



**Challenges of Policy Implementation:  
A Case Study of Hilsa Protection in Bangladesh**

**By**

**Mohammad Mofizul Islam**

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SOUTH ASIAN INSTITUTE OF POLICY AND GOVERNANCE  
NORTH SOUTH UNIVERSITY

**South Asian Institute of Policy and Governance (SIPG)**

**North South University**



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A Case Study of Hilsa Protection in Bangladesh.**

**By**

**Mohammad Mofizul Islam**

**Supervisor**

**Dr. Rizwan Khair**

**Associate Professor**

**South Asian Institute of Policy and Governance (SIPG)**

**North South University, Dhaka.**

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**for the partial fulfillment of**

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SOUTH ASIAN INSTITUTE OF POLICY AND GOVERNANCE  
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**South Asian Institute of Policy and Governance (SIPG)**

**North South University**

**Dedicated to**

My beloved parents

Wife Humaira Ayesha

My two beloved children

Mohammad Miftahul Islam and Maliha Islam

For their continuous inspiration and support all the way!

## **Declaration**

I declare that the dissertation entitled “Challenges of Policy Implementation : A Case Study of Hilsa Protection in Bangladesh” submitted to the PPG Program of North South University, Bangladesh for the Degree of Master in Public Policy and Governance (MPPG) is an original work of mine. No part of it, in any form, has been copied from other sources without acknowledgment or submitted to any other university or institute for any degree or diploma. Views and expressions of the thesis bear the responsibility of mine with the exclusion of PPG for any errors and omissions to it.

Signature with Date

Mohammad Mofizul Islam

ID No.1929006085

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## Abstract

The study aims at assessing the current status of policy implementation and the challenges of policy implementation regarding the *Hilsa* protection in Bangladesh. Based on the Van Meter and Van Horn, Grindle and Thomas, and G. Edward III models of policy implementation, four independent variables like ‘Resource for Policy Implementation’; ‘Incentives for the Fishermen’; ‘Commitment of Lower-level Officials’; and ‘Political Disposition’ have been analyzed to identify the relationships with the dependent variable such as *Hilsa* Protection. The study primarily used semi-structured survey questionnaires to conduct interview with the public officials working at different tiers of government as *Hilsa* protection policy implementers, public representatives, and with the fishermen community to get the answers to the research questions by assessing their level of satisfaction on policy implementation and challenges of policy implementation. Extant literature and policy documents have been reviewed to develop the theoretical and analytical framework of this study. The present study focuses on the role of Resources, Incentives, Commitment of Lower-level Officials, and Political Disposition in the process of *Hilsa* protection policies implementation at the local level. The study also tries to identify the level of satisfaction of the field-level implementers with the existing amount of financial, human, and material resources allocated in their offices to implement *Hilsa* banned periods.

The study assesses the impact of economic incentives given to the fishermen for complying with mother *Hilsa* and *Jatka* banned policies by examining their perception on the existing amount of incentives, their socio-economic development and selection of fishermen for incentives and their distribution mechanisms. The Commitment of lower-level officials have been measured through their administrative capacity, and willingness to implement *Hilsa* protection policies. Political disposition has been examined through their participation and fulfillment of commitment to implement policies. In addressing the research questions, a total of 38 respondents were interviewed. *Hilsa* protection policy implementation was argued to be affected by these variables. From empirical evidence it is found that a) Financial, human and material resource allocation in favor of implementers office, b) Perception of fishermen to incentives, Socio-economic development of fishermen through incentives and selection of

fishermen and distribution of incentives, c) Administrative capacity and willingness of the implementers and d) Participation and fulfillment political of commitment have a strong positive correlation with “Degree of Implementation of ban policy” and “Perceived Volume of *Hilsa* Production”. The main findings from the empirical data are:

There is a lack of compliance with banned policies due to the lack of sufficient resources allocation, incentives, the commitment of lower-level officials, and active political participation. Resource allocation is ‘insufficient’ compared to the actual demand of the local implementers. It is a barrier for the effective implementation of *Hilsa* protection policies. The fishermen are not perceived and satisfied with the existing amount of incentives. Some fishermen violate banned periods due to poverty and the loan burden of local money-lenders and some violate intentionally due to their uncontrolled greed. Socio-economic developments of the fishermen are interrupted by the conditional loans of the money lenders and the influence of middlemen on price control. Empirical data shows that the participation and fulfillment of the commitment and willingness of local public representatives are poor compared to public officials. It is also a barrier to the effective implementation of *Hilsa* policies at field level.

It is found that the more the implementers are willing to implement policies, the more they can attain policy goals. It is found that the present success status of *Hilsa* protection policy implementation is somehow satisfactory because the production has been gradually increasing due to government interventions. But it could be much more if the existing policies and action plans could be implemented more effectively. The major challenges of policy implementation regarding *Hilsa* protection in Bangladesh have been identified through this study are lack of resources, logistic support, administrative controls, inter-organizational cooperation, political participation and fulfillment of their commitment, incentives, and use of different prohibited nets, change in migration routes of *Hilsa*, water pollution and disturbance of water-eco system, etc. All these challenges cause a lack of compliance with *Hilsa* and *Jatka* banned periods.

*Key Words: Policy implementation, Hilsa Protection, Resource, Incentives, Commitment of lower-level Officials, Political Disposition, Banned period, Jatka, etc.*

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## **List of Abbreviations**

AC (Land)	Assistant Commissioner (Land)
ADC	Additional Deputy Commissioner
AIGA	Alternative Income Generating Activities
APA	Annual Performance Appraisal
BFRI	Bangladesh Fisheries Research Institute
DAE	Department of Agriculture Extension
DWAO	District Women Affairs Officer
DC	Deputy Commissioner
DD	Deputy Director
DFO	District Fisheries Office
DG	Director-General
DLO	District Livestock Officer
DOF	Department of Fisheries
DS	Deputy Secretary
EU	European Union
FAO	Food and Agriculture Organization
FFP	Fourth Fisheries project
FRSS	Fisheries Resource Survey System
GoB	Government of Bangladesh
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GPS	Global Positioning System
HACCP	Hazard Analysis Critical Control Point
HFMAP	Hilsa Fisheries Management Action Plan
IBD	Investment Banking Division
IUCN	International Union for Conservation of Nature
KII	Key Informant Interview

LGED	Local Government Engineering Department
MCS	Monitoring, Control and Surveillance
MoFL	Ministry of Fisheries and Livestock
MSY	Maximum Sustainable Yield
NGO	Non-Government Organization
OC	Officer in Charge
SUFO	Senior Upazila Fisheries Officer
SP	Superintendent of Police
SPSS	Statistical Package for the Social Sciences
UAO	Upazila Agriculture Officer
UCO	Upazila Cooperative Officer
UFO	Upazila Fisheries Officer
ULO	Upazila Livestock Officer
UNDP	United Nations Development Program
UNO	Upazila Nirbahi Officer
UP	Union Parishad
VGF	Vulnerable Group Feeding
USWO	Upazila Social Welfare Officer
USAID	United States Agency for International Development



# Chapter One

## Introduction

### 1.1 Introduction

Every country is governed by various types of policies that have their own goals, objectives, and focus to motivate and implement for solving certain problems. Public policy is the action or non-action by a government concerning an issue. The principal elements of a political system are polities, politics, and policies including the laws, rules, regulations, plans, programs, and strategies, etc (Knill and Tosun 2012). The context of policy and their implementation differs from country to country across time, sectors, and levels. A policy that is implementable in a developed country may not be so in developing countries because of their socio-economic, political, and cultural variations. Although the existing policy-making theories in developing countries are helpful to analyze public policies, these are insufficient to undertake a detailed analysis of existing scenarios in developing ones. In the developed nations, policy-making process is much participatory and documented but such a system has not evolved fully in developing countries (Osman, 2002).

