

Green coconuts sale was going on well in spite of some obstacles. At around 5:30am, a vehicle of City Corporation came to the spot and demanded 300 taka for using the place. Emran argued with them but failed as he was threatened to pick up his all belongings to the garbage truck. He was also threatened to punish because of making the place dirty. City Corporation Cleaners also took three for them and the driver and finalized the deal that Emran would pay 300 taka per day if he wanted to continue the business.

Buyers were buying green coconuts. Emran was smilingly talked to the customers as he knew the ground rules from the theoretical knowledge from the training course. He was also selling at lower price. He thought he would finish it quickly and would go back. At around 6 o'clock, two local *mastans* came and demanded 500 as *chanda*. Emran, this time could not bargain because he knew these people are very dangerous and could do any harm to him. He gave them the demanded money.

Emran packed up and cleaned the area and started to move towards his home. He was calculating the business, although he thought he would get about 3500 taka, he ended up with taka 3000. He did not calculate the unseen cost of 1100 which is about one-third of total investment and about 35% of his total profit. This is the first time Emran experienced with the unseen cost of business and the hard reality of doing business in Dhaka city. However, he became very happy with the 3000-taka profit in one day by investing taka 3030 only. It made his day!

Since it was labor intensive job and was first time in his life, he was tired enough. As soon as he came home after having breakfast, he went for sleeping. His mother noticed his son's changing time of sleeping but could not say anything as it was the first time.

Emran continued his business on the second day. The successful first of business served as the confidence. Profit of the previous day encouraged him to resume the business. Moreover, pressure from unexpected persons and management of the situation boost him up. He started his day and began selling green coconuts at taka 60 for patients and 65 for others. Two competitors argued with him not to sell less than 70 taka but he did not listen to them as he knew he had already managed those who might create problems. This time he bargained with the wholesale businessman and bought green coconuts at 1800 taka and hired rickshaw van at 450 taka. Moreover, he did not need to buy knife and *tool* (chair) again. Because of the learning

and strategy, he sold off all green coconuts a bit earlier than yesterday and ended up with more profit comparing to the previous day.

It was not like the day as usual. As soon as Emran entered home, mother asked him the reasons for going out at night and coming early in the morning and sleeping. He managed his mother explaining everything. However, he failed to face his father at night. His father charged him for what he is doing. He could not except that his son was selling green coconuts at footpath. He could not answer anything to local people that being an educated son how Emran was selling these at Agargaon like illiterate people. What is the use of spending money for his study? Would any father of bride give his daughter to him? Does it go with the status of Emran's father? How would Emran's father go out and show his face to local people? Emran tried but failed to convince his father. He also thought that all local people are not like that social uncle who showed him the right path. Getting about 300-taka profit even investing almost nothing from the second day was not a joke in that day when getting a job was a highly difficult. It could be 60000-70000 taka per month which was difficult to earn from a salaried job. He had plan to employ another two persons to continue the business.

Emran is still searching a suitable job in 2023 and trying do anything that is socially acceptable and honored. But he does not know when!

Question:

1. What are the problems of becoming entrepreneur in Bangladesh?
2. How the problem is inextricably linked to social practices and prejudices?
3. What are the structural problems of becoming entrepreneur in Dhaka city?
4. How government can help encourage youths to become entrepreneur?
5. How the issue of becoming entrepreneur is linked to the broader vision of Bangladesh?

4.1.6 City under water: Where do we live and how do we live⁸

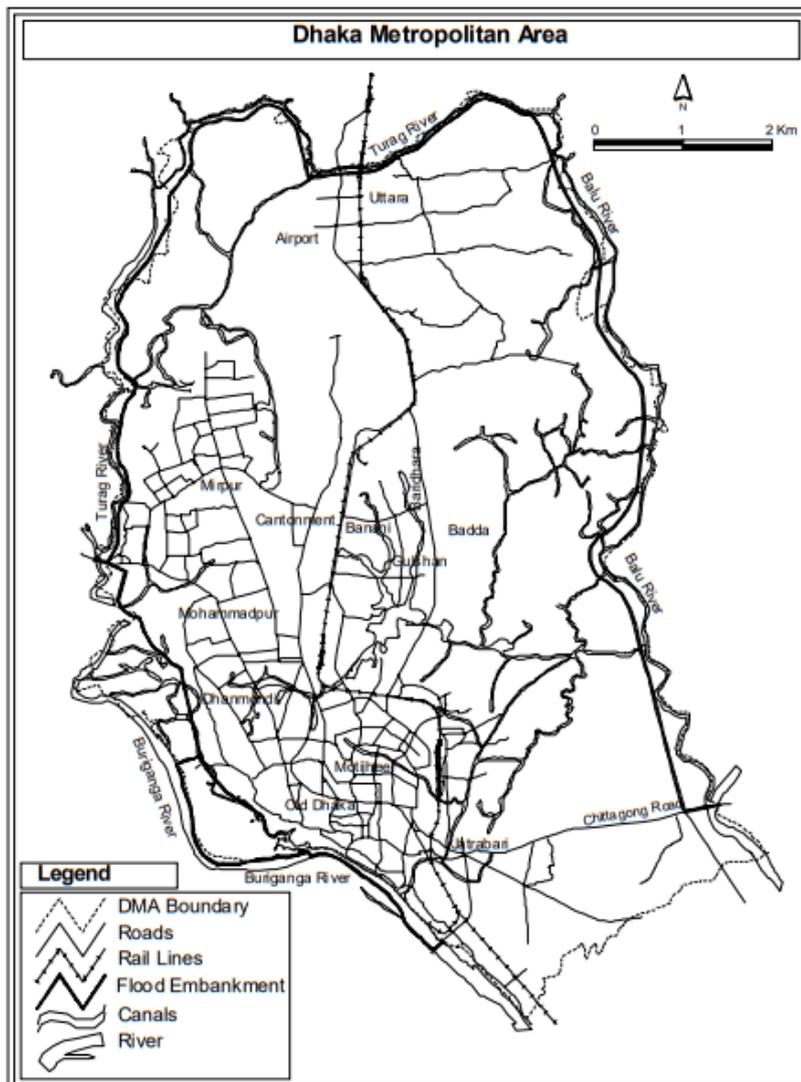
Introduction

Bangladesh is located on the floodplains of the Ganges and Brahmaputra river systems for which country people naturally experience of flooding every year, mostly in rainy season and immediately after the rainy session (Mowla and Islam, 2013; Sabrina and Chowdhury, 2018). Dhaka, the capital city of Bangladesh, is also affected by the effects of flood as rains, as the city saw uncontrolled urbanization during the last three decades. Intensive infrastructural development results in substantial increase in impervious area, creates obstruction to natural drainage pattern, and reduces detention basins, which in turn lead to shortening of the runoff concentration time and an increase of the peak flow (Mowla and Islam, 2013). As a result, a heavy rainfall becomes a severe problem for Dhaka city dwellers as major parts of the city is inundated due to the drainage congestion.

Dhaka is one of the 10 largest cities in the world that accommodates more than 23 million of people in only 306.4 km². It is no doubt a densely populated capital city with more than 30000 per square kilometer. The pertinent question poses whether this huge population can enjoy the city life with the adequate support of the modern city that usually should have. Dhaka is already known as the polluted and unlivable city with its bad records. Wide range of problems contingent to development, development plan, continuous construction of infrastructure, policy snags, city people's behaviour, dearth of coordination among the various departments have constricted living. Rainy session comes with the additional suffering that increases exponentially. Although the flood embankment in its surrounding area protects Dhaka and water from outside cannot come in, rainwater logged inside the city increases the vulnerability of all walks of people (Chat-1).

⁸ The case is developed by Dr. Mohammad Rezaul Karim to utilize it for the academic purpose at BPATC. The author duly acknowledges various sources of data, both primary and secondary sources. The author is also grateful to Dr. Rizwan Khair, former MDS of BPATC for his valuable comments to enrich this case.

Chart-4.1.6.1: Dhaka metropolitan area locating its roads and waterbodies



Source: Tawhid (2004)

Most affected area

The only low-lying areas of Dhaka city or the areas built on pilling up are usually being inundated. This notion proves wrongs as most of the areas of the city are found the curse of heavy waterlogging. No area of Dhaka city is in fact out of this problem and sufferings. However, streets of Mirpur, Green Road, Panthapath, Dhanmondi, Banani, Mohakhali Chairman Bari, Malibagh, Kalabagan, Kanthalbagan, Hatirpul, Madhubag, Kalshi, Magbazar,

Lalbagh, and several other places of the city are highly affected by rainwater and are inundated. It indicates the mostly densely populated and unplanned area of the city is highly affected while new Dhaka which is built with modern drainage system is less affected by the rainwater. City dwellers have recently experienced the most terrific waterlogging, horrific traffic and unspeakable sufferings. The whole capital turned into a huge waterbody capable of plying boats on the roads in just six-hour rain on 22 September 2023. New Market, Bangshal, Jurain, Matuail, Mirpur-2, Dakshinkhan, Khilkhet, Ashkona are the most affected due to 134mm rain which started on Thursday night and continued till morning on Friday (Islam, 2023; Tayeb, 2023). A sudden rain blocked almost the whole city wrecking the normal traffic system as it took unusually excessive time to reach home from work (Table 1). This troublesome was also coupled with excessively high fare of all sorts of transportation.

Table-4.1.6.1: Waterlogged Dhaka increases sufferings of city dwellers

Starting point	End of journey	Distance	Time of journey
Motijheel	Farmgate	5.4km	2 hours
Farmgate	Mirpur 1	7.4km	2 hours
Motijheel	Mirpur 10	11.4km	4 hours
Elephant Road	Shyamoly	6.4km	4 hours 45 minutes
Karan Bazar	Mirpure-2	10.0km	About 5 hours
New Market	Kamrangichar	2.9km	More than 3 hours

Source: Prepared by the author based on different sources

A study conducted by Tawhid (2004) found that a number of problems that city dwellers face (Table-2). It indicates the severity of sufferings and magnitude of the problem as people marked highly some of the problems.

Table- 4.1.6.2 Types of Problems Faced due to Water Logging in Dhaka City Problems Percentage

Types of problem faced because of waterlogging		Percentage of people's opinion
1.	Disruption of traffic movement	88
2.	Disruption of normal life	93
3.	Damage of roads	70
4.	Damage of katcha houses	77
5.	Damage of substructure of the pucca houses	62
6.	Damage of household goods	65
7.	Damage of underground service lines	56
8.	Water pollution	95
9.	Water born diseases	84
10.	Increase mosquito	88
11.	Damage of trees and vegetation	48
12.	Increase of construction and maintenance cost	58
13.	Death of fish	55

Source: Tawhid (2004)

According to the chief waste management of DNCC, drainage system of Dhaka city has the capacity for passing water of 60mm but the rainfall is more than that that cause waterlogging. It is found that three hours of rain hits the record of 85mm water in one morning. City dwellers have already experienced of severe consequences including 1246 deaths and 252990 infected (as of 22 October 2023) due to dengue this year, which is also a curse of perennial prolonged water logging in Dhaka city (The Daily Star, 2023a).

A report prepared by the World Bank in 2015 estimated that the potential damage from waterlogging in 35 years, from 2014 to 2050, would be about \$1 billion. This damage is estimated without the inclusion of climate change effects. If it is added to the effect, the loss would be about \$13 trillion (Mollah, 2023).

Who should bell the cat?

Dhaka WASA is reportedly blamed for perennial waterlogging as it is a result of WASA's poor management and negligence (TBS, 2021). Chief waste management officer of Dhaka North City Corporation (DNCC) rightly mentioned that the drainage system has the capacity of 60 mm rain and the rain has been more than capacity, even it is more than the usual rain (Appendix-1). It is also found that drainage system in Mirpur is very fragile (TBS, 2021). According to the law, Dhaka WASA is responsible for the construction and maintenance of the main drainage lines in Dhaka city, and the city corporations are tasked with the responsibilities of the other drainage lines. For doing so, 385 kilometers of lines are managed by WASA whereas around 2500 kilometres of lines by the DSCC and DNCC. In addition to that Dhaka WASA has to

manage 10-kilometres of box culverts, 26 canals (74-kilometre). These canals which were once lifelines of Dhaka city for water drainage system, are now almost filled up with waste although WASA claims that all these 26 canals are functioning. Solid or heavy waste dumped into the drains or canals obstructs the normal draining out of rainwater, which causes waterlogging in the city that increases the sufferings of city dwellers more during monsoon. Total drainage system of Dhaka requires comprehensive action plan with coordinated management system for the smooth function of passing water. However, there is a blame game between the WASA and city corporation found when sufferings come as a serious problem. WASA, Bangladesh Water Development Board, and the two city corporations are tasked with managing the drainage system. In 1989, drainage system management was added to Dhaka WASA's activities. Dhaka WASA is supposed to coordinate with the two city corporations of Dhaka regarding management and repairing of drainage lines, sewerage lines, waste disposal, and waterlogging.

Both city corporations are connected to the Rajdhani Unnayan Kartripakkha (RAJUK) which is assigned to plan (strategic and master) and develop the total Dhaka city in collaboration with all public departments. The blame game of allegations and counter-allegation among various public agencies exacerbated the waterlogging crisis and continued the hardships of city residents (Hoque, 2023).

Adjacent Dhaka is more unplanned and is found expanded by the will of landowners and land grabbers. Once this area is added to Dhaka city, it provides more problems to the system.

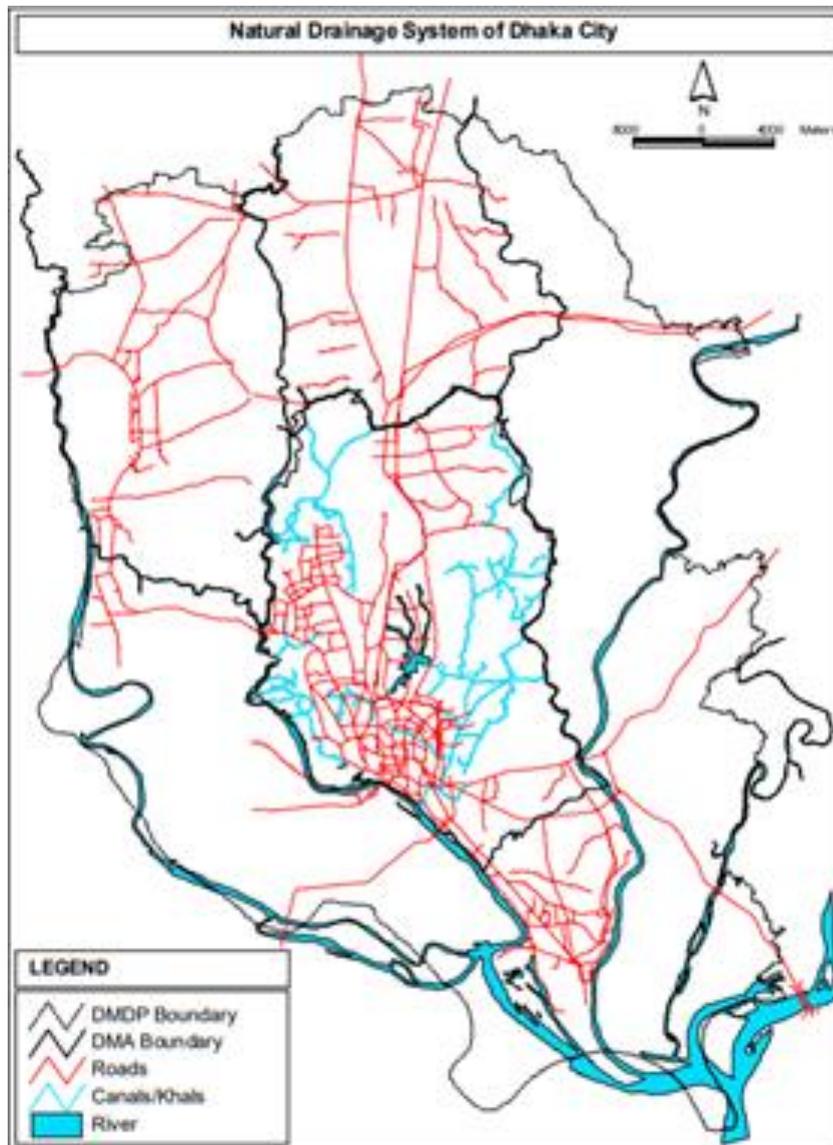
People of Dhaka are now accustomed to live with hazards that increase during natural calamities. Since the water logging creates sufferings mostly during rainy season, people and concerned responsible bodies feel the problem and manage difficulties with short solutions and leave for long-term solutions. Interestingly, once the rainy season leaves and early autumn comes, people forget the sufferings and the responsible departments too. Seemingly, water logging of Dhaka is treated as a short-term problem not treated as a part of long-term city plan.

City planning of Capital Dhaka

Researchers and experts opine that, a city should have 20 to 25 percent green areas and 10 to 15 percent wetlands for the better living of city dwellers. Although there were such canals and reservoirs in Dhaka city for normal drainage, these were destroyed gradually because of excessive waste and constructing buildings by filling up those water bodies (Chart-2). As a

result, the Dhaka city is mostly covered by concrete with only 5 percent of water bodies and 10 percent of greeneries (Mannan, 2021). Gradual depletion of water bodies obstructs passing water generated by city dwellers.

Chart-4.1.6.2: Natural Drainage System of Dhaka City



Source: Tawhid (2004)

It becomes worst during the monsoon, as the rainfall is much higher than the normal capacity of the drainage system that results in serious waterlogging. From the study it is clear that the

system of natural drainage is very miserable in Dhaka. There is also a deficit in artificial management. Rainfall during the monsoon season is much higher than the current capacity of the drainage system, resulting in waterlogging. According to a recent newspaper report, 98 percent of the total sewage in Dhaka city is being discharged into river and canal water without any purification. This is creating serious health and environmental risks. About 1 percent of the total sewage of Dhaka is dumped under the open sky. About 69 percent of sewage is overflowing and coming into the drains. More than 9% of the waste is collected from the houses but it is being discharged into the reservoir without any purification. Only 2% of the waste is completely purified and mixed in the reservoir. About 175 crore liters of sewage is generated every day in Dhaka. These water channels are directly connected to rivers and canals. As a result, sewage is flowing into canals and rivers. The canals in Dhaka have been under WASA for a long time and they have been handed over to the City Corporation. Now the process of eviction of illegal occupants of these canals has started. Dhaka North City Mayor Atiqul Islam says there will be no more garbage in the canals and fish will be farmed there and canals will be used to navigate the river by boat. It has also been proposed to hand over the lakes in Dhaka city to the city corporation.

It is found that the capital lost about 36% of its water bodies due to earth filling since the publication of Dhaka's Detailed Area Plan (DAP) in 2010 indicating how quickly diminishing the water reservoir in the city. Whereas urban planners suggest the Dhaka should have 12-15% water bodies considering population of Dhaka. However, Dhaka has only around 5%. Numerous stakeholders such as business organisations, house building associations, political parties, individuals and even public organizations are responsible for this. Bangladesh Agricultural Development Corporation (BADC) has recently filled-up 11 acres of a 53-acre water retention area of Gabtoli area to build a four-story building for a tissue culture laboratory (Mollah, 2023). Filling-up water bodies with concrete infrastructure are exaggerated with multifaceted problems. Environmentalists remark that it is not only the worrying for firefighting and waterlogging but also the capital's biodiversity (Mollah, 2023). The ecological condition of the capital is almost destroyed and temperatures are rising in Dhaka city and available water is the most effective way to pacify the mercury rise.

Who suffers and how suffer?

Waterlogging does not only create obstacle to day-to-day work, it also creates severe traffic jam on roads and people also die as they come in contact with inundated electric wires (TBS,

2021). A tragic incidence of electrocution of four persons of a family that city dwellers experienced recently on 23 September 2023 (Islam, 2023; Tayeb, 2023).

Each and Every person of the city is directly or indirectly affected by the waterlogging that starts from immediately after the rain water stores and continues. It hampers day-to-day activities including daily shopping, sending children to schools, going to office and so on. Waterlogging increases transport cost, hours of waiting, hampers usual office hour and so on. As rickshaw becomes an important vehicle to pass through water, fare goes high and traffic congestion becomes intolerable. Sometimes passengers have to wait 3-4 hours for getting transport to reach to the destination of 15-minute drive. Students suffer most as they cannot get easily transport and miss classes. Officer goes also reach office late meaning they could spend more time at office to give service to people. It is estimated that 8 million hours of working lost due to the traffic jam in Dhaka city where waterlogging is one of the key causes during the rainy session (Rahman, 2022). Moreover, cost of livelihood, specially transport cost increases higher during the waterlogging and rainy session.

Waterborne diseases because of muddling through contaminated water are a serious concern. For example, waterlogging in Agargaon area is connected to the waste of canals in that area where most of the wastes are from the National Institute of Traumatology and Orthopedic Rehabilitation (Nitor), known as *Pangu* hospital. Moreover, waterlogging adjacent to industrial is also contaminated with the chemicals that are harmful for health.

Drainage system in densely populated city

A well-planed city must have effective drainage system based on the residuals that the city dwellers used to leave out.

Planned Tokyo: Underground Water Management

Rivers have always sustained and supported Tokyo, providing water for agriculture and moving goods along the city's waterways. However, when it rains these rivers can become Tokyo's greatest threat. Over the years various systems have been developed to control the flow of water through Tokyo, nevertheless a series of strong storms overwhelmed the city's flood defenses in 1980s and 1990s. These storms caused massive flooding and damage to large portions of the city and left city planners scrambling to find new ways to protect the city from increasingly heavy rainfall. Although the simple solution to the problem was thought of building a reservoir, it raised a big question the Tokyo is densely populated city in the world.

In order to solve the waterlogging problem, Tokyo Metropolitan took an initiative of outer underground discharging channel in 1992 and was completed in 2009. It is known as G-Cans, the world's largest underground flood water diversion system. In spite of longer period of time and big project it brings immeasurable benefits to the city. It is the world's largest underground flood water diversion facility, built to mitigate overflowing of the city's major waterways and rivers during rain and typhoon seasons. It is located between Showa and Kasukabe in Saitama prefecture, on the outskirts of the city of Tokyo in the Greater Tokyo Area.

G-Cans is connected to five of Tokyo's rivers via vertical drain shafts, each large enough to hold the Statue of Liberty with room to spare. These drains are connected by a four-mile-long underground tunnel, through which excess water from heavy rain travels to be collected in the channel's massive subterranean reservoir. It is called the Underground Temple. Once the storm subsides, the water in the reservoir gets pumped into the Edo River at a combined rate of 31,80,000 gallons per minutes, which is the equivalent of completely draining one Olympic-sized swimming pool every 12.5 seconds. Interestingly, 'the Underground Temple' is becomes popular tourist attraction hen it is filled with water. It is also used as a movie and commercial set.

The planning was so futuristic and well-ahead of time, it mitigated the problem of increasing demand of discharging water. In recent decades the intensity and frequency of rain storms in Tokyo has increased dramatically. On average Tokyo receives around 60 inches of annual rainfall. That is about the same as Miami, Florida, which receives over fifty percent more rain than the U.S. national average. By comparison, New York City receives approximately 45 inches of rain per year. In recent years localized downpours called "Guerilla rainstorms" have also become a problem in Tokyo, further taxing local drainage systems and providing impetus for the expansion of Tokyo's water diversion network. Keeping this in mind and solving problem, Japan government initiated another project to build Furukawa Underground Regulating Reservoir which would added to Tokyo's network of underground water storage facilities. The Furukawa River winds through Tokyo's Shibuya and Minato wards, which are some of Tokyo's most densely packed neighborhoods. Due to space constraints the reservoir is being built 50 feet directly underneath the course of the river, which often makes acute turns that complicate its construction. When complete, the two mile long, 26-foot diameter drainage tunnel will be able to hold 35,663,227 gallons of storm water, which is equal to the volume of 54 Olympic-sized swimming pools.

Systems like the Metropolitan Area Outer Underground Discharge Channel and Furukawa Underground Regulating Reservoir have dramatically reduced the flooding and damage caused by heavy rain storms As Tokyo continues to adapt to changing weather patterns, it is likely that these systems will continue to play a key role in protecting the city for many years to come.

Source: Consulate General of Japan in New York Website (2016)

Cleaning of canals Project

Both DSCC and DNCC initiated a massive drive to recover and clean canals of the Dhaka city in order to eliminate waterlogging from the capital. The responsibility of 26 out of 39 canals in the city corporation areas was handed over to the two city corporations and the remaining 23 canals which had hardly any water flow were under the supervision of the Water Development Board and other agencies under the Ministry of Housing and Public Works. These 13 canals have seen encroachment, which city corporations could not free in spite of having responsibility of doing so (Mollah, 2023). DSCC took also up the task of removing waste from box culverts and cleaning canals. As a result of this programme, the flow of water in Jirani, Manda, Shyampur, Kamalapur, Kadamtala, Kajla, and the Shuknagar canals started to increase water flow. Additionally, DSCC also cleared garbage from the Panthapath and Segunbagicha box culvert to ease the drainage system of WASA (Mollah, 2023). The DNCC got the responsibility of cleaning of 14 canals in Rupnagar, Ramchandrapur, Godagari and Kalyanpur to recover the canals and remove waste from the box culverts. Total six lakh tons of waste was removed so far and many more to remove.

Both city corporations claimed the three-month crash programme that the canals would be cleaned providing the success of drainage system of Dhaka WASA and ultimately would benefit the city dwellers. However, it did not bring any benefit to people from the short-term initiative rather it created intended consequences. People claimed that waste collected from the canals was piled up on the banks of canals. On the other hand, member of the excavation team told that they took the initiative to streamline the canals in three months but in some places, dirt is accumulating again that needs to be cleaned regularly and complete solutions are possible when people reasonably and rationally. The encroachers and illegal occupants on the banks of canals are mainly responsible for that.

Conclusion

It is evident that Dhaka's inadequate drainage is found one of the fallouts of how urban infrastructure is being planned and executed. The urgency of addressing Dhaka's we because of waterlogging must be an immediate action because of the gravity of the situation during rainy session or higher rainfall. Most importantly, it is not an issue of solving problem when city dwellers face unbearable problems during the heavy rainfall, regular rainfall also exceeds the drainage capacity. It is argued that necessary steps and stringent actions should be taken to

functionalize the drainage system to protect the city from perennial waterlogging and ensure better living for city dwellers through effective coordination among various departments (The Daily Star, 2023b).