In Bangladesh, political will, donor's technical assistance and conditions, managerial preparation and technical competence, control, and management of resources are a few of the determinants of policy formulation (Aminuzzaman, 2013). The policy tools decided by actors in the formulation stage are materialized in the implementation stage. 'Policy implementation' refers to the missing link into the policy-making and evaluation stage. Policy implementation comprises interpreting the goals and objectives of a policy into practice. Some empirical techniques are revealed to conquer the performance of implementation and to accomplish with the premise that lack of theoretical sophistication causes failure of a particular policy. Implementation means to carry out; to fulfill, produce, and complete a specific task. If a policy fails because of an implementation problem, then it is treated as 'unsuccessful implementation (Pressman

and Wildavsky, 1973). When a policy fails to implement because of the implementer's failure to overcome barriers is termed as 'non-implementation' (Hogwood and Gunn, 1984). Therefore, Implementation is an important stage of the policy cycle where a policy is carried out to a maximum degree so that the objectives of the policy itself can be achieved. Policy output and policy outcomes are two important determinants of policy performance because the two factors identify whether the policy targets and objectives have been achieved (Putra, 2017).

Generally, policy implementation means to put policies into action, and herein lay the problems for many developing countries. In Bangladesh, due to a major decline in *Hilsa* production from 2001 to 2003, the government formulated the "*Hilsa* Fisheries Management Action Plan, 2003", and amended "The Protection and Conservation of Fish Act, 1950". Since 2007, the government has been taking several initiatives to protect *Hilsa* like- 'Mobile Court' and the 'Task Force Operation,' establishment of '*Hilsa* Sanctuaries' and 'Breeding ground', '*Jatka* Conservation', Special Combing Operation' against illegal nets, Incentives (Rice, Cows, Goats, Sewing machines, Van, nets, etc) distribution, 'VGF' distribution as 'Alternative Livelihood for *Hilsa* Fishermen', and different development project implementation, etc. In Bangladesh, *Hilsa* fish (*Tenualosa ilisha*) is under threat from several man-made and natural disasters. The major threat is the lack of compliance with *Hilsa* and *Jatka* catching banned period. Although the government provides incentives and other substitute materials, a large number of fishermen are still observed to catch mother *Hilsa* and *Jatka* during the ban period. It is expected that if the existing *Hilsa* protection policies could be implemented more effectively by reducing the obstacles and challenges, then the production could be increased significantly. Thus, this study aims to assess the present status of policy implementation and related challenges of implementation regarding *Hilsa* protection in Bangladesh. <sup>1</sup>

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<sup>1</sup> *Hilsa* is the national fish and king of all fishes in Bangladesh. It comes from the Bengali word 'ilish.' Its scientific name is '*Tenualosa ilisha*.' '*Hilsa* herring or *Hilsa* shad is a species of fish related to herring, in the family '*Clupeidae*.' It is a very popular in Indian sub-continent. '*Jatka*' is the local name of the young or juvenile stage of *Hilsa* (11-15 cm size). The size of juvenile *Hilsa* ranges from 2-12 cm.

## 1.2 Background of the Study

*Hilsa* (Indian Shad) is the most popular and iconic fish of Bangladesh over the ages of contributing significantly to national fish production, employment generation, and economic return (DoF, 2019). Millions of people are dependent for their livelihood on fishing as it is one of the oldest human occupations in the world. Bangladesh as a delta is crisscrossed with many rivers which have shaped the topography, livelihood, and culture of the country. Fish has been the main food item in the diet of people for ages. In south Asia, *Hilsa* has traditionally been used to prepare various mouthwatering delicious items of food in different religious and cultural festivals (Ahsan et.al, 2014). It has both economic importance and cultural value in south Asia. During the celebration of 'Pohela Boishakh' in Bengali culture, 'Jamai Shashthi' in India and Nepal, and 'Puja' almost all people want to have a taste of *Hilsa* as it is traditionally a very appetizing food. *Hilsa* is called the national fish of Bangladesh and king of all fishes due to its heritage, popularity, food quality and economic value. The incomparable flavor of *Hilsa* has been ascribed predominantly to the appearance of the indicative amount of fatty acids (Nath and Banarjee, 2012). Moreover, it is also an important source of protein. As a single largest species, *Hilsa* has been contributing more than 1% of GDP in Bangladesh, 12.9 % of overall fisheries and more than 2.0-2.5 million fishermen are dependent on *Hilsa* fishing (Israt et.al, 2015). Our rivers are huge source of *Hilsa* and the government has been trying to produce more *Hilsa* by adopting various policy initiatives and implementing those policies effectively.

*Hilsa* should be protected and illegal catching thus needs to be protected because this natural resource is under threat for many reasons among which overfishing, illegal, unregistered and unregulated fishing are the primary reasons. Global fish stocks are running critically short and only 20% are moderate, 52% are full, 19% are overexploited and 1% are depleted (Yassin et.al, 2013). The quantities of *T. Ilisha* (*Tenualosa Ilisha*) landings during 1965-1973 generated 90.2% of all landings, and this declined to 52.9%

during 1991-1994, and to 41.8% and 30.7% during 1995-1999 and 2000-2006 respectively (A Razzak et.al, 2014). Bangladesh has attained tremendous prosperity during the last the 5 decades where major contribution comes from the *Hilsa*. Bangladesh is a land of rivers with huge waterlogged and wetlands areas. These are the gifts of nature of which we are proud <sup>2</sup>of and enriched. Fisheries have contributed 5-6% of GDP in the last years (Momi, 2007). However, it has been found that around 50 fish species are now endangered due to natural and man-made disasters (IUCN, 2000). *Hilsa* production in Bangladesh in fiscal 2017-2018 and 2018-2019 were 0.518 and 0.568 million MT (Martin et.al, 2017) whose market price was \$2500 million. Moreover, 0.46 million fishermen are involved with *Jatka and Hilsa* catching which means that about 2.7 % of our population is explicitly are implicitly dependent on *Hilsa* fisheries to maintain their livelihood. (DoF, 2019). Production, protection, conservation, and distribution of *Hilsa* are largely dependent on climate change and dynamics (Lehodey et.al, 2006).

The Fisheries sector is prospective and it is gradually increasing leading to the socio-economic development of Bangladesh. Bangladesh is expecting to secure the 1<sup>st</sup> position in the world within 2022 (FAO, 2018) in producing and exporting *Hilsa* in the global market. As a productive sector, the government has been taking various initiatives to protect mother *Hilsa* and *Jatka* from illegal catching including distribution of incentives and other substitute material to the fishermen during the periods banned by the government. It is expected that the contribution of *Hilsa* to GDP will be 3 times soon if we can implement banned periods properly. It has been observed both positive and negative mindset regarding *Hilsa* protection among the researchers and civil societies. One group of people have considered the incentive-based *Hilsa* protection program as an effective way while another group has emphasized on socio-economic development of the fishermen (Siddiki, 2013).