Question:

1. What is the key problem of the case?
2. Why are reasons of water logging in Dhaka city?
3. How the problem is linked to family, society, economy, different walks of people and development of city and the country as well?
4. What are plausible solutions that can be adopted to solve the waterlogging problem in Dhaka City?
5. What are the policy interventions specifically needed to solve the problem to reduce the miseries of affected people?

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Appendix-1: Rainfall intensity in Dhaka City, 2020

Day	May	June	July	August	September	October
1	0	0	22	2	3	0
2	0	0	0	5	19	0
3	52	0	0	0	7	15
4	0	0	5	0	5	1
5	0	6	12	0	0	0
6	0	93	3	0	0	0
7	18	0	8	0	8	16
8	0	45	3	0	4	16
9	17	0	14	0	0	73
10	2	8	0	4	2	15
11	0	0	3	22	2	4
12	0	10	15	23	11	0
13	2	0	7	67	29	0
14	0	0	0	8	15	0
15	0	66	2	3	0	0
16	1	0	1	0	8	0
17	0	0	2	0	1	0
18	0	3	0	0	3	0
19	0	6	0	18	2	4
20	0	2	0	4	4	0
21	25	13	0	0	4	0
22	0	86	0	9	11	0
23	1	11	0	7	6	0
24	0	14	5	6	1	0
25	14	0	8	1	3	0
26	0	0	30	0	50	1
27	0	1	0	0	61	11
28	8	1	4	0	0	14
29	0	17	23	7	0	0
30	0	37	20	13	5	0
31	0	4	3	0	0	0
Total	140	419	191	202	264	170

Source: Dhaka Meteorological Department 2020

4.2 Case Teaching Guide

Guideline for using case study

The case developed for the participants of a course targets to teach about the policy analysis so that incumbents can learn how a policy should be formulated based on evidence articulated by the policy analysts, researchers, policy makers. This guideline prepared for trainers who wish to utilize the case for transferring evidence informed policy making techniques to the incumbents. There are several stages to be followed with an objective of transferring specific skills and knowledge.

How to follow the case:

- The trainer will copy the case or make copies available through the course management and distribute among the participants. They will be given the case one or two days before the session begins with a request to go through the case very carefully. Participants will be requested to bring back the case to the class. Copies should be more than the participants so that nobody misses it in the class even if s/he forgets to bring it with. The backup copies will help save time and contribute to the flow of learning. This reading aims at **individual reading habit and techniques of grasping ideas from a big document**. The given case should also be made available in soft version to appease some of the participants who are fond of or accustomed to soft copy or to contribute to the paperless service.
- The facilitator/s need to check reading out the case. If all participants could get time to do so, the next step can be given to them which is ‘identifying the core problem’ of the case. Even if they could read it out, they should be given **30-45 minutes** to go through it again and come up with a consensus about the core problem. This must be done in a group. Trainers should keep eye on the group work and follow the progress of getting to the core problem. Trainers can assist the trainees to help them out but not exactly talking about the problem but assist to stick to the issue. Brainstorming of participants will help analyze the problem deeply and give the answer of why as well. The outcome of the exercise is the core problem stated in few words.
- After identification of the core problem, participants will be given the task of drawing of **problem tree** and they will be given **10–15-minute** briefing how to do the problem tree analysis. Participants can be given a sample of problem tree so that they can come

up with the exact output what is demanded. A sample of PowerPoint structure of drawing problem tree can be supplied to ease their work with an instruction of following their own diagram if they can manage it well. Structure has its own limitations that sometimes supports and sometimes inhibits creativity. The outcome of the exercise is the problem tree diagram based on the supplied case. Once they will prepare the presentation on the problem tree, they will be given a chance to share before the audience. Both participants and facilitators will give feedback to further develop the output where necessary. Trainers may listen to the all presentation if time permits, if not one/two can be presented and trainers may put concrete comments to improve the areas of the problem tree and finalize it.

- Once the problem tree is almost done, participants will be asked to formulate **general objective and some specific objectives** what they want to achieve that ultimately target to solve the problem. Trainers would require to **brief 10-15 minutes** how to formulate objectives scientifically (SMART objectives). Usually, general objective targets the core problem and specific objectives target primary causes or key causes stated in the problem tree diagram. Trainers/ facilitators can articulate objectives on the basis of problem analysis which is better output. The outcome of the exercise is identification of one general objective and few specific objectives targeting the case-based problem. Participants will be given 30 minutes work on the issue and present it before the audience. Feedback from both trainers and trainees are required to enrich the task.
- As soon as the objectives are finalized and set, participants would require to identify the possible policy options that would be adopted by the government to solve the problem. A **number of policy options/alternatives** would be identified through which objectives would be achieved and eventually solve the problem. Policy options are not just actions or activities rather a number of activities and actions are included in each policy option. However, options are the possible medicine to the problem. Each policy option is something like title with broader activity. Trainers will show and brief about **10-15 minutes** to work on the issue. Trainers can take one or two issues or sample from the participants who have already clearly done the exact problem tree analysis. Participants will be given 30 minutes to identify possible policy options/solutions and present in the plenary. Trainers and participants will make comments to finalize the options. It needs to be noted that policy options are not just transformative statements

of objectives, it is framework, broader initiative/ intervention that requires a number of actions and involvement of multiple stakeholders.

- Once possible options are more or less finalized, not less than 3, the next step is the **impact assessment**. Each group must identify all impacts under five criteria i.e. **Administration (including political), Financial, Economic, Social and Environmental**. Impacts are actions, issues, requirements, effects if the policy option is adopted. Participants will be demonstrated what they need to identify under each five criteria of each policy option. They must be briefed and shown the explanation of those criteria in **15-20** minutes and **1 hour** for group work. Exact and identification of detailed impacts are crucial to effectively follow the next step. An exhaustive list is necessary to prepare to give the real picture of impacts for each alternative. Facilitators need to see the progress and guide them to be on track and clarify if they need to. Impacts are usually done based on the scientific explanation of various methods such as financial analysis, economic forecasting and analysis, environmental impact analysis, administrative analysis and feasibility test. However, for the exercise participants can be advised to use their judgment, own understanding and assumption and their long experience about the business culture at the government offices. After the group work is done, presentation will be held. It is better to listen to all, if time does not allow, one or two groups can present. Feedbacks from both audience and facilitators are important to prepare better output.
- After identification of policy options, **stakeholder analysis** can be done. It has the flexibility as after impact analysis it can also be done. Firstly, the facilitator needs to discuss the stakeholders and brief about the task. They can take 10-15 minutes for briefing. Participants will be to work out on two activities, identification of all stakeholders based on the categories and mapping them into four quadrants based on power and interest. Participants can think overall stakeholders and map them out or they can create for each policy option.
- Before multi-criteria analysis, trainees must learn about the **risk mapping** where they must identify possible risks which are likely to happen before, during or after the adoption of policy alternatives. Risks may come from stakeholders and five criteria-based impacts. Trainers would brief about both understanding of risks and mapping of those in four quadrants which may have the probability to happen, and if so, happens the degree of impact on the policy adoption. A **10-15** minute is enough to disseminate

among the participants who will identify risks and map those in **30-45 minutes**. After the group work is done, all or few groups can present in plenary and update based on the remarks from the audience and facilitators.

- **Multi-criteria** is somewhat a quantitative explanation and presentation based on the impact analysis and risk mapping. Participants would be requested to give marks from 1 to 5 under five criteria of each policy alternative. The process will be discussed by the facilitators regarding the putting points, weight and impact. This quantification of qualitative value must be well explained how and where to put emphasis. Policy researchers would design a **15–20-minute** presentation on multi-criteria analysis and would give participants to work on for about **30 minutes**. This will also be presented in plenary for the betterment of the analysis. Mainly output based on multi-criteria will guide which policy option(s) would be formulated and why.
- Once the MCA is done, it **recommends the best policy** option(s) to adopt. However, it is important to examine whether the recommended policy option is enough to address the problem. If it requires to undertake more than one, policy analysts can suggest, maybe by suggesting as immediately and midterm and long-term basis. Participants need to explain with some reasoning why the recommended option is needed to undertake.
- The final task is to **prepare an action plan** for how the policy option would be implemented. Facilitator would explain the components of preparing an action plan in 10-15 minutes and request the trainees to prepare it in 30-45 minutes. This is the last stage of EIPM using the case study.
- The **final presentation** incorporating all stages mentioned above would be presented in plenary. Participants and facilitators will make remarks specially about coherence, connectedness, correctness, logical sequence, inclusiveness and the like. Trainers, if possible, can listen to all, if not, at least two so that they can learn the whole thing. It may take **30-45 minutes for each presentation**. After the final presentation, participants would be asked to finalize it and submit for evaluation.

Table-4.2.1: Task and time allocation for exercise on the case

Task Sl	Task	Role	Allocated time
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1.	Distribute the case among the participants	CMT	One day before
2.	Identify the core problem' of the case	Participants	30-45 minutes
3.	Briefing about problem tree analysis	Trainer	10-15 minutes
4.	Drawing the problem tree	Participants	45 minutes
5.	Briefing on articulation of general and specific objectives	Trainer	10-15 minutes
6.	Preparing general objective and specific objectives	Participants	25-30 minutes
7.	Presentation of general and specific objectives	Participants	30 minutes
8.	Briefing on identifying a number of policy options/alternative in	Trainer	10-15 minutes
9.	Identifying policy options by the participants	Participants	30 minutes.
10.	Presentation on policy options	Participants and trainer	30 minutes
11.	Lecture on stakeholder analysis in	Trainer	10-15 minutes
12.	Participants will work on stakeholder	Participants	30 minutes.
13.	Briefing on impact assessment on five criteria	Trainer	15-20 minutes
14.	Participants will work for identification of detailed impacts.	Participants	60 minutes
15.	Presentation of impacts in plenary in	Participants and trainer	30 minutes.
16.	Brief about risk mapping in	Trainer	10-15 minutes
17.	Trainees will work for identifying risks	Participants	30-45 minutes
18.	Trainers will make presentation on multi-criteria analysis	Trainer	15-20 minute
19.	This will present in in plenary	Participants	30 minutes
20.	Participants will recommend the best policy option(s)	Participants	10 minutes
21.	Briefing on Action plan		10-15 minutes

22.	Prepare an action plan	Participants	60 minutes
23.	The final presentation incorporating all stages. Each group will get.	Participants	30-45 minutes
Total			9-10 hours
24.	After the final presentation, participants would be asked to finalize it by incorporating comments made by the facilitators and submit for evaluation.	Participants	5 days

What are theories intended to teach?

A wide range of theories are intended to teach the participants that include public policy theory, problem tree analysis, stakeholder theory, evidence informed policy making, multi-criteria analysis. The case study aims to analyze these theories, their association and influence in formulating, implementing public policies. Trainers must have thorough understanding about the process and higher knowledge of public policies.

What skills are intended to disseminate?

The case is designed to disseminate higher level skills required for the mid and higher-level officials who work and would facilitate in the policy level. Problem solving skills, analytical skills, imaginative power, project management skills, presentation skills, evidence-based policy making skills, reading skills are inbuilt in the exercise. Some skills are intended to acquaint them with a revisiting system while some are deliberately needed to be infused as the higher-level skills for the higher-level bureaucrats.

What are methods used?

A number of training methods will be used. Primarily the case study that the participants will be able to read and work on the case. Briefing, group exercise, group work, group presentation, question and answer, feedback, report writing, and individual reading are among the training methods to be used by the trainers and participants. The case is designed to utilize group through which individual learning is expected to attain. Use of multiple methods purposefully needs to be materialized so that active participation is ensured and learning is also ensured.

Who are the incumbents?

This is designed to utilize for the participants of senior staff course of BPATC. However, policy analysis course or module of other senior level courses can also be suitable. Additionally, participants should have 10-15 years of experience in any capacity of working with the government either in policy formulation or implementation because the participants are also thought to be the best provider of information from their practical learnings and experience.

Who are involved in the process of helping the trainees?

Trainers who would guide and keep the progress. They would brief, deliver the tools and techniques and debrief. Trainees who would actively involve in the process, work and disseminate. Course Management Team who would effectively plan and synchronize the learning and delivery. The success of the case learning is entirely contingent to the active involvement and proper planning of both trainers and CMT members. Sometimes, IT personnel can also help the participants in preparing the presentation in quickest possible time in order to use it for development purpose. Moreover, trainers can also supply templates to easily work on the structure. In most cases it saves time however, it restricts creativity of participants and inhibits thought process in different way.

How to Evaluate

The output prepared by the trainees will be evaluated as part of evaluation of the module. In doing so, evaluation criteria include the sequential structure of the presentation and holistic understanding, incorporation of learning of various policy analysis tools, level of understanding of those tools, value and quality of output. Trainees will be evaluated on both presentation in group and report either in PPT or MS document. This can be evaluated in 50 marks which can also be scaled up or down according to the evaluation marks given in the module. The most important criterion of evaluation is the level of understanding and quality of output by incorporating policy analysis tools.

What is the duration needed for utilizing each case?

From case reading to facilitator's input and participation of participants, it roughly needs maximum five working days. However, it can also be used in three working days. Although

participants would utilize their time during the working days, they would be needing more time in the evening for better output. CMT would ensure this.