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<sup>2</sup> *“Pohela Boishakh “is the celebration of 1<sup>st</sup> day of Bengali New Year. “Jamai shasthi” means a day that is committed to the ‘son in law.’ It is treated as propitious and almost all the families have a tradition to arrange such a party, as a dedication to someone’s son in law. This type of celebration with a grand feast is the tradition of West Bengal.” Eid” is the religious festival of Muslims and “Puja” is the religious festival of Hindu culture.*

Although, producing, marketing and using of fishing nets made of monofilament fiber (*Current Jal*) is strictly prohibited as per existing policies of Bangladesh and the concerned law enforcement agencies are seen to be very vigilant against the use of illegal 'monofilament net' (widely known as *current Jal*) and "Gillnets" (*Behundi Jal*) over the years, but unfortunately during last two decades it was found to burn a large number of such nets before the concerned magistrates, police, coast-guard members and other government officials. The estimated amount of market price of that burnt nets could roughly be more than \$10 million. Thousands of fishermen are seen to catch Juvenile *Hilsa* and brood *Hilsa* during the banned time and they are sent to jail and fined millions of taka almost every year by the executive courts under the provisions of "The Protection and Conservation of Fish Act, 1950". It has been observed from different studies that the successful implementation of the banned period of 'Jatka' and 'Brood *Hilsa*' could significantly increase production. Bangladesh supplies 50-60%, Myanmar supplies 20–25 %, India supplies 15–20 % and other countries supply 5–10 % of global *Hilsa* (Ahsan et.al, 2014). Previous "Global Environmental Facilities" (GEF) funded study estimated that more than 45% increase in *Hilsa* production could be possible by restricting only *Jatka* catching (Yassin et.al, 2013). The size of *Hilsa* in Bangladesh can be reached up to 60 cm (2 feet) with an average weight of 3 kg within four years. The most common size varies from 35-40 cm with an average weight less than or equal to 1 kg. Matured *Hilsa* migrates towards upstream during southwest monsoon and flooding times of rivers (Sarker et.al, 2019). Since, research is the systematic investigation, experimentation and detail study of a particular issue using information, and sources to find out facts and finally to find a solution. There is lack of research work on *Hilsa* resource in Bangladesh although this sector has been contributing a lot to our national economy. Therefore, "Challenges of Policy Implementation: A Case Study of *Hilsa* Protection in Bangladesh" has been selected as a research topic because of its relevancy to the present context.

### 1.3 Statement of the Problem

There is a general assumption by different scholars that a policy once formulated will be implemented. In most of the cases, the people have very limited access and interest in the formulation process (Smith, 1973). Sound policies are the primary foundation of democratic governance and monetary advancement of any country. In the case of developing countries, public policy may be formulated without any consultation with the actors and implementers. Lack of political commitment, the inability of non-state actors and donors hinder the participatory policy making in general (Khair, 2004). The Top-down approach of policy implementation not only gives only 'prescriptive advice' but also the implementation process is influenced by the top-downers by disregarding the role of street-level bureaucrats (Maitland, 1995). Despite all these, the situation of Bangladesh has been changing with an increase in the engagement of civil society gradually. The actual role and influence of interest groups including political parties are visible mostly in the implementation stages (Smith, 1973). A well-drafted policy might be influenced by several factors and might fail to achieve its desired objectives in the implementation stage. Similarly, the implementation of "The Protection and Conservation of Fish Act, 1950", its related rules and, other action plans of the government are also influenced by several factors and resists to achieve its desired policy targets.

The context of policy implementation in developing countries is not the same as in developed countries. Public policies in the developing countries have their distinct features because of being affected by a variable socio-political environment including other problems and challenges. Poverty, illiteracy, unemployment problems, and uncertainty in developing countries have been playing a negative role in the policy process (Osman, 2002). As a part of the developing world, Bangladesh has also some common problems and challenges of implementing policies. In the context of Bangladesh, *Hilsa* protection activities have been interrupted by various problems and challenges. It seems that despite different policy initiatives of the government, there has

been a lack of compliance of existing *Hilsa* policies, and it has been found that it has been increasing through unregulated and unregistered ‘*Jatka*’ and ‘*Mother Hilsa*’ catching, overfishing, use of different prohibited nets and fishing gears, and by illegal trafficking, etc. The government has been providing incentives, trade materials, and other income-generating activities to the fishermen every year to increase production. But, an enormous amount of *Hilsa* brood and *Jatka* are caught by the fishermen during the banned periods every year. As a result, the banned ‘*Jatka*’ fishing net is still openly produced. The trend of prohibited ‘*Jatka*’ catching is shown in the table below:

**Table-1.1: Jatka catching by different times**

Year	Jatka caught (MT)	Comments
1994	4400	1. Average no of eggs/gram = 12,500
2000	19200	2. Hatching rate 50%, Saving rate 10%
2004	11000	3. <i>Jatka</i> caught (experimentally)
2007	15740	2.72 kg/hour in lower Meghna (2011).
2008	17070	4. Juvenile <i>Hilsa</i> : 2-12 cm,
2009	14450	<i>Jatka</i> : 11-15 cm
2010	14150	5. Restricted to catch <i>Hilsa</i> : below 25 cm
2011	12866	6. An adult <i>Hilsa</i> breeds 10-25 lac eggs.

(Source: BFRI, Chandpur, 2012)

From 1950 to date, more than 16 policies have been formulated regarding the protection and conservation of fishes but there are few separate policies in connection with *Hilsa* protection although this sector has a significant contribution to GDP in Bangladesh. “The Protection and Conservation of Fish, Act 1950 “and its subsequent rules 1985 (amended three times until 2014), National Fisheries Policy, 1998 and *Hilsa* Fisheries Management Action Plan, 2003 have been formulated to implement the act. Despite different acts and rules to restrict the fishermen, a large amount of ‘*Jatka*’ and ‘*Mother Hilsa*’ are still being caught by them by using *Current Jal*<sup>3</sup> (monofilament fiber

<sup>3</sup> ‘*Current Jal*’ means one kind of monofilament synthetic nylon fiber net which has been banned in 2002. Locally, gillnet is popularly known as ‘*Beheundijal*.’ It is a larger version of “*Patajal*” used to catch small fish. It is hung vertically across the river water so that the fish get trapped in it by their gills. Gillnetting is a common fishing method used by commercial fishers, artisanal fishers, coastal environments, rivers, and lakes. The mesh size of this type of net is very small. As a result, even larvae to large size fish can be trapped by it. This is very harmful for increasing fish production.

nets), *Behundi Jal* (gill net ) and other locally made fishing gears and these are sold openly in the local market (Monir et.al, 2016).

In the upstream part of *Padma, Meghna, Karotoya, Rupsa, and Payra* rivers, *Hilsa* fishing was restricted until 1972 and the production was gradually declining due to a lack of adequate water discharge from *Ganges* and *Farakka* barrages, siltation for constructing structures, water pollution destroyed eggs, lack of food and nutrition,, increased fishing pressure, catching mother *Hilsa* and *Jatka* and disruption of migration routes. All these factors are responsible for declining the expected quantity of catch of *Hilsa* from both the marine and river creating a threat to the livelihood of 0.46 million *Hilsa* dependent people (Momi, 2007). Moreover, the construction of water structures, water pollution by falling industrial waste to rivers, dredging and climate change create obstructions to the migration routes of *Hilsa*. The present problem of overfishing is very alarming for future *Hilsa* production in Bangladesh due to the lack of control over policy implementation (Israt et.al, 2015). Although fishermen are given incentives, the sanctuary and breeding grounds are also not free from illegal catching. To protect *Hilsa* recourses from these types of illegal activities, the Bangladesh government has recently taken multidimensional initiatives. However, In spite of existing government policies and initiatives, it has been observed that there still exist numerous gaps and lacking of proper policy implementation, which can indicate the real scenario regarding *Hilsa* protection activities in Bangladesh. The reasons behind this situation require analysis. So, this study will attempt to find out the present status and challenges of policy implementation regarding *Hilsa* protection in Bangladesh.

#### **1.4 Objectives of the Research**

The specific objectives of this study are

- a. to find out the present status of policy implementation regarding *Hilsa* protection in Bangladesh



- b. to find out the challenges of policy implementation regarding *Hilsa* protection in Bangladesh.
- c. to suggest ways forward for the protection of *Hilsa* fisheries.

### **1.5 Research Questions**

Research questions chosen by the author is very much relevant to the present context of *Hilsa* fisheries in Bangladesh. The questions have been chosen according to the literature review and research theory. To fulfill the purpose we need to get the answer to the following questions:

1. To what extent *Hilsa* protection policy implementation has been successful in Bangladesh?
2. What are the challenges of policy implementation regarding *Hilsa* protection in Bangladesh?