Nota Bene

The user of the case must have higher knowledge and skills of training management and a good academic degree in social science with a specialized knowledge on public policy. The highly experienced trainer is suitable for utilizing the case to exploit the potentiality of trainees. Depending on the performance of the group and limited time schedule, some tools can be put together to work on these and come up with the incremental development of the presentation.

Presentation must be done in PPT as a building block. However, report for assessing the output can be either PPT or MS document.

Chapter Five:

Discussion

This study aimed at developing cases to be used for the participants of core courses conducted at BPATC, particularly for the participants of SSC. Key stakeholders of the study are participants who are the main incumbents of cases. Participants identified case study method as the effective training method as it provides the scope of engaging them in activities, learning through group exercise, infusing own experiences. Case study approach centering the written case allows learners to take part in the process of learning through other training methods which means use of multiple training techniques enhances learning effectiveness.

A number of topics are identified from the course brochures of three major core courses of BPATC which can be dealt with the case study approach instead of lecture-based teaching technique. Simple-to-difficult case approach are suitable to use to train the participants from FTC to SSC based on the learning objectives and outcomes. Issues of public administration, governance, social problem, urbanization, economic development are suitable to train the participants.

Total six cases relating to six key areas of public problem that seek quick attention and stringent action in terms of policy interventions. One case *'Herd Immunity or Hard Humanity? Bangladesh's Response to Grappling Coronavirus Pandemic'* talks about the summary of crisis management and leadership of civil servants.

Bhabadah is a waterlogged area situated in Jashore district which is often called the sorrow of Jashore as water of this area symbolizes untold sufferings of thousands of inhabitants including hunger, diseases and death. About 1.5 million people from 426 villages are affected in various degrees of this perennial waterlogging. The problems started in the 1960s when the 21-vent sluice gate was constructed on the river *Sree* to turn a vast swamp land into arable land. Immediately after the sluice gate was built by the then Pakistan government with the financial support of the Asian Development Bank and USAID, people saw bumper production in the area that states a beatific smile on the face of the poor farmers. However, in the next two decades it turned as the problem for the locality because of unintended consequences mounting the sufferings along with serious threat to crops, cattle, fish and the like. It is evident that changing the natural process turned to a problem as a consequence of man-made embankment. Moreover, structural change without considering the indigenous system makes problem more

complicated and impractical. This affects *boro* cultivation during the dry session as most of the cropland remains submerged. Floodwater even recedes to the homestead. At least 45 education institutions were found floating which result in increasing illiterate and less-educated meaning serve effect on the society. Similarly, most of the graveyards are under water that people cannot bury corpse. People of that area can hardly lead a life without minimum sufferings. The government took initiatives to solve the problem. NGOs, local elites, Civil Society Members, political representatives are involved somehow in resolving the issue and also sometimes in exaggerating the problem as the problem became an issue of politics of business of *ghers* specially in the early 1990s when Bangladesh sees a phenomenal growth of potential shrimp production and increase of shrimp *ghers* or hatcheries in the coastal areas including the Bhabadah area. The million-dollar shrimp business obstructed to implement TRM- which is called natural solution to the problem. What is anxiously noticed, the Bhabahdah problem is an unsolved issue and brings no hope of practical solution in near future.

Fire incidents which took place last year in Dhaka attracted serious attention of not only affected traders but also of general people, government, security personnel and even a poor man as all are directly and indirectly connected to such incidents. Bangabazar and Dhaka New Super Market fire incidents are recent ones that came as lethal blow to the economy because of the huge loss in terms of finance, employment and business with a cascading long-term effect. However, these two incidents happened recently are not single case, in fact a significant number of incidents happened in a row of few months last year. The FSCD report says that around 285000 fires occurred in the country between 1 January 1999 and 31 December 2020. Residents of Dhaka city are experienced with some devastating fire accidents wreaking the economic flow. Data indicates that the economically important places are at high risk of fire accidents such as Dhaka New Market, Gulistan, Old Dhaka, Gulshan. Urban planning is an integral part of government's policies and actions of physical and super-structural design that carries the tacit understanding of community and their futuristic expectations. However, lack of planning leads to numerous negative consequences that includes disasters like fire and its management. The researchers found that unplanned buildings, construction errors, unauthorized industrial factories and businesses, less and less habitable urban spaces, non-compliance of residents and house owners: all of these factors contribute to development of new disaster points in urban Bangladesh. A study found that half of the buildings of Dhaka city were constructed violating the building code, while RAJUK found violation of building code is about 70-80 per cent as 1.31 lakh structures out of 1.95 lakh completed buildings were

constructed flouting RAJUK rules. The FSCD found that 75000 buildings out of 90000 constructed annually in the Capital without the approval of appropriate authority. There are a number of policy instruments like: the Fire Service and Civil Defense 1981, the Fire Service Ordinance 1959, the Building Construction Laws 1996, the Fire Protection Act 2003, the Dhaka Metropolitan Building Construction Act 2007. The question is whether these are adequately supportive to address the problems pertaining to the fire-accidents. Recent big incidents laid bare the inadequacy or absence of any fire-safety procedure and equipment. Violation of laws, faulty fire-system, ill-business motives, turning residential area to business, storing chemical without safety-measures, unawareness of all walks of people, even the blame-game between market-owners and city corporation are thought to be prolonging and exagetering the problem. When fire incidents happen, during disaster actions are more crucial to control the fire to douse and save valuable items and lives. Controlling fire is also dangerous as it may change its flow and can be cause of expanding flammable areas. Moreover, explosive items may also deepen the disaster. Whatever the control of fire is, the loss incurred is huge. From the evidence it is also alarming that the Capital Dhaka is the most vulnerable disastrous point. It draws immediate attention to solve the problem. It is urged to all concerned authorities need to mull over this matter with utmost sincerity before time turns out, and take stern action against rampant destruction of the last remaining water bodies.

Road accident has been a dire problem affecting the total society and economy. The loss of human being is a major concern as this problem has become an epidemic. A significant number of people are being killed because of road accidents. A great concern from multiple stakeholders including policy makers creates the demand of solution.

New theoretical underpinning developed based on practically local based solution helped Bangladesh address the crisis created because of outbreak of coronavirus. Long experience of handling disaster in Bangladesh gave some sort of respite to manage the crisis. A community approach supported by the government machineries helps the problem out. **Bangladesh's Response to grappling coronavirus Pandemic** was a utilization of learning acquired through long-term practical disaster management approach. Somehow, Bangladesh has shown remarkable progress in managing COVID-19 pandemic successfully because of its stringent actions throughout the pandemic period, follow-up actions and futuristic plan. Primarily strategic interventions which were set strategically step-by-step as humanistic approach, reviving economy, and living with the coronavirus served as the key success factors. Apart

from the arrangement of big impecunious group through social safety net programs, government was trying to ease the lock down and allows industries, particularly readymade garment sector to open by maintaining appropriate measures to streamline the economy. Involvement of relevant stakeholders helped controlling the spreading of virus, implementing and monitoring various health and livelihood related programmes, managing the disaster in particular. Public policy interventions served as the fundamental to support all intervention as government was formulating and revising a good number of regulatory, distributive, redistributive and symbolic policies. The management of the disaster was so critical as it affected migrant workers whose contribution to economy is about \$15 billion, readymade garment with their key role in the economy and most importantly natural disaster like Amphan during the pandemic. The latter one debilitated the situation which was not the case for any other country in the world. In true sense, combination of non-conventional way dealing the disaster along with the conventional way of mitigating disaster served as the success of meeting the crisis.

Dhaka, the capital city of Bangladesh, is affected by the effects of flood rains, as the city saw uncontrolled urbanization during the last three decades that created sudden **waterlogging**. Intensive infrastructural development results in substantial increase in impervious area, creates obstruction to natural drainage pattern, and reduces detention basins, which in turn lead to shortening of the runoff concentration time and an increase of the peak flow. As a result, a heavy rainfall becomes a severe problem for Dhaka city dwellers as major parts of the city is inundated due to the drainage congestion. Although the flood embankment in its surrounding area protects Dhaka and water from outside cannot come in, rainwater logged inside the city increases the vulnerability of all walks of people. No area of Dhaka city is in fact out of this problem and sufferings. However, streets of Mirpur, Green Road, Panthapath, Dhanmondi, Banani, Mohakhali Chairman Bari, Malibagh, Kalabagan, Kanthalbagan, Hatirpul, Madhubag, Kalshi, Magbazar, Lalbagh, and several other places of the city are highly affected by rainwater and are inundated. It indicates the mostly densely populated and unplanned area of the city is highly affected while new Dhaka which is built with modern drainage system is less affected by the rainwater. City dwellers have recently experienced the most terrific waterlogging, horrific traffic and unspeakable sufferings. The whole capital turned into a huge waterbody capable of plying boats on the roads in just six-hour rain. A sudden rain blocked almost the whole city wrecking the normal traffic system as it took unusually excessive time to reach home from work. Each and Every person of the city is directly or indirectly affected by the

waterlogging that starts from immediately after the rain water stores and continues. It hampers day-to-day activities including daily shopping, sending children to schools, going to office and so on. Waterlogging increases transport cost, hours of waiting, hampers usual office hour and so on. It is evident that Dhaka's inadequate drainage is found one of the fallouts of how urban infrastructure is being planned and executed. It is found that the drainage system of Dhaka city has the capacity for passing water of 60mm but the rainfall is more than that that cause waterlogging. A report prepared by the World Bank in 2015 estimated that the potential damage from waterlogging in 35 years, from 2014 to 2050, would be about \$1 billion. This damage is estimated without the inclusion of climate change effects. If it is added to the effect, the loss would be about \$13 trillion. Lack of coordination among Dhaka WASA, DNCC, DSCC, RAJUK, and other public institutions is mainly responsible to address the issue in combined way. The blame game of allegations and counter-allegation among various public agencies exacerbated the waterlogging crisis and continued the hardships of city residents. Adjacent Dhaka is more unplanned and is found expanded by the will of landowners and land grabbers. People of Dhaka are now accustomed to live with hazards that increase during natural calamities. Since the water logging creates sufferings mostly during rainy session, people and concerned responsible bodies feel the problem and manage difficulties with short solutions and leave for long-term solutions. Interestingly, once the rainy session leaves and early autumn comes, people forget the sufferings and the responsible departments too. Seemingly, water logging of Dhaka is granted as short-term problem not treated as a part of long-term city plan. A well-planned city must have effective drainage system based on the residuals that the city dwellers used to leave out. Drainage is not only the management of water and waste, it is linked to country's futuristic plan and broader vision that ultimately connects to peaceful living of city dwellers.

The case of **becoming entrepreneur** of a young depicts how difficult to address the unemployment problem of the country as it is not an economic issue, rather is highly influenced by socially constructed values, norms, prejudice. It is not possible for the government to provide structured job to all unemployed people of the country. Moreover, the shift of economic activities from structured jobs to unstructured entrepreneur has been a business notion around the world as this upholds self-dignity, individual freedom, freedom of choosing occupation. A vast young active workforce is great concern for the government and parents too. Feeling the need of individual necessity and the short-coming of employment in the market, a young guy named Emran tried to self-employed but failed because of social stigma, undermining mentality

of general people about job. It indicates society is not ready to accept anything occupation which is not power-driven, bound by structured office timing. It is also difficult to survive by an entrepreneur battling with myriad obstacles derived because of corruption at government and individual level. Still unstructured job suffers from social acceptability crisis.

Multiple issues are connected to the central problem of the cases mentioned above. One problem is circled by other myriad problems too. Multiple stakeholders and their diverse role are also contingent and allow to intervene strategically from the policy analysis point of view. Thus, various theoretical understanding are important for the bureaucratic policy makers to be studied and deal with the problem with strategic solutions.

Chapter Six:

Conclusion and recommendations

As the objectives of the research were set, some areas of developing case were identified which included the modules pertaining to the problem-solving techniques, policy issues in particular. Accordingly, six cases have been developed. Case one describes the perennial waterlogging problem at Bhabadah area of Jashore district was is unsolved for more that seventy years. Problems deteriorated over the time and continues the sufferings of more ten million people of that area. Government interventions were taken which again exaggerated the problem instead of solving the issue. Although natural system of solving the problem somehow was effective, it was not systematically utilized. As a result, the problem has been a permanent for the localities. The ‘burnt hopes and smoked future’ case is about the unplanned urbanization of Dhaka city which exaggerated the problem of sudden waterlogging during the rainy session which brings intended and unintended severe consequences for the city dwellers. This problem has special funny nature of negligence and forgetfulness of the concerned authority as once rainy session is over, everybody forgets and initiatives do not face active action whereas the problem comes every year and jeopardize city-living. The third case is about the frequent fire accidents in the capital city that sparked and continued for few markets causing huge social and monetary loss. Fourth case speaks about the concern and capacity of Bangladesh how the crisis of coronavirus was handled. It speaks all about the crisis management based on long-practiced disaster management experience which ultimately comes as a success that indicates practically orientation of knowledge helps solving the problem. The road accident is now a hot issue and one of the burning problems of the country as it claims hundreds of lives every year wreaking the big sector of employment and active workforce. Both social and monetary loss is huge while psychological trauma of the diseased due to accidents are irreparable. Another case study is about the social problem of becoming entrepreneur that how a young faces myriad obstacle to be self-employed. It is a setback for developing entrepreneurs which government took the initiative to encounter the unemployment.

All six cases are important in the socio-economic context of the country which needs great attention from the policy makers. Bureaucratic policy makers can realize the problem, dissect these, analyze the possible solutions through their experiences and theoretical knowledge. Although it has the limitations of utilization for the policy analysis in particular, it can also be

used for providing other skills modified according to the objective of the subject matter to be delivered. Thus, the study recommends:

- The case must be developed based on the real problem pertaining to the socio-economic perspective of the country and should be analyzed by the important shareholders who have power and authority to scientifically solve the problem. These cases can be of multiple uses apart from the prime utilization for policy analysis.
- Problem solving skills, causal relation skills, creative thinking, presentation skills, analytical, public relation, communication, critical and creative thinking, conflict resolution, self-improvement, adaptability, negotiation, interpersonal, persuasion, information literacy, knowledge management decision making, leadership skills can be disseminated through the case analysis. Each case can be set with an objective of achieving some specific skills in a classroom setting. These cases are thought-provoking and provide opportunity of utilizing skills for other purposes.
- As the cases present detailed description followed by teaching guide, case can easily be utilized by the faculty speakers in the class room by setting specific objectives aligned to the delivered topic. The teaching guide provides a detailed note about techniques, theories, teaching methods, time for exercise and also the required skills of speaker. This means it is comprehensive teaching guide with relevant contents suitably fit for the trainers and trainees.
- While utilizing the case training the participants on policy formulation at SSC level, participants liked working on as these familiar to them. They could visualize, conceptualize easily and analyze more in details. This can be continued for the participants of core courses with some modification suitably prepared for the subject to be dealt with.

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Assessing Policy Options using Multi Criteria Analysis
Case: Deadly Fires in Dhaka City



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1.0 Introduction

1.1 Background

This multi criteria analysis targeted towards assessing viable strategies for a critical problematic national issue requiring urgent policy intervention was done as the fulfilment of the course module ** of the 109th Senior Staff Course (SSC) arranged by the Bangladesh Public Administration Training Center (BPATC) for the in-service Joint Secretaries to the Government of Bangladesh as well as equivalent officers from the Armed Forces Division.

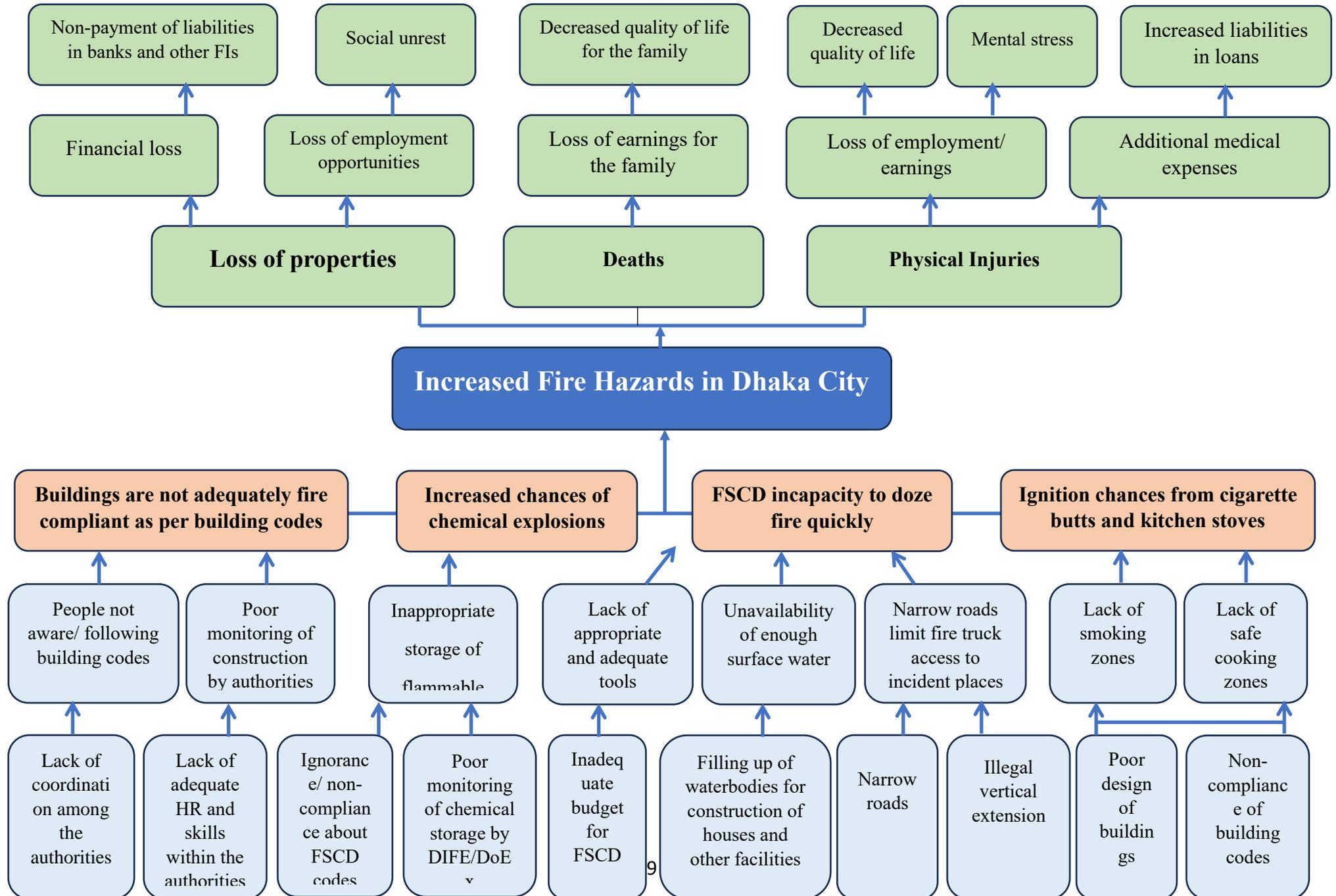
The objective of the module is:

In order to implement the above objective, the participants were provided with a case (Annexure A) and were taken through a number of steps to find out the most feasible policy options to address the problem narrated in the case. The steps were as follows:

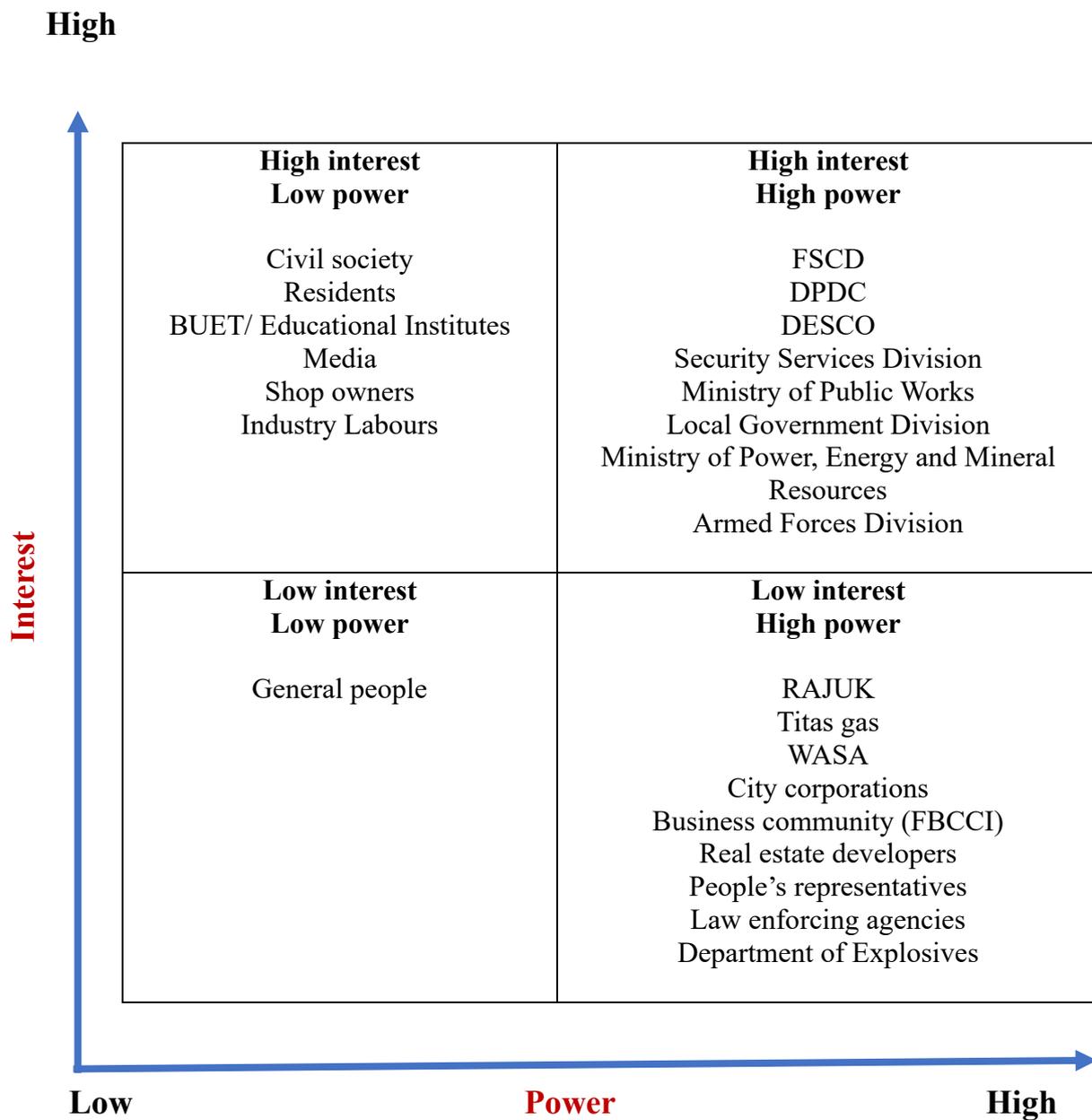
- 1) Logical analysis and preparing a Problem Tree an Objective Tree
- 2) Stakeholder analysis
- 3) Framing objectives and policy options
- 4) Impact analysis
- 5) Risk assessment
- 6) Option comparison
- 7) Selecting best possible options
- 8) Implementation plan

1.2 The case at a glance

Step 1: Logic Analysis: Building Problem Tree and Objective Tree



Step 2: Stakeholder Mapping and Analysis



Step 3: Objectives and Policy Options

General Objective:

To reduce/mitigate fire hazards in Dhaka city

Specific objectives:

1. To ensure compliance of building codes and relevant other regulations in 25% buildings of Dhaka within 2025 and 50% buildings by 2030
2. To strengthen coordination among relevant agencies (such as Rajuk, City Corporation, FSCD etc.) to a situation substantially better than before by 2025
3. To increase FSCD equipment capacities by 50% by 2026
4. To continue awareness raising about fire incidents/hazards among the relevant stakeholders

Policy options

Specific Objective 1

- 1.1 Sensitize public and stakeholders about usefulness and requirement for compliance of building codes by RAJUK
- 1.2 Increase monitoring of construction of buildings through recruiting and training additional manpower in RAJUK
- 1.3 Ensure appropriate storage of chemical compounds in the residential/ commercial/ industrial buildings through regular monitoring by Department of Explosives

Specific Objective 2

- 2.1 Prepare guidelines for better coordination among the authorities for monitoring the building construction in Dhaka city
- 2.2 Monitor implementation of the coordination guidelines periodically

Specific Objective 3

- 3.1 Procure modern fire-fighting equipment as per the priority list
- 3.2 Recruit and train additional human resources in FSCD to operate the additional equipment

Specific Objective 4

- 4.1 Run mass media campaign about fire hazards and how to limit the occurrence of fire
- 4.2 Include the issue of fire hazards and its control measures in high school text book

Step 4: Impact Analysis of Policy Options

Policy Option 1.1 Sensitize public and stakeholders about usefulness and requirement for compliance of building codes by RAJUK				
Administrative Impact	Fiscal Impact	Economic Impact	Social Impact	Environmental Impact
<ul style="list-style-type: none"> • Additional pressure on the already demanding workload • Decision on sensitization strategy might be complex and confusing • Approval of the sensitization plan • Approval of additional manpower 	<ul style="list-style-type: none"> • Cost of sensitization campaign • Training cost • Printing and publication cost • Logistics cost 	<ul style="list-style-type: none"> • Safer buildings might reduce fire hazards and thus losses in property and life • Additional cost in building construction for ensuring compliance • Increase in property cost • Increase in property rent • Cost of business might go up • New opportunities for goods and services • Bank loan for construction might increase • Additional economic dynamism might increase GDP 	<ul style="list-style-type: none"> • People feel safe in safer buildings • Image of Dhaka city increases • Social unrest for the non-compliant groups • Real estate developers might not be supportive 	<ul style="list-style-type: none"> • Less carbon emission due to less fire • Better sanitation facilities in compliant buildings • More open spaces in buildings might contribute in more natural light and air and thus reduce cost of electricity usage

Policy Option 1.2 Increase monitoring of construction of buildings through recruiting and training additional manpower in Rajuk				
Administrative Impact	Fiscal Impact	Economic Impact	Social Impact	Environmental Impact
<ul style="list-style-type: none"> • Preparation of monitoring guidelines • Approval of the guidelines • Formation of monitoring teams 	<ul style="list-style-type: none"> • Cost of Recruitment • Training cost • Guidelines printing cost 	<ul style="list-style-type: none"> • Property cost savings due to decreased fire incidents • Business will prosper/ flourish 	<ul style="list-style-type: none"> • People feel safe • Image of Dhaka city increases 	<ul style="list-style-type: none"> • Less carbon emission due to less fire