### **1.6 Significance of the Study**

The proverb goes “*Macher raja Ilish.*” It means “*Hilsa* is the king of fish” (Hossain et.al, 2018). Government is firmly determined to protect the *Hilsa* resource to ensure its desired development. In this regard, the ‘Ministry of Fisheries and Livestock’ has been continuously directing and guiding local administration, coastguard, police and naval force to work effectively for the successful protection and management of this resource. *Hilsa* fisheries policies and management action plans are formulated by the government to protect *Hilsa* and *Jatka* from the illegal caught by the fishermen. In the process of implementing those policies and action plans, different actors are involved. Generally, the actor’s role in developing countries is different compared to developed countries in the sense that the role of actors is not recorded in a developing country. Interest, promise, and attitude of the actors in the policy implementation process especially at the field-level play a very significant role. Public policies have a direct impact on the political, social, and economic life of people. It indicates the output of a political order which includes different policy tools followed for a particular purpose or to solve certain

issues (Knill and Tosun, 2012). Policies are formulated for the wellbeing of people and such well-being largely depends on their successful implementation.

The contribution of *Hilsa* has been seen as significant in the last few decades. The government has enacted policies and adopted the coordinated program to protect and conserve '*Jatka*' and mother *Hilsa* during spawning season since 2007 by providing incentives, compensation, and substitutes trade materials so that the poor fishermen can maintain their family and follow the banned program (DoF, 2017). But, it was observed from several research findings that the policy implementation concerning the *Hilsa* protection has become challenging for its lack of compliance of ban period i.e. illegal catch of mother *Hilsa* and *Jatka* by the fishermen have become alarming (Monir et.al, 2016). Different acts, rules, and unique coordinated action plans have been implemented by the government to protect *Jatka* and mother *Hilsa* every year by creating awareness among the stakeholders about the contribution of *Hilsa* fish to GDP. Stakeholders, public representatives, DFO, BFRI, local administration, coast guard, fishermen, and mass people dwelling near the bank of *Hilsa* prone river areas have been working to execute those policies and action plans (FRSS, 2017). In Bangladesh, an increase in production of *Hilsa* largely depends on the *Jatka* and mother *Hilsa* protection and the success of such activities is dependent on sufficient resource allocation, willingness of bureaucracy, awareness among the mass people, and positive political participation. It is suggested by different researchers that 45 percent of the existing quantity of production could be increased only by protecting *Jatka* from the illegal caught during the banned period. This study will explore the challenges of policy implementation and also concentrates on existing policy success at present regarding *Hilsa* protection.

### **1.7 Scope and Limitations of the Study**

Effective policy implementation is important to achieve objectives, and goals. Proper implementation of "The Protection and Conservation of Fish act, 1950" its respective

rules and government action plans can protect our natural and national resource '*Hilsa*' which will ensure production, improve the socio-economic condition of the fishermen, and finally can contribute a lot to our GDP. The scope of this study is to confine with the implementation status, and challenges of *Hilsa* protection policies the responsible bureaucrats, public representatives and fishermen. Every research work is followed by certain limitations. However, this study identifies the following limitations:

1. It is desirable and important to select of large sample size for more balanced assessment, and reliable findings. 38 no. of respondents of four Upazilas have been included in this study because of the limitation of time and resources. This limitation was imposed due to the advent Corona pandemic which restricted a larger field level survey.
2. Another major limitation of this study includes difficulty in interviewing the respondents due to the outbreak of Covid-19. Some respondents were difficult to reach for the interview and some tried to avoid face to face interview. Moreover, the this study is limited to the challenges of *Hilsa* policy implementation and related scenarios of only four Upazilas of Chandpur district.

### **1.8 Organization of the Study**

This research work consists of seven separate chapters.

**Chapter one:** It includes the background of the study, statement of the problem, objectives, and research questions, significance, scope, limitations, and Chapter outline.

**Chapter Two:** Chapter two covers the concept of policy implementation, literature review, Choice of theories, variables, indicators, and their operational definitions, analytical framework, issues generated from the literature review, literature gap, etc.

**Chapter Three:** Detail ways and means of research methodology will be discussed in chapter three which includes research design, the unit of analysis, and overview of the research area, sampling, data collection, and analysis method.

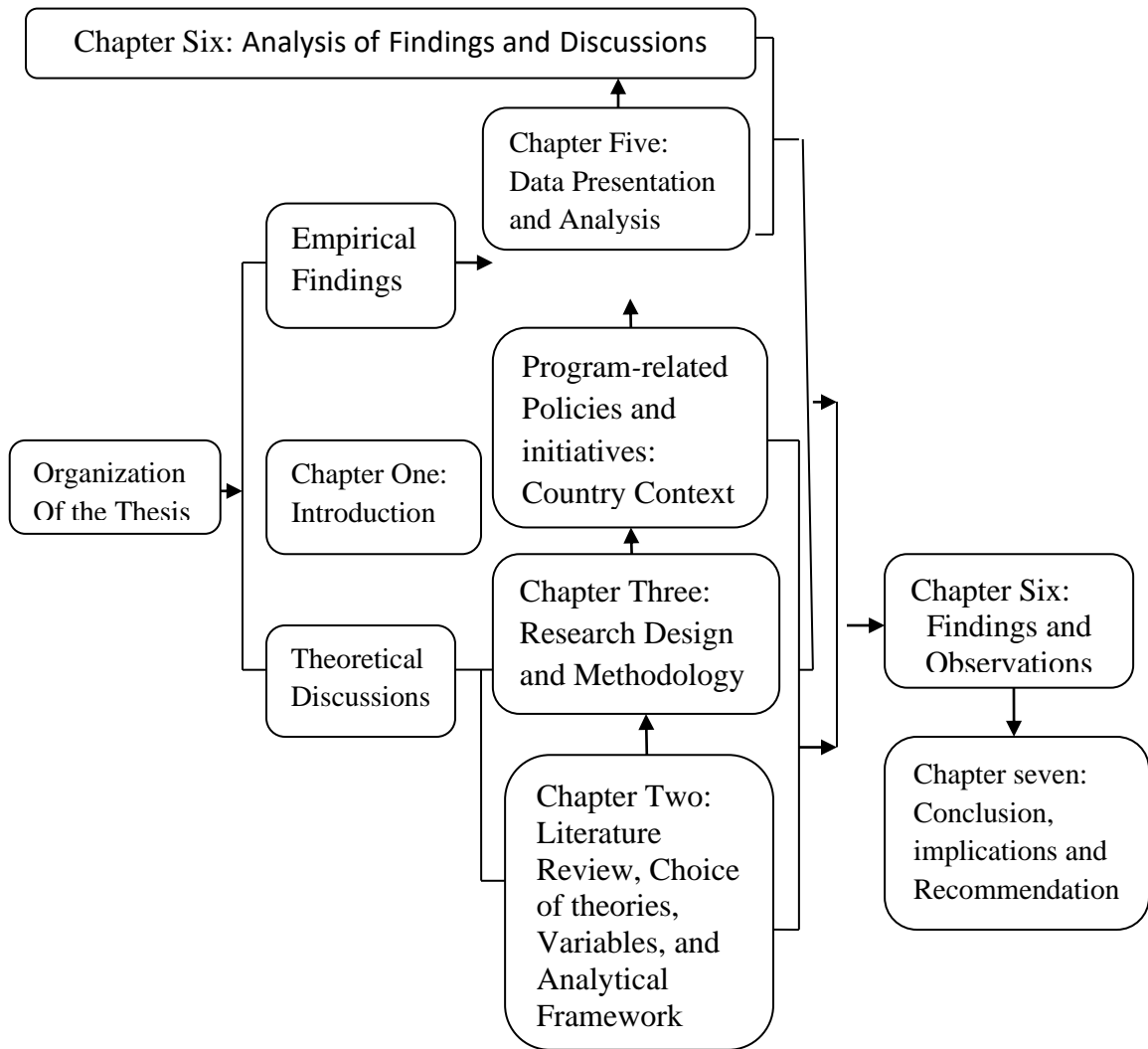
**Chapter Four:** This includes *Hilsa* related policies, and activities of the government.