<ul style="list-style-type: none"> • Recruitment of additional staff • Training of the teams on the guidelines 	<ul style="list-style-type: none"> • Monitoring logistics cost 	<ul style="list-style-type: none"> • Increase in property cost • Increase in property rent 	<ul style="list-style-type: none"> • Social unrest for the non-compliant groups 	
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Policy Option 1.3 Ensure appropriate storage of chemical compounds in the residential/ commercial/ industrial buildings through regular monitoring by Department of Explosives

Administrative Impact	Fiscal Impact	Economic Impact	Social Impact	Environmental Impact
<ul style="list-style-type: none"> • Monitoring guidelines preparation • Approval of the guidelines • Training on the guidelines • Formation of monitoring cell/ teams 	<ul style="list-style-type: none"> • Cost of Recruitment • Training cost • Guidelines printing cost • Monitoring logistics cost • Increased revenue from additional storage facilities 	<ul style="list-style-type: none"> • Property cost savings due to decreased fire incidents • Business will prosper/ flourish • Increase in property cost • Increase in property rent • Cost of business might go up 	<ul style="list-style-type: none"> • People feel safe • Image of Dhaka city increase • Social unrest for the non-compliant groups 	<ul style="list-style-type: none"> • Less carbon emission due to less fire • Buildings will be cleaner and less crowded • Sound pollution will be reduced

Policy Option 2.1 Prepare guidelines for better coordination among the authorities for monitoring the building construction in Dhaka city

Administrative Impact	Fiscal Impact	Economic Impact	Social Impact	Environmental Impact
<ul style="list-style-type: none"> • Coordination guidelines preparation • Approval of the guidelines • Consulting firm engagement 	<ul style="list-style-type: none"> • Guidelines printing cost • Logistics cost • Meeting/ contingency cost 	<ul style="list-style-type: none"> • Possibility of safer buildings will create more investment • More employment opportunities 	<ul style="list-style-type: none"> • People feel safe • Image of Dhaka city increase • Social unrest for the non-compliant groups 	<ul style="list-style-type: none"> • Printing guideline documents might contribute in tree cutting and more chemical consumption

<ul style="list-style-type: none"> • Inter-agency sensitization and coordination 			<ul style="list-style-type: none"> • Good relation among the agencies 	
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Policy Option 2.2 Monitor implementation of the coordination guidelines periodically				
Administrative Impact	Fiscal Impact	Economic Impact	Social Impact	Environmental Impact
<ul style="list-style-type: none"> • Preparation of monitoring guidelines • Approval of the guidelines • Formation of monitoring teams • Recruitment of additional staff • Training of the teams on the guidelines 	<ul style="list-style-type: none"> • Cost of Recruitment • Training cost • Guidelines printing cost • Monitoring logistics cost 	<ul style="list-style-type: none"> • Property cost savings due to decreased fire incidents • Business will prosper/ flourish • Increase in property cost • Increase in property rent 	<ul style="list-style-type: none"> • People feel safe • Image of Dhaka city increases • Social unrest for the non-compliant groups 	n/a

Policy Option 3.1 Procure modern fire-fighting equipment as per the priority list				
Administrative Impact	Fiscal Impact	Economic Impact	Social Impact	Environmental Impact
<ul style="list-style-type: none"> • Preparation of equipment list • Prioritization of equipment • Approval of revised TO&E 	<ul style="list-style-type: none"> • Equipment cost • Logistics cost • Meeting/ contingency cost • Equipment operation cost 	<ul style="list-style-type: none"> • Reduction in property loss cost • Safer buildings will create more investment • More employment opportunities • Buildings closer to fire stations might increase cost and rent 	<ul style="list-style-type: none"> • People feel safe • Image of Dhaka city increases 	n/a

<ul style="list-style-type: none"> • Approval of procurement plan • Procurement of the equipment • Inclusion of the equipment in TO&E 		<ul style="list-style-type: none"> • Business cost might increase 		
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Policy Option 3.2 Recruit and train additional human resources for FSCD to operate the additional equipment				
Administrative Impact	Fiscal Impact	Economic Impact	Social Impact	Environmental Impact
<ul style="list-style-type: none"> • Approval of the additional manpower from MoPA • Approval of the recruitment plan • Recruitment through BPSC and other agencies • Recruitment procedure • Training plan preparation • Training source selection 	<ul style="list-style-type: none"> • Recruitment cost • Salary/ Allowances of the new manpower • Construction cost for new facilities to house new equipment • Operation cost for additional equipment • Increased electricity cost • Training cost 	<ul style="list-style-type: none"> • Quicker fire management will reduce property loss • Will create more investment • More employment opportunities • Buildings closer to fire stations might increase cost and rent • Business cost might increase 	<ul style="list-style-type: none"> • People feel safe • Image of Dhaka city increases 	<ul style="list-style-type: none"> • Fossil fuel usage by vehicles might increase • Less fire hazard might decrease carbon emission.

Policy Option 4.1 Run mass media campaign about fire hazards and how to limit the occurrence of fire				
Administrative Impact	Fiscal Impact	Economic Impact	Social Impact	Environmental Impact
<ul style="list-style-type: none"> • Preparation of campaign plan • Approval of the campaign plan • Engagement of campaign firm 	<ul style="list-style-type: none"> • Campaign firm fees • Logistics cost • Meeting/ contingency cost 	<ul style="list-style-type: none"> • Will create more investment More employment opportunities 	<ul style="list-style-type: none"> • People feel safe • Image of Dhaka city increase 	<ul style="list-style-type: none"> • Fossil fuel usage by vehicles might increase • Less fire hazard might decrease carbon emission.

Policy Option 4.2 Include the issue of fire hazards and its control measures in high school text books				
Administrative Impact	Fiscal Impact	Economic Impact	Social Impact	Environmental Impact
<ul style="list-style-type: none"> • Recruiting experts to prepare textbook contents • Preparation of textbook contents • Approval of the textbook contents • Coordination with NTCB for publishing the contents in the textbooks • Review of the outcomes • Review of the contents in the new years 	<ul style="list-style-type: none"> • Expert committee fees and costs • Logistics cost • Meeting/ contingency cost • Cost sharing with NTCB 	<ul style="list-style-type: none"> • Will create more investment • More employment opportunities 	<ul style="list-style-type: none"> • Students become aware about fire and its hazards • People feel safe • Image of Dhaka city increases 	<ul style="list-style-type: none"> • Printing guideline documents might contribute in tree cutting and more chemical consumption • Less fire hazard might decrease carbon emission.

Step 5: Risk Assessment of the Policy Options

Policy Option	Risk	Probability	Impact	Mitigation Strategy
1.1 Sensitize public and stakeholders about usefulness and requirement for compliance of building codes by RAJUK	Sensitization plan might not be target oriented	L	M	Consultation with PR experts
	Non availability of funds	M	M	Consultation with budget wing
	Non availability of contents/ materials for PR	L	L	Appropriate compilation of materials
	Resistance from internal and external vested groups	M	M	<ul style="list-style-type: none"> Engaging local government representatives for mitigating unrest Awareness raising among citizens

Policy Option	Risk	Probability	Impact	Mitigation Strategy
1.2 Increase monitoring of construction of buildings through recruiting and training additional manpower in RAJUK	Lengthy administrative approval for recruitment	M	H	Persuasion with higher authorities
	Non availability of funds	M	M	Consultation with budget wing
	Non availability of training materials	L	M	Look for training materials online or other agencies
	Resistance from internal and external vested groups	H	H	<ul style="list-style-type: none"> Engaging local government representatives for mitigating unrest Awareness raising among citizens

Policy Option	Risk	Probability	Impact	Mitigation Strategy
1.3 Ensure appropriate storage of chemical compounds in the residential/	Lengthy administrative approval for recruitment	M	H	Persuasion with higher authorities
	Non availability of funds	M	M	Consultation with budget wing

commercial/ industrial buildings through regular monitoring by Department of Explosives	Non availability of training materials	L	M	Look for training materials online or other agencies
	Resistance from internal and external vested groups	H	H	<ul style="list-style-type: none"> • Engaging local government representatives for mitigating unrest • Awareness raising among citizens

Policy Option	Risk	Probability	Impact	Mitigation Strategy
2.1 Prepare guidelines for better coordination among the authorities for monitoring the building construction in Dhaka city	Lengthy administrative approval for preparation	L	H	Persuasion with higher authorities
	Non availability of funds	M	M	Consultation with budget wing
	Non availability of resource persons	M	H	Look for resource persons within the agency/relevant agencies

Policy Option	Risk	Probability	Impact	Mitigation Strategy
2.2 Monitor implementation of the coordination guidelines periodically	Non availability of HR	H	H	Persuasion with higher authorities
	Non availability of funds	M	M	Consultation with budget wing
	Inadequate cooperation from the authorities	M	H	Look for resource persons within the agency/relevant agencies

Policy Option	Risk	Probability	Impact	Mitigation Strategy
3.1 Procure modern fire-fighting equipment as per the priority list	Lengthy administrative approval for procurement	M	H	Persuasion with higher authorities
	Non availability of funds	M	M	Consultation with budget wing

	Non availability of suppliers	M	H	Look for suppliers from various channels
	Late delivery of equipment	L	M	Monitor contractor's activities
	Poor quality of the equipment	M	H	<ul style="list-style-type: none"> • Prepare the tender documents carefully • PSI, if available
	Resistance from internal and external vested groups	M	M	<ul style="list-style-type: none"> • Following e-GP for procurement • Ensuring transparency and accountability during procurement

Policy Option	Risk	Probability	Impact	Mitigation Strategy
3.2 Recruit and train additional human resources in FSCD to operate the additional equipment	Lengthy administrative approval for recruitment	H	H	<ul style="list-style-type: none"> • Persuasion with MOPA and BPSC • Posting in lien from Army and Police
	Non availability of funds for salary and allowances	M	M	Consultation with budget wing
	Non availability of funds/HR for maintenance of the equipment	M	H	Consultation with budget wing
	Inadequate training facilities	M	M	<ul style="list-style-type: none"> • Outsource training • Online training

Policy Option	Risk	Probability	Impact	Mitigation Strategy
4.1 Run mass media campaign about fire hazards and how to limit the occurrence of fire	Lengthy administrative approval	L	M	Persuasion with higher authorities
	Non availability of funds	M	M	Consultation with budget wing
	Non availability of qualified content creator	M	L	Look for qualified creators within the agency/relevant agencies
	Delayed implementation of activities	M	M	Monitor contractor's activities

Policy Option	Risk	Probability	Impact	Mitigation Strategy
4.2 Include the issue of fire hazards and its control measures in high school text book	Lengthy process to prepare textbook content	M	H	Persuasion with higher authorities
	Non availability of funds	M	M	Consultation with budget wing
	Non availability of qualified content creator	M	L	Look for qualified creators within the agency/relevant agencies
	Limited cooperation from NTCB	M	H	Monitor contractor's activities

Step 6: Options comparison

Assessment criteria	Points (-5 to +5)	Weight (0-1)	Impact (P*W)	Total
Option 1.1: Sensitize public and stakeholders about usefulness and requirement for compliance of building codes by RAJUK				
Administrative	-4	0.3	-1.2	-0.8
Fiscal	-3	0.3	-0.9	
Economic	3	0.2	0.6	
Social	3	0.1	0.3	
Environmental	4	0.1	0.4	

Assessment criteria	Points (-5 to +5)	Weight (0-1)	Impact (P*W)	Total
Option 1.2: Increase monitoring of construction of buildings through recruiting and training additional manpower in RAJUK				
Administrative	-3	0.2	-0.6	1.0
Fiscal	-3	0.2	-0.6	
Economic	4	0.3	1.2	
Social	4	0.2	0.8	
Environmental	2	0.1	0.2	

Assessment criteria	Points (-5 to +5)	Weight (0-1)	Impact (P*W)	Total
Option 1.3: Ensure appropriate storage of chemical compounds in the residential/ commercial/ industrial buildings through regular monitoring by Department of Explosives				
Administrative	-3	0.15	-0.45	1.7
Fiscal	-3	0.15	-0.45	

Economic	4	0.4	1.6	
Social	4	0.2	0.8	
Environmental	2	0.1	0.2	

Assessment criteria	Points (-5 to +5)	Weight (0-1)	Impact (P*W)	Total
Option 2.1: Prepare guidelines for better coordination among the authorities for monitoring the building construction in Dhaka city				
Administrative	-3	0.4	-1.2	-1.2
Fiscal	-2	0.3	-0.6	
Economic	2	0.1	0.2	
Social	3	0.1	0.3	
Environmental	1	0.1	0.1	

Assessment criteria	Points (-5 to +5)	Weight (0-1)	Impact (P*W)	Total
Option 2.2: Monitor implementation of the coordination guidelines periodically				
Administrative	-4	0.3	-1.2	-1.0
Fiscal	-2	0.3	-0.6	
Economic	2	0.2	0.4	
Social	3	0.1	0.3	
Environmental	1	0.1	0.1	

Assessment criteria	Points (-5 to +5)	Weight (0-1)	Impact (P*W)	Total
Option 3.1: Procure modern fire-fighting equipment as per the priority list				
Administrative	-3	0.2	-0.6	0.8
Fiscal	-4	0.2	-0.8	
Economic	4	0.3	1.2	
Social	4	0.2	0.8	
Environmental	2	0.1	0.2	