**Chapter Five:** It covers data collection, presentation, correlation calculation, qualitative and quantitative analysis, present status and challenges of policy implementation, etc.

**Chapter Six:** It includes research findings and observations, revisiting the research questions, Linking theories, Implication for future research & recommendations.

**Chapter Seven:** Concluding remarks, Policy implication, Implications for future research, a summary of the major findings, and recommendations are included in the final chapter. The organization of this study has been shown in the figure-1 below:

**Figure 1.1: Organization of the Thesis**



### **1.9 Conclusion**

The introductory and first chapter of this research provides a blueprint of the investigation which focused on the introductory aspects of the study of *Hilsa* Protection Policy implementation in Bangladesh. It covered the background of the study with information on Policy implantation status, Success status, prospects of *Hilsa* resource in the context of Bangladesh, and Policy challenges, Statement of the Problem, Significance of the Study, etc. Further, it has mentioned the Research objectives and research questions of this study. Based on these introductory elements, the second chapter is developed which will elaborate at length on the supportive literature and analytical framework. The organization of the thesis is also presented in the beginning chapter- a glimpse of which will provide a concise idea about how the study will proceed further.

## **Chapter Two**

### **Literature Review and Analytical Framework**

#### **2.1 Introduction**

To study public policy and their implementation, specific theories, their background, and epistemological and anthropological assumptions are very important. A literature review includes a short review of what has been done about to with the proposed research problem. This section is aimed at drawing the key and significant observations related to this study and also to trace out the research gap i.e. what has been done and what has not been done in this perspective. A conceptual and theoretical understanding of existing policy implementation will be explained briefly in this section and will also be generated a summary of reviewed literature.

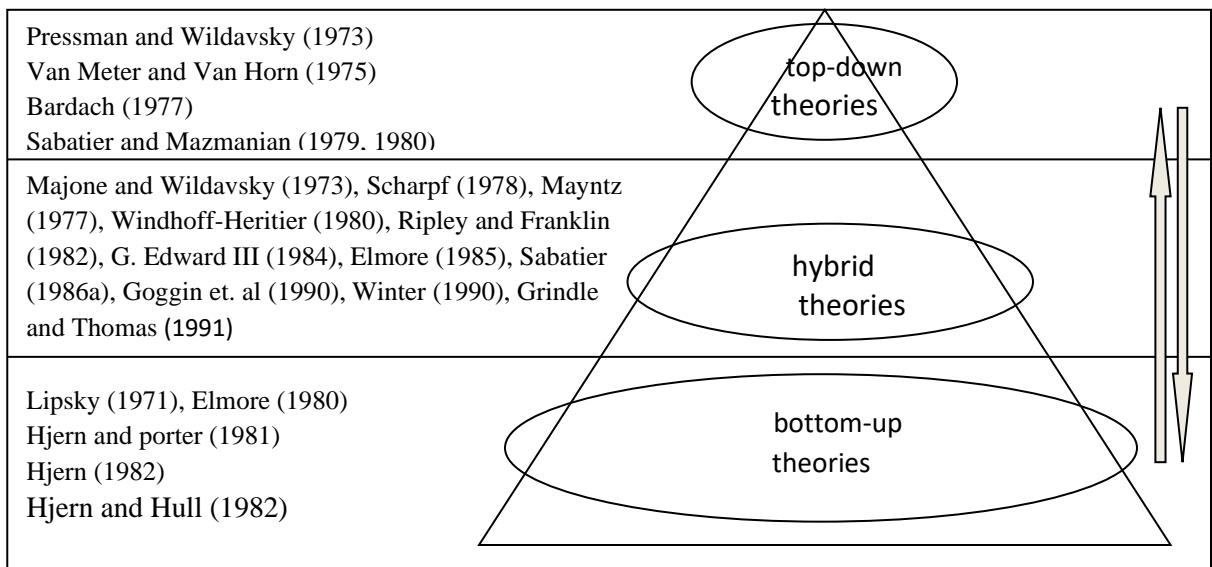
#### **2.2 Concept of Policy and Policy Implementation**

Policies refer to the output of a political system as it is realized in practice, including the Laws, Rules, Regulations, Decisions, Plans, Programs, and Strategies that follow a particular purpose. They are designed to achieve specifically defined goals and present solutions to societal problems. Public policies are action or non-action by the government concerning an issue (Knill and Tosun 2012). Public policy is the principled indicator of action taken out by executive branches of the state in connection with a class of consignment, in a manner correlative with the law and institutional customs (Wikipedia). Finally, according to Knill and Tosun these actions and non-actions of a government concerning an issue, signals that policies always have a focus. This focus can be broad or narrow. The fact that policies always have a focus also points to the motivation of having an action (or not having an action) on a certain issue. Such focus is measured on to what extent policies ensure social well-being.

Till today, no specific universal theory of policy implementation has come out though different implementation scholars have tried to develop such theories in the last

decades (Winter, 2003). From the beginning of evolving implementation research, two schools of thought have developed such as top-down and bottom-up. Top-down approaches are based on the proposition that policy implementation starts with a decision made by the central government. The impact of the implementers has been disregarded in this approach (Pulzl et.al, 2007). After analyzing the pros and cons of both approaches, scholars agreed that policy implementation is “a continuum located between central guidance and local autonomy” (Pulzl et.al, 2007). Hybrid approach molds the related views of both approaches into a middle ground by giving importance to the involvement of top and bottom level actors. It combines all components of the top-down and bottom-up theories and ensures evaluation during implementation (Ripley, 2010). The implementation research of three generations can be subdivided into three individual distinct theoretical gateways as mentioned in the figure below:

**Figure-2.1: Three models of policy implementation at a glance**



(Source: As modified from Parichat Pongloe *et al* article, 2015)

Policy implementation is a non-uniform process. It varies based on the policy type where each type of policy possesses different dimensions of implementation complicity. Although regulatory policies such as the Common Rule may seek harmony, an entity, in this case, higher education, affected by the policy can be contentious (Peter Deleon and Linda Deleon, 2002).

The implementation differs remarkably across time, levels, and places (Goggin et.al, 1990). Policy implementation in a democratic country is mostly scanned by the stakeholders. On the other hand, it is easier to implement in an autocratic regime because of less chance of involving more actors in the process of implementation. This discipline has been facing a lack of grand theories for a long time. Many obstacles were identified by the first-generation study in the way of effective implementation of policies. The studies of second-generation were deeply concentrated on interpreting success or failure of policy implementation by emphasizing on both approaches (Top-down and Bottom-up) of implementing (Stewart et.al, 2008) and also emphasized developing theoretical and analytical frameworks. These studies were also criticized because of it being theoretical, case-oriented, and noncumulative (Goggin et.al, 1990) and that research was not based on theory building (Pulzl et.al, 2007).

Street-level bureaucrats are the front-line public officials and they are the actual policy implementers (Lipsky, 1980). Research work of third-generation endeavored to fill the vacuum between top-down and bottom-up approaches through organizing insights of both camps into their theoretical framework. Third-generation research endeavored to encounter immediately the conceptual and measurement problems that have confined advancement in the discipline (Goggin et.al, 1990). Lack of theoretical sophistication has been considered a critical problem in the implementation literature. This type of theoretical lacking badly affects policy performance. In the process of policy implementation, the nature of policy, institutional features of the implementing authorities, and their communication, contextual factors (economic, social and political environment), and the response of the implementers have a combined contribution (Van Meter and Van Horn 1975). So, presently it is agreed by many implementation scholars that the future stage of research in policy implementation must be instructed in the direction of developing the specific theory (Stewart et.al, 2008)



In general, policy implementation means putting policy into practice and enforcing policies for social wellbeing. In more empirical words, implementation includes the variation of a policy output into a policy outcome. The term “policy implementation” has been defined by many scholars from different aspects. Implementation means the enforcement of the law in which different stakeholders, organizations, procedures, and techniques work together to put policies into practice to achieve policy goals (Stewart et.al, 2008). Successful policy outcomes depend not only upon designing good policies but also upon managing their implementation (Brinkerhoff et.al, 2002).

## **2.3 Literature review**

### **2.3.1 Global Context**

Van Meter and Van Horn (1975) in their article provide six variables for implementing a policy successfully. They opined that the nature of the policy, institutional behavior of the implementing authorities, and their communication, contextual factors (political, economic and social environment), and the reaction of the implementers have a combined contribution to the successful implementation of a policy. They have further mentioned that the meaning of implementation is ensuring, ascertaining, administering, fulfilling, and completing an assigned task. Policy implementation encircles those activities executed by public officials, public representatives, private individuals, or groups which are aimed at achieving certain objectives of policy decisions. They have suggested that lack of sufficient resources, incentive, competent staff, and implementer’s positive disposition, inter-organizational communication, and impact of political, economic and, social conditions, etc undermine the success of the policy implementation process (Van Meter and Van Horn, 1975).

Elmore (1978) in his article has determined four major components of successful implementation such as clearly defined duty and purpose which exactly reflect the intention of policy; a managerial action plan of allocating duties and performance measures to sub-units; an objective way of measuring sub-unit performance; and a

process of management monitoring and social consents enough to tackle subordinates accountable for their achievement (Elmore, 1978). Maznamin and Sabatier (1980) in their article explained the top-down and bottom-up approaches and also have emphasized the effective role of 'street-level bureaucrats'. They have suggested that lack of sufficient resources, professional and technical resources, lack of official commitment to statutory objectives, etc affect the policy implementation process (Mazmanian and Sabatier, 1980). Vedung (1997) has mentioned in his article that effective implementation of any policy may be undermined due to the lack of technical know-how, lack of administrative capabilities, the prevalence of self-serving goals of street-level bureaucrats, and absence of administrative willingness (Vedung, 1997).

Richard E. Matland (1995) in his research article pointed out that effective implementation needs consent with statutes' directives and goals; attaining particular success indicators; and development in the political scenario around a program. Bottom up models are more narrative type and enunciate that implementation can be better realized by giving attention to the policy from the standpoint of the intended groups and service providers. Policy implementation is assumed to occur at two levels (Matland , 1995). May and Finch (2009) in their article was in the opinion that policy implementation can be achieved with the help of four techniques such as coherence, participation, collective action, and reflexive monitoring. Coherence signals the system of differentiating where the new working practice is recognized by its differences from other practices. Participation is related to define and organize the people involving in any form of complicated interaction. Collective action is related to the task that is undertaken by groups, and individuals to determine a new system that becomes attached and forms part of everyday working practice. Reflexive monitoring is related to how the implementation of a newly adopted policy practice is incessantly assessed by the participants, both formally, and informally (May and Finch, 2009).

Narendra Raj Paudel (2010) in his article opined that it is a challenging and legal concern as well in third world countries to put policies into practice. But, poverty, people’s participation, political instability, and individual characteristics of developing countries have to take into consideration in case of the policy implementation process (Poudel, 2010). Parichat Pongloe et.al (2015) have used implementation as theoretical concept and mentioned that as an ongoing potential process, many factors affecting the effectiveness of policy implementation such as resource; communication, bureaucratic structure, and disposition or attitude (Parichat Pangloe et.al, 2015). Anisur Rahman Khan (2016) in his article has described that the effectiveness of implementation may be categorized into three dimensions alike Output, outcome, and the final outcome of policy, the impact of policy, and measure whether the policy drives to the welfare of the entire country. The success of policy outcome is dependent both on designing good policies and managing their implementation. The major factors of failure of policy implementation comprises faulty program theory, unclear goals and objectives, lack of coordinated planning, lack of standardization, intra-agency antipathies, and complexity of joint actions (Anis, 2016).

It has been observed from different studies that resource for policy implementation’, ‘commitment of lower-level officials’, political leverage (Grindle, 1991); ‘communication’, ‘bureaucratic structure’, disposition’ (G. Edward, 1984); and ‘administrative capacity’, ‘willingness of bureaucracy’, ‘autonomy’ and technical know-how of street-level bureaucrats (Vedung, 1997) may play a significant role in implementing policies. The most serious problem is that policy-makers control the administrative, political, and technological systems which influence policy implementation at the local-level (Elmore, 1978).

### 2.3.2 Summary of Literature Review

**Table-2.1: Summary of Literature Review (Global Context)**

Name of Authors	Major Findings
Van Meter and Van Horn,	Lack of sufficient resources, incentives, competent staff, implementer’s positive disposition, inter-organizational communication, etc undermines the

(1975)	policy implementation.
Elmore (1978)	Four major components of successful implementation are clearly defined duty and purpose, intention, managerial action, and performance measures.
Mazmanian and Sabatier (1980)	Professional and technical resources, official commitment, etc affect the policy implementation process.
G. Edward III (1984)	Factors affecting the effectiveness of policy implementation are resource; communication, bureaucratic structure, and attitude of the implementers.
Grindle and Thomas (1991)	Policy content, Goals and context, Conflicts among actors, Resource allocation, Commitment of lower-level officials, Coordination mechanisms among bureaucrats, Political leverage, Public reaction, and Structure of inter-governmental relations, etc affect the implementation process.
Maitland (1995)	Effective implementation needs consent with statutes' directives and goals; attaining particular success indicators; and development in the political scenario around a program.
Vedung (1997)	Lack of technical know-how, lack of administrative capabilities, in prevalence of self-serving goals of street-level bureaucrats, and absence of administrative willingness affect the implementation process.
May & Finch (2009)	Policy implementation can be achieved with the help of four techniques like coherence, participation, collective action, and reflexive monitoring.
Narendra Raj Paudel (2010)	Poverty, people's participation, political instability, and individual characteristics of developing countries should be taken into consideration.
Anisur Rahman Khan (2016)	The major findings suggested that the human affairs research public policy may be done in the best way by using a hybrid approach.

### 2.3.3 Bangladesh Context

M. Nath Sarker et.al (2019) was of the view that the initiatives for proper management of *Hilsa* fish appear to be insufficient for sustainable production because of catching a huge amount of *Hilsa* by the fishermen during the banned period. They have also suggested that more incentives, easy 'soft loans', and 'one house one farm' activities of government can play a very important role in *Hilsa* protection. They have suggested that unregistered and unconscious fishermen should not be allowed for fishing. Those who have legal and appropriate fishing boats and gears should be allowed for a particular area as a quota system (M.N Sarker et.al, 2019). Md Monirul Islam et.al (2016) has mentioned that about 40% of fishermen of Bangladesh are explicitly or implicitly dependent on *Hilsa* fishing. There are about 6500 fish markets of which 4500 are small local rural markets. Mobile court and task force team lack physical, financial, and material resources, and law enforcement agencies such as police, coastguards are not always found during the operation (Monir et.al, 2016).