Assessment criteria	Points (-5 to +5)	Weight (0-1)	Impact (P*W)	Total
Option 3.2: Recruit and train additional human resources for FSCD to operate the additional equipment				
Administrative	-4	0.3	-1.2	-1.2
Fiscal	-5	0.3	-1.5	
Economic	4	0.2	0.8	
Social	4	0.1	0.4	
Environmental	3	0.1	0.3	

Assessment criteria	Points (-5 to +5)	Weight (0-1)	Impact (P*W)	Total
Option 4.1: Run mass media campaign about fire hazards and how to limit the occurrence of fire				
Administrative	-2	0.2	-0.4	1.0
Fiscal	-1	0.2	-0.2	
Economic	3	0.2	0.6	
Social	3	0.3	0.9	
Environmental	1	0.1	0.1	

Assessment criteria	Points (-5 to +5)	Weight (0-1)	Impact (P*W)	Total
Option 4.2: Include the issue of fire hazards and its control measures in high school text books				
Administrative	-4	0.2	-0.8	0.7
Fiscal	-1	0.2	-0.2	
Economic	3	0.2	0.6	
Social	3	0.3	0.9	
Environmental	2	0.1	0.2	

Step 7: Options Comparison Summary

Policy Options	Total Marks
1.1 Sensitize public and stakeholders about usefulness and requirement for compliance of building codes by RAJUK	-0.8
1.2 Increase monitoring of construction of buildings through recruiting and training additional manpower in RAJUK	1.0
1.3 Ensure appropriate storage of chemical compounds in the residential/ commercial/ industrial buildings through regular monitoring by Department of Explosives	1.7
2.1 Prepare coordination guidelines among the authorities for adequate monitoring of building construction in Dhaka city	-1.2
2.3 Monitor implementation of the coordination guidelines periodically	-1.0
3.1 Procure modern fire-fighting equipment as per the priority list	0.8
3.2 Recruit and train additional human resources for FSCD to operate the additional equipment	-1.2

4.1 Run mass media campaign about fire hazards and how to limit the occurrence of fire	1.0
4.2 Include the issue of fire hazards and its control measures in high school text books	0.7

Step 8: Recommended Policy Options

1. Ensure appropriate storage of chemical compounds in the residential/ commercial/ industrial buildings through regular monitoring by Department of Explosives
2. Increase monitoring of construction of buildings through recruiting and training additional manpower in RAJUK
3. Run mass media campaign about fire hazards and how to limit the occurrence of fire
4. Procure modern fire-fighting equipment as per the priority list

Step 9: Implementation Plan

Policy Option 1: Ensure appropriate storage of chemical compounds in the residential/ commercial/ industrial buildings through regular monitoring by Department of Explosives

Actions needed to implement the policy	People involved (Inputs/ Support)	When	Resources required
Finalize monitoring guidelines and criteria	Director (Administration), DoEx	December 2023	Inhouse Experts, IT specialists
Form monitoring teams and schedule	Director (Administration), Director (HR)	January 2023	Office supplies and support
Arrange monitoring logistics	Director (Administration), Director (Budget)	February-June 2024	Budgetary allocation
Report submission about monitoring	Monitoring teams, Dir (Admin), IT Specialist, DG	June 2024	IT software, logistics

Policy Option 2: Increase monitoring of construction of buildings through recruiting and training additional manpower in Rajuk

Actions needed to implement the policy	People involved (Inputs/ Support)	When	Resources required
---	--	-------------	---------------------------

Finalize monitoring guidelines and criteria	Member (Administration), Rajuk	December 2023	Inhouse Experts, IT specialists
Form monitoring teams and schedule	Member (Administration), Director (HR)	January 2023	Office supplies and support
Arrange monitoring logistics	Member (Administration), Director (Budget)	February-June 2024	Budgetary allocation
Report submission about monitoring	Monitoring teams, Dir (Admin), IT Specialist, Chairman	June 2024	IT software, logistics

Policy Option 3: Run mass media campaign about fire hazards and how to limit the occurrence of fire

Actions needed to implement the policy	People involved (Inputs/ Support)	When	Resources required
Get administrative approval	Director (Admin), FSCD	December 2023	Office support and services
Hire expert firm	Director (Admin), FSCD	March 2024	
Oversee preparation of contents by the firm	DG, Dir (Admin), Dir (PR)	July 2024	
Review campaign schedule	DG, Dir (Admin), Dir (PR)	August 2024	Budgetary allocation
Monitor campaign operation	DG, Dir (Admin), Dir (PR)	Continuous operation	
Review of the campaign	DG, Dir (Admin), Dir (PR)	Every 3 months	

Policy Option 4: Procure modern fire-fighting equipment as per the priority list

Actions needed to implement the policy	People involved (Inputs/ Support)	When	Resources required
Assessment of the capacity and requirements	Director (Operations), FSCD	December 2023	Office supply and services
Prepare list of equipment and budget	Director (Operations), and Director (Admin) FSCD	March 2024	

Get administrative approval	Director (Admin) FSCD	May 2024	
Get budgetary approval	Director (Admin) and Director (Budget) FSCD	July 2024	Budgetary allocation
Procurement of the equipment	Director (Operations)	December 2024	
Update TO&E	Director (Administration)	December 2024	

Appendix-2: Policy Formulation on Bhabadah Conundrum

Resolving water Logging of Bhabadaha

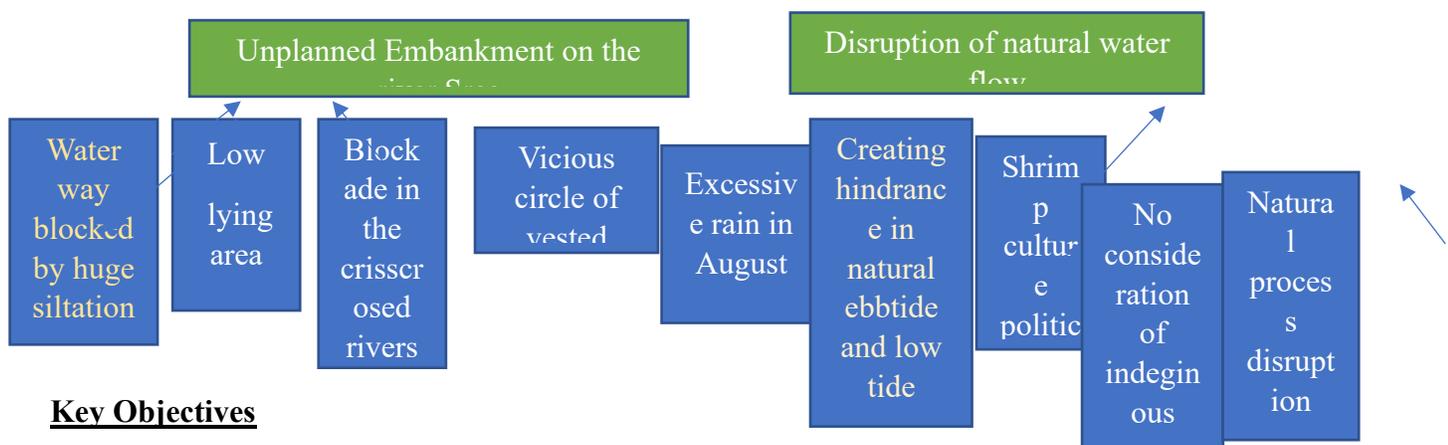
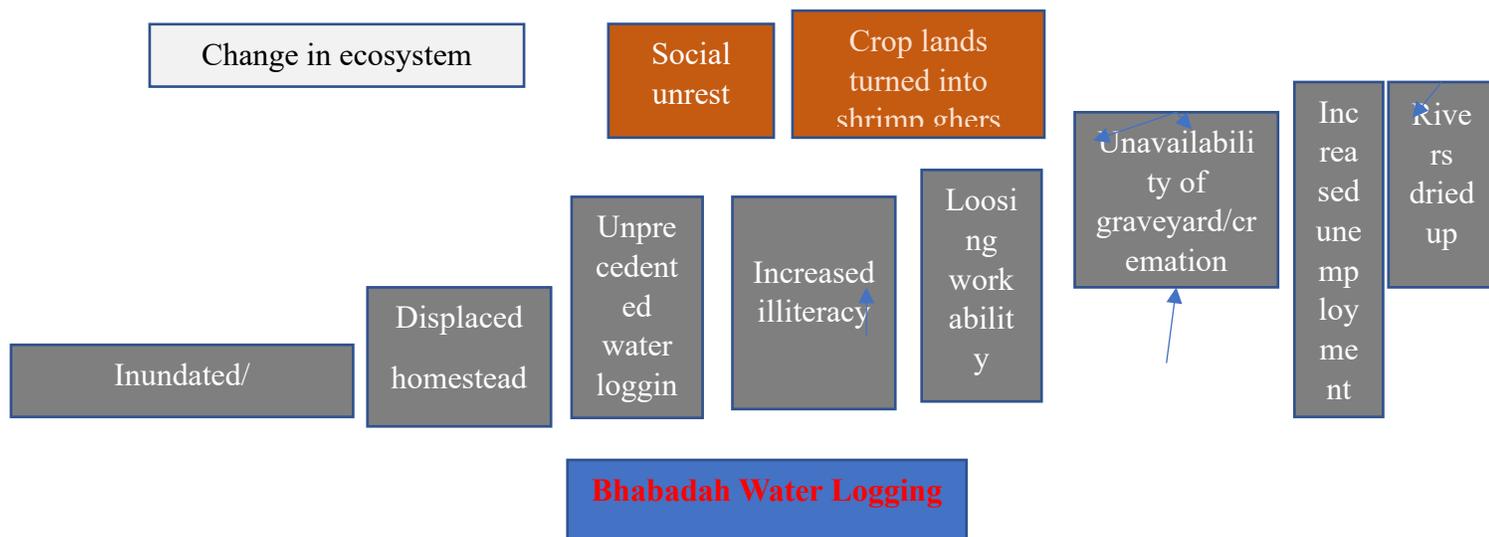
Policy Option Suggested by

Group-MEGHNA

104 Senior Staff Course

Group Members

1. Mr. Mohammad Mahbubur Rahman Bhuiyan
Joint Secretary, Ministry Textile and jute
2. Mr. Md. Hasan Maruf
Member (Administration), Bangladesh Rural Electrification Board
3. Ms. Nasima Parvin
Joint Secretary, Finance division
4. Ms. Rehana Yasmin
Joint Secretary, Ministry of Agriculture
5. Dr. Md. Ayatul Islam
Joint Secretary, Technical and Madrasa Education Board



Key Objectives

1. 50% Siltation Management by 2030
2. Replace 30% of existing structures by 2030
3. Introduce 33% adaptable technologies for sustainable development within 10 years
4. Ensure 30 of livelihood enhancement in the locality by 2027

Policy options/actions:

1. Proper Siltation Management

- a. Implementation of Tidal River Management

2. Replacement of unplanned structures

- a. Comprehensive plan for structural replacement
- b. Building of planned structures

3. Implementation of adaptable technologies for sustainable development

- a. Introduction of agro-variety

Policy Option-1: Proper Siltation Management

➤ **Administrative Impact:**

- Consciousness
- Proper planning
- Adequate skilled manpower
- Determining the source of fund

➤ **Fiscal Impact:**

- Fund Allocation
- Disbursement of funds
- Accounting system
- Auditing

➤ **Economic Impact**

- Creation of employment
- Easement of communication
- Boost up agriculture
- Easy access to Education
- social Impact:
- Ensure housing
- Ensure health and hygiene
- Poverty reduction
- Ensure social connection
- Religious activities

➤ **Environmental Impact:**

- Reduction of air and water pollution
- Revival of ecosystem

- Ensure Safe sanitation
- Proper waste management

Policy option-2: Replacement of Unplanned structures

➤ **Administrative Impact:**

- Proper planning
- Adequate skilled manpower
- Determining the source of fund

➤ **Fiscal Impact:**

- Fund Allocation
- Disbursement of funds
- Accounting system
- Auditing

➤ **Economic Impact**

- Creation of employment
- Easement of communication
- Boost up agriculture
- Education

➤ **Social Impact:**

- Ensure housing
- Ensure health and hygiene
- Poverty reduction
- Ensure social connection
- Religious activities

➤ **Environmental Impact:**

- Reduced air and water pollution
- Revival of ecosystem
- Safe sanitation
- Proper waste management

Policy Option -3: Implementation of adaptable technologies for sustainable development

➤ Administrative Impact:

- Conscious
- Proper action plan
- Adequate skilled manpower
- Determining the source of fund

➤ Fiscal Impact:

- Fund Allocation
- Disbursement of funds
- Accounting system
- Auditing

➤ Economic Impact

- diversification of employment
- Boost up agriculture
- Skill development

➤ Social Impact:

- Ensure quality housing
- Poverty reduction
- Ensure social connection and mobility

➤ Environmental Impact:

- Reduction of air and water pollution
- Revival of ecosystem
- Ensure Safe sanitation
- Proper waste management

Risk Assessment

Policy Option-1: Proper Siltation Management

- Risk of consensus building

- Procurement-related threats
- Risk of finding skilled manpower
- Risk of timely fund Allocation
- Risk of proper fund management