Israt Jahan et.al (2015) pointed out that as an easy way of earning money, the number of fishermen and fishing vessels is gradually increasing. Overfishing activities have endangered the livelihood of the fishermen. The present problem of overfishing is very alarming and risky for future *Hilsa* production in Bangladesh (Israt et.al, 2015). This is because of the lack of administrative control and other limitations in implementing *Hilsa* protection policies (Beddington et.al, 2007). During the last two decades, *Hilsa* production was reduced up to 20% from inland water in Bangladesh and increased three times in the marine water (Miah, 2015). Essam Yassin et.al (2013) in their research study have described in findings that the incentives received by the fishermen during the banned period are very low. The effectiveness of monitoring and enforcement could be improved by employing the fishermen communities in monitoring, and policing operations as part of the compensation program. Moreover, giving emphasis on compliance, ensuring the participation of local fishermen in monitoring and policing would increase the scope of local jobs and empower them to become stewards of their resources (Yassin, 2013).

Arafat Siddiquee (2013), in an official statement of the government of Bangladesh, has mentioned that more than 16 acts, rules, and ordinances have been formulated regarding fisheries protection in Bangladesh since the 1950s. It was felt for a long time that, a separate policy should be formulated regarding *Hilsa* (Siddiquee, 2013). Based on the information found from the article written by Masud Ara Mome (2007), it is evident that the present *Hilsa* fishery has been suffering greatly from implementation challenges and she has supported this statement by overfishing, over explicated stocks and much declined flow of economic benefits. She also argued that everyone has open access to *Hilsa* fishing. *Hilsa* migrates to release eggs for 7 months (May-November). *Hilsa* migrates generally 50 to 100 km but it has been known to migrate towards upstream up to 1200 km for breeding (Mome, 2007). Martin. L Van Brakel et. al (2018) described that excessive poverty, indebtedness of microcredit loans, inability to pay the installment of loans with interest, and lack of opportunities for AIGA are the actual cause of lack of compliance with the

*Hilsa* banned period. The study has suggested that around 56 percent of fishermen catch *Hilsa* during the banned periods and, 44 percent of respondents have admitted that fishermen catch fish during banned time to reduce their loan burden (Martin et.al, 2017).

### **2.3.3(1) Information from Media**

#### **A. Action against mother *Hilsa* and *Jatka* catching illegally by the fishermen**

##### **a) 11 fishermen Jailed in Bhola in defying Mother *Hilsa* fishing ban (March 2, 2020):**

During the breeding season, the hoard of *Hilsa* fries remain in the breeding area. During the banned period, preserving, collecting, transporting, marketing, and storing of *Hilsa* are illegal and a punishable offence. A mobile court in Sadar Upazila led by Executive Magistrate today sentenced 11 fishermen to one-year in prison with Taka 5,000 fine each for violating the ongoing fishing ban in the Meghna river to protect mother *Hilsa* and fries (Source: The Business Standard).

**b) 1/2 yrs jail, Tk 5000 fine for violating *Hilsa* ban:** Anyone found with catching, marketing and, storing *Hilsa* during the banned periods will be sent to jail for one or two years and fined Tk 5000. There is a provision of double punishment for committing the same offence again. They were caught from Bholar Khal area this morning. Around 4,000 meters of illegal nets, 60-kg fish, and two engine boats were seized from their possession, said Bhola Sadar Upazila Fisheries Officer (Source: UNB news, October 3, 2018).

c) 8 Fishermen Jailed for catching *Hilsa* in Manikganj (12 October 2019, The Business Standard).

d) 33 Fishermen were punished for violating *Hilsa* ban and catching *Hilsa* from Meghna and Tentulia river in Bhola district. 15 Fishermen were given 1-year imprisonment and rest of them were fined by the Executive magistrate (The Daily Star, 13 October 2018).

f) 31 Fishermen were sentenced for 1-year of imprisonment by executive magistrate in Faridpur district for catching mother *Hilsa* in Padma river. Prohibited nets and mother *Hilsa* were seized (The Dhaka Tribune 18 October 2016).

f) UNO Shibaloy and Horirampur of Manikganj district detained 16 fishermen while they were illegally catching *Hilsa* during the banned period.

g) Mobile court team members and executive magistrates were attacked by the fishermen at the Meghna river during the *Hilsa* ban in Chandpur district. Four members of the mobile court team were injured while police attempted to detain them by firing 18 blank shots. At last, they were caught with nets and boats (17 October 2018, The Financial Express).

h) For violating the *Hilsa* ban, 47 fishermen were sentenced to jail and 2 were fined (The Daily Star, 17 October 2018). For violating the *Hilsa* ban, 16 fishermen were sentenced to jail in Chandpur (British Asia News, 12 October 2019).

### **B) *Hilsa* was caught and sold by the syndicate: Fishermen received the minimum**

If *Hilsa* worth one lakh is caught

1. The owner of the net and trawler will get half, 2. *Sareng or Majhi* (boat operator) will get 14 percent, 3. Others associated with the trawler will get 4 percent, 4. Fishermen will get only 2 percent, 5. 30 percent of the cost of the trawler and 6. If only half of the sold price is received by the fishermen, it would change their life dramatically. The cause of the high price of *Hilsa* is the influence of the “Mafia cycle”. The nets of this cycle spread from the Bay of Bengal to Calcutta. **(Source: Prothom Alo, 9 October 2020)**

### **C) Intermediate at all stages**

Prothom Alo spoke to fishermen, boatmen, trawler owners, donors, warehouse keepers, and *Hilsa* exporters in Cox's Bazar, Chittagong, Bhola, Barisal, and Chandpur to know the history of *Hilsa* trade. According to everyone, the beneficiaries control every step from catching *Hilsa* in the sea to selling it in the market. It is difficult to break this barrier overnight. The assistance given by the government to the fishermen during the season of *Hilsa* catching due to middlemen is not really of much use to them. These fishermen are day laborers without nets and boats. The 'profit molasses ants' are those who invest money in catching and buying *Hilsa*.

Talking about the different stages of marketing from catching *Hilsa*, local warehouse traders have agreements with *Hilsa* fishermen. According to him, the traders provide

financial assistance to the fishermen during the off-season. The condition is that the captured *Hilsa* should be sold only to the traders. Wholesale *Hilsa* sellers in Dhaka are in touch with these traders. Many times the big wholesalers and exporters in Dhaka pay in advance to the warehouse owners. Since the whole process is done through advanced money transactions, the sale of *Hilsa* is also slightly less than the market price.

#### **D) Private money lenders (*Dadan's*) stealth trap**

Because of poverty, fishermen cannot buy fishing boats and nets. As consequence, they received the high rated loan (*Dadon*) from the local money lenders. Traditionally, it has been prevailing between the fishermen and money lenders for a long time. This whole money is invested by the storekeepers. This is *Dadan*. *Dadan's*<sup>4</sup> money is increased every year. Instead of this payment, fishermen have to give fish without paying. The trawler owners who take *Dadan* will never be able to break out of the net again. The condition is that after catching the fish, it has to be sold to the storekeeper at a fixed price. The warehouseman sold it to the wholesalers and deducted 12 to 15 percent commission. This is a curse for the fishermen which take away most of their earnings from fishing. (Source for B, C, D: 9 October, 2020. Prothom Aloe, Published by Kamrul Hasan, Dhaka) (Reporting by: Pranab Bal, Chittagong; Abdul Quddus, Cox's Bazar; Jasim Uddin, Barisal; Niyamat Ullah, Bhola and Alam Palash, Chandpur)

#### **2.3.3(2) Hilsa Production in Bangladesh**

As a secondary source, *Hilsa* Production data of the last 20 years were collected from the Ministry of Fisheries and Livestock to compare the primary data. The increase in production from 2016 to 2017 was more than 100000 MT. From 2000 to 2016, except for these two years, an average increase in yearly production ranges from 1000 MT to

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<sup>4</sup> At the beginning of *Hilsa* breeding season, the trawler owners have to spend TK. 3-5 lac to repair nets, trawler, and other expenses. In all, a trawler floating in the sea or river costs 8-10 lac in advance. The poor fishermen cannot bear these expenses. The whole money is invested by the local storekeepers or private money lenders or by the so called Mohajon with certain conditions. Basically, this money is called '*Dadon*'. *Dadon* money is destructive not only for the fishermen but also it compels the fishermen to violate mother *Hilsa* and *Jatka* banned periods.