Risk Assessment

Policy option-2: Replacement of Unplanned structures

- Risk of proper planning and prioritization
- Risk of timely communication with administrative authority
- Risk of pulling up skilled manpower
- Risk of logistic mobilization and management

Risk assessment

Policy Option -3: Implementation of adaptable technologies for sustainable development

- Risk of identification of suitable technology
- Risk of appropriate budgetary allocation
- Non-availability of skilled manpower
- Non-availability of data

Risk Assessment

Policy Option	Risk	Problem	Impact	Score	Mitigation strategy	Score
1. Proper siltation management	Risk of funding	L	H	6	Local resource mobilization	4
2. Replacement of Unplanned structures	Risk of proper planning, prioritization and logistics mobilization	H	M	4	Hiring skilled experts	2
3.Implementation of adaptable technologies for sustainable development	Risk of identification of appropriate technologies	M	L	1	Feasibility study	1

Options Comparison				
Assessment criteria	Points (-5+5)	Weight (0-1)	Impact (PxW)	Total
Option 1: Proper Siltation Management				
Administrative	-2	.20	-0.40	1.25
Fiscal	-3	.15	-0.45	
Economic	4	.30	1.20	
Social	3	.20	0.60	
Environmental	2	.15	0.30	

Options Comparison				
Assessment criteria	Points (-5+5)	Weight (0-1)	Impact (PxW)	Total
Option 2: Replacement of unplanned structures				
Administrative	-2	0.20	-0.40	0.60
Fiscal	-3	0.15	-0.45	
Economic	3	0.30	0.90	
Social	2	0.20	0.40	
Environmental	1	0.15	0.15	

Options Comparison				
Assessment criteria	Points (-5+5)	Weight (0-1)	Impact (PxW)	Total
Option 3: Implementation of adaptable technologies for sustainable development				
Administrative	-2	0.20	-0.40	1.05
Fiscal	-3	0.20	-0.60	
Economic	4	0.35	1.40	
Social	3	0.20	0.60	
Environmental	1	0.05	0.05	

Options Comparison			
	Option -1	Option-2	Option-3
Total	1.25	0.60	1.05

Recommended Policy Option

Referring to the options comparison we find that option-1 scored highest (1.25) which guided us to Choose 'Proper Siltation Management' as recommendation of "Group-Meghna" to resolve water logging problem of Bhabadaha

Reviewer-1: Response

1. Case specific text should be focused. Additional/ irrelevant discussion can be dropped.

Answer: It seems an overall comment for all cases. Keeping that in mind, all cases have been checked. Relevant information has been added. In most cases, additional discussion has been added to show the complexity and multiplicity of the problem as the public policy is intertwined with multiple issues, even sometime unintended issues which maybe sometime thought irrelevant.

2. There are some spelling mistakes, repeated words, words without space, repeated sentences, mistakes in table titles, etc.

Answer: Thank you. It is innate to have some errors of word, wording, spelling mistakes. The report has been thoroughly checked and edited where necessary.

3. Topics and session hours should be the both in the literature review (2.3) and in the case guidelines.

Answer: It has been synchronized.

4. Time for the presentation of the problem tree is to be included in the allocation of time.

Answer: It is done.

5. Latest data should be used

Answer: Data have been updated while some cases are historically old which old information was also added.

6. Is the case guideline the same for all?

Answer: Yes, it is. Since all cases are prepared to teach evidence-informed policy making for the participants of Senior Staff Course. However, this case can be used for other purposes for example problem solving. In that users can fix time for his or her class requirement.

7. Case questions not mentioned in all cases

Answer: Case questions have been added to all cases.

Case specific comments

Case 1: Bhabadah Conundrum

- The number of affected villages is 200 or 426

Answer: The directly and indirectly affected villages are 426, it is been added.

- The data is old like 2000, 2003, 2008, 2015, 2016, 2017.

Answer: Although it seems these are old data. These were given to explain the magnitude of the problem that it is a problem of many more years which needs to be addressed.

- The last five years of government data needed to state the present conditions

This has been edited and updated.

- Since the present tense is used in the case, data on current condition should be mentioned.

Answer: Style of writing has been used where necessary.

- The problem started in 1970. The impact of the last 50 years on education, burying dead bodies, the ecosystem, etc be mentioned.

Answer: The problem did not start in 1970. Although the problem started in 1960, effect was in favour of the villagers primarily, later it became a problem when stagnation was in permanent in nature. Impacts were not detailed out so that it gives room for the participants to think and realize the policy effects.

- Irrelevant text like EPZ in Jashore etc. and old photos can be dropped to make it short.

Answer: Although writing of EPZ seems irrelevant, it was given as clue for solving the problem which is was found correct from the output of participants when the case was utilized. It was liked to employment generation as a policy solution.

- Government organization's information/ report/ policy reference should be there.

Answer: Yes, it is done and again checked and edited.

Case 2: Burt Hopes and Smoked Future: Deadly Fires in Capital Dhaka

- Legal provisions need to connected.

Answer: The relevant legal provisions have been given.

- The Putrajaya, Malaysia case is not integrated

Answer: This is an example how city needs to be developed.

- The case needs to be more consistent and coherent.

Answer: The case has been thoroughly checked and edited.

- More government reference can be used.

Answer: The case has been updated.

- In a planned city, required road space, building code, water body, and other safety policies and actual situations of Dhaka City are to be mentioned to identify the gaps.

Answer: The case has been edited with necessary information.

- The title: **Planned city is a must** is like a recommendation

Answer: Yes it is. It is given as a clue to give an idea how a planned city should be.

- The case questions for the participants can be mentioned.

Answer: Questions have been added.

Case 3: Heard Immunity or Hard Humanity: Bangladesh's Response to Grappling Coronavirus Pandemic

- 1) It's too big, and it is difficult to read the case within the given time; it should be short

Answer: Yes, it is. It has been shortened.

- 2) International parts have been given more focus

Answer: By shortening this part, just adding relevant part, the case has been edited.

- 3) Fiscal and Monetary interventions including 28 stimulus packages could be mentioned

Answer: Above mentioned interventions have been mentioned.

- 4) Cyclone Amphan can be a separate case

Answer: Thank you. This is a good idea. It can be used as case. Here it is presented as an amplifier of the problem.

- 5) The table and figure's title have to be written correctly

Answer: It's been updated.

- 6) The case question is absent

Answer: Questions are added.

- 7) Directives from the Head of State should be of the Government;

It has been edited.

Case 4: The Neglected Epidemic: Unraveling the Crisis of Road Accidents

1. Need to connect with concerned government organizations and their references;

Answer: The case has been checked and edited accordingly.

2. Focus should be given on the Bangladesh's context and reduce theoretical information

Answer: The case has been written emphasizing the occurrences of accidents and its importance. Theoretical underpinning was given to teach the readers how theory is connected to the problem and necessity of theory for permanent solution.

3. The activities of BRTA, RTA Act, Bangladesh Police, Health Department, Roads, and Highways etc, have been mentioned without their reference

Answer: The case has been checked and edited

4. Future tenses might be avoided;

Answer: The case has been checked and edited

5. Instead of pounds, unified US dollar can be used;

Answer: The case has been edited and figure has been changed to dollars.

6. Case questions need to be mentioned

Answer: Relevant and pertinent questions needed to proceed the group have been added in the end of the case

Case 5: Social Stigma of Being an Entrepreneur

1. The case is interesting, policy implication can be added;

Answer: Thank you.

2. Existing policy support needs to mention

Answer: This can be done. However, exploring existing policy support can be its corresponding actions that participants can identify what policies can contribute and how.

3. One success story can be mentioned as an example side-by-side

Answer: Since the key aspect of the case is the problem-based, it presents the obstacles of becoming entrepreneur. Writing success story can be another case study.

4. Reference/ reference to the government organization needed;

Answer: This case written following a story writing style based on the primary data.

5. Case question?

Answer: Questions are added.

Case 6: City under: Where do we live and how do we live

1. No reference to the government organization like DSCC, DNCC, WASA, WDB etc'

Answer: It is been checked and edited.

2. Cleaning of canals projects: impact, time, reference?

Answer: It is been checked and edited.

3. Planned Tyokyo: Underground Water Management is not connected

Answer: Tokyo case has been given just to show how a city can plan and utilize its resources. It can give participant as clue of solving the problem in sustainable, beautiful way.

4. Is BADC case necessary to mention? There are thousands of encroachment cases.

Answer: You are right, there are thousands of encroachment cases that contribute to water logging in Dhaka city. BADC is an example added here to show how government organization is also responsible for water logging.

5. Case questions can be mentioned.

Answer: Questions are added in the end of the case.

Bangladesh Public Administration Training Centre
Savar Dhaka
Evaluation of Research Report

Title of the research report: Developing case for Senior Staff Course Conducted by BPATC

Please provide your comments on the following points of the research report.

1. How well does the report establish a **knowledge gap**? In other words, how well does it describe the **problem statement**?

Very well To some extent Poorly Not at all

Descriptive comments (if any):

It presents the problems very well in the selected areas.

Authors' response: Thank you.

2. How well does the report review the relevant **literature** of the field of the research?

2.1 Relevancy of literature:

Very relevant To some extent relevant Distantly relevant Not at all relevant

2.2 Sufficiency of literature

Very sufficient To some extent sufficient Poorly sufficient Not at all sufficient

Descriptive comments (if any):

Apart from capturing the key issues on the selected subjects, it conceptualizes well the use of case study as a training method.

Authors' response: Thank you.

3. How strong is the **methodology** of the research in meeting its stated objectives?

3.1 Relevancy of methods:

Very relevant To some extent relevant Distantly relevant Not at all relevant

3.2 Strength of methods

Very strong Moderately strong Poor Very weak

Descriptive comments (if any):

Key Informant Interview (KII)s with selected policymakers of the Government could have been useful.

Authors' response: Thank you.

4. How do the research **findings** contribute to scientific knowledge?

4.1 Originality: The findings—

add considerable new knowledge add little new knowledge do not add new knowledge

4.2 Analysis

Very strong Moderately strong Poor Very weak

Descriptive comments (if any):

It will add to the existing knowledge and skills on policy analysis.

Authors' response: Thank you.

5. How **consistent** are the problem statements, objectives, methodology, findings, and conclusion?

Very consistent Moderately consistent Distantly consistent Not consistent

Descriptive comments (if any):

The links between the findings and the discussion parts and between the discussion and the recommendation parts deserve more clarity.

Authors' response: It has been added.

6. Is the **conclusion** logical?

Very logical Moderately logical Poorly logical Not logical

Descriptive comments (if any):

The conclusion may be separated from the recommendations. The conclusion may present, apart from the holistic and final message, a precise strategy for implementation of the recommendations.

Authors' response: Thank you. The report followed given structure of research department.

7. Is the **language** of the report in acceptable condition?

Acceptable Needs corrections major Needs corrections minor Unacceptable

Authors' response: Thank you. Necessary corrections have been made.

8. Your **overall comments** (up to 200 words) about the research report:

Overall, I find this research report useful and timely. I understand that this research work, along with the cases that have been prepared, will contribute towards enhancing the quality and effectiveness of the training courses conducted by BPATC. This will be particularly beneficial to the ACAD and the Senior Staff Course.

The teaching notes and the guidelines for the session speakers are certainly helpful. However, I would expect some structural uniformity among the cases presented. Appreciating the fact that they are drawn from diverse sectors and situations, the key features remain similar. For instance, study questions at the end of each case would keep individual preparations relevant and group discussions on track, and ensure an efficient management of the limited time.

The prospective areas of case studies as listed on pages 16-18 are generally fine. However, preference may be given to the issues where disagreements exist among policy actors, instead of the areas where we hardly see any disputes. For example, while the essence of most of the development plans and strategies of the Government are widely accepted by stakeholders, delays in project preparation and approval as well as time overrun, and cost overrun during implementation together with the question of viability of many projects remain challenging. In addition, the issues related to financing of government interventions and negotiation of contracts have the potential of being useful case studies.

As has been rightly mentioned in the guideline for using the case study (page 128), the participants are familiarized with the pertinent theories and concepts. In fact, they also need to know the relevant legal and regulatory framework for a realistic exercise. This can also be done through distribution of necessary reading materials in advance.

Since improvement is a continuous process, my observations can be addressed gradually, if is not feasible to consider those immediately.

Authors' response:

Thank you for appreciation. Study questions are listed in the end usually describing general issues for which these are more or less similar because this has intension to provide the similar understanding about policy formulation and tools and techniques of evidence-informed policy making. You are right, we have given these study questions to keep the discussion on track and manage time efficiently.

We have considered the essence of most of the development plans and strategies of the Government are widely accepted by stakeholders, delays in project preparation and approval as well as time overrun, and cost overrun during implementation together with the question of viability of many projects remain challenging. And these have been tried to incorporate where necessary.

We agree that providing relevant legal and policy framework can be effectively for better exercise. While this was given to the participants for doing the exercise, participants were supplied necessary legal documents. Participants also searched and utilized pertinent documents.

9. On the basis of the above assessment, I do hereby

- a) ~~Recommend the report for approval~~
- b) Recommend the report subject to a minor revision based on the above comments.
- c) ~~Recommend the report subject to a major revision based on the above comments~~
- d) ~~Refrain from recommending the report.~~

Authors' response: Minor revision based on the reviewer's comments has been made.