20000 MT only. But, there was a significant amount of reduction in production from 2001 to 2003. Due to a decline in production from 2001 to 2003, the government has enacted a coordinated program to conserve and protect *Jatka* and mother *Hilsa* during the spawning season, and also developed a separate economic code for the conservation of *Jatka*. Since 2007, ‘*Jatka* Conservation Week’ has been observed in 91 coastal Upazilas of 23 districts as a national program to protect *Jatka* to ensure both of its growth and production through reducing overfishing (DoF, 2019). Since then, *Hilsa* production has been gradually increasing as a result of government interventions. But, researchers suggested that this volume of production could be at least 45 percent more only by protecting *Jatka* during the banned time. As per the literature review 56 % of fishermen violate banned periods, and 44% fishermen catch fish during the banned time to reduce their loan burden. (Source: DoF, 2019) (Details are given in Annexure-IV & V)

### 2.3.3 (3) Summary of Literature Review (Bangladesh Context)

**Table-2.2: Summary of Literature Review (Bangladesh Context)**

Name of Authors	Major Findings
Nath Sarker et. al (2019)	Proper management of <i>Hilsa</i> fish appears to be insufficient for sustainable production due to catch a huge amount of <i>Hilsa</i> during the banned period.
Martin L Van Brakel et.al (2018)	Extreme poverty and lack of opportunities for AIGA are the main cause of noncompliance with the <i>Hilsa</i> banned period.
Md. Monirul Islam et. al (2016)	<i>Hilsa</i> production started to fall in Bangladesh due to overexploitation by the fishermen, weak institutional settings; and lack of good governance; awareness; resources and a slow judiciary system to carry out enforcement.
Israt Jahan et. al (2015)	Overfishing activities have endangered the livelihood of the fishermen. The present problem of overfishing is very alarming for future production in Bangladesh for lack of control and policy implementation.
Essam Yassin et. al (2013).	Limited financial and technical capacity is the cause of ineffective compliance and monitoring of policies. They suggested that fishermen breach regulations mostly at night showing the reason that some have not got incentives and those who got are insufficient.
Masud Ara Mome (2007)	This study suggested that it is not possible to expect profit from <i>Hilsa</i> if we cannot implement management policy. Fishermen should behave rationally. They have free access to the river to catch <i>Hilsa</i> and <i>Jatka</i> .

In fine, the studies suggest that public policy implementation in Bangladesh have some common factors and actors. The factors are resources, incentives, bureaucratic structure, administrative and technical capacity, will of street-level bureaucrats, coordination and communication, etc. Actors involved are bureaucrats, political leaders, civil society, Media, etc.

### **2.3.3 (4) Issues Generated from the Literature Review**

Based on the above literature, it can be said that most of the works of various scholars emphasized on challenges of policy implementation. Major factors affecting policy implementation regarding *Hilsa* protection in Bangladesh are lack of resources, incentives, good governance, coordination, etc. On the other hand, the extreme poverty of fishermen, weak institutional arrangement, and lack of commitment and capacity of street-level bureaucrats are also significant. It is found that particular policy implementation is very much specific to the policy context because of its dependency upon administrative, political, economical, social, and attitudinal factors which impacts how strongly or weakly a policy has been implemented. Van Meter and Van Horn (1975), the oldest scholars of policy implementation theory argued that sufficient resources, incentives, inter-organizational communication, and the impact of political conditions, competent staff, and implementer's negative disposition, etc. affect the policy implementation process. Mazmanian and Sabatier (1980) recommended professional & technical resources and official commitment as important factors affecting implementation. Another scholar G. Edward III (1984) suggested communication; resources, disposition or attitudes and bureaucratic structures, etc. interact and influence the effectiveness of implementation. Vedung (1997) has opined that lack of administrative capabilities and the absence of administrative willingness of street-level bureaucrats affect the implementation process.

Some scholars recommended a hybrid approach with the combination of both top-down and bottom-up approach where street-level bureaucrats will play a vital role in

implementing policies in coordination with central level reaction. They should have much autonomy and discretion in implementing policies since they have to face the real scenario very closely. Grindle and Thomas model (1991) suggested that policy content (effects of content on implementation in the third world), policy context (How the political context of administrative action effect implementation), and goals (goals are transmitted into action program that seems to achieve the results), conflicts among actors, resource allocation, the commitment of lower-level officials, political leverage, etc. affect implementation. Policy implementation is a complex phenomenon that may vary from country to country. Researchers have suggested that the lack of financial and technical capacity, weak institutional arrangements, lack of good governance, lack of awareness among the fishermen, lack of incentives and their improper distribution, poverty, overfishing activities, etc. are the main cause of ineffective compliance and monitoring of *Hilsa* protection policies in Bangladesh. Despite limitations and challenges regarding *Hilsa* protection policy implementation in Bangladesh, we have to ensure the effective utilization of our limited resources so that we can implement *Hilsa* protection policies successfully. This effort will enhance economic growth and improve the socio-economic condition of the fishermen.

### **2.3.3 (5) Literature Gap**

The major shortcoming in the policy implementation process is the lack of particular theoretical framework development. It is evident in implementation literature that the implementation failure is common, non-random and patterned (Peter deLeon and Linda deLeon, 2002). Implementation studies are hindered by a lack of a theoretical perspective specifically a theoretical framework amidst which policy implementation can be tested (Van Meter and Van Horn, 1974). It is evident from scholar's study that most of the study results emphasized non-compliance of the existing *Hilsa* policies, lack of incentives and resources, major threats of *Hilsa* fisheries, socio-economic conditions of the fishermen, and different obstructions of *Hilsa* fisheries protection. *Hilsa* is contributing more than 1% to our GDP although this sector has been facing many

challenges. It means that this sector could contribute more if the policies might be implemented more effectively. It is suggested by various researchers that it is not possible to increase production if we cannot implement the existing policies effectively. Therefore, we have to find out the challenges of policy implementation regarding *Hilsa* protection. Reviewed literature showed that no study closely identified the challenges and present status of policy implementation. For these reasons, it has triggered my interest to find out the present success status and challenges of policy implementation regarding *Hilsa* protection in Bangladesh.

## 2.4 Variables used in this Study

As per the literature review and related different theories and models, variables and their measuring indicators are selected for this study. *Hilsa* protection has been selected in this study as a dependent variable. Four independent variables are Resource for Policy Implementation, Incentives for the Fishermen, Commitment of lower-level officials, and Political Disposition. However, we have found that no single theory can be used to understand the implementation of *Hilsa* protection in Bangladesh. Analyzing the different theories, and literature review we think that the concepts from Van Meter and Van Horn's theory, 1975 Grindle and Thomas theory, 1991, and George Edward III model, 1984 are most relevant to this research work.

### 2.4.1 Variables and their Sources of Theories

#### Independent variables

1. Resource for Policy Implementation
2. Incentive for the Fishermen
3. Commitment of Lower-level Officials
4. Political Disposition

#### Dependent variable

1. Hilsa Protection

The theories and their major components are shown in the Table 2.3 below:

**Table-2.3: Theories and Their Major Components**

Theories/Models	Major Components
Grindle and Thomas model, (1991)	Policy Context, Policy content, and goals, Conflicts among actors, Resource, Commitment of lower-level officials
Van Meter and Van Horn, (1975)	Sufficient resources, Incentives (Economic condition), Inter-organizational Cooperation
G. Edward III, (1984)	Communication, Bureaucratic structure, Resource, Disposition or Attitudes of implementers.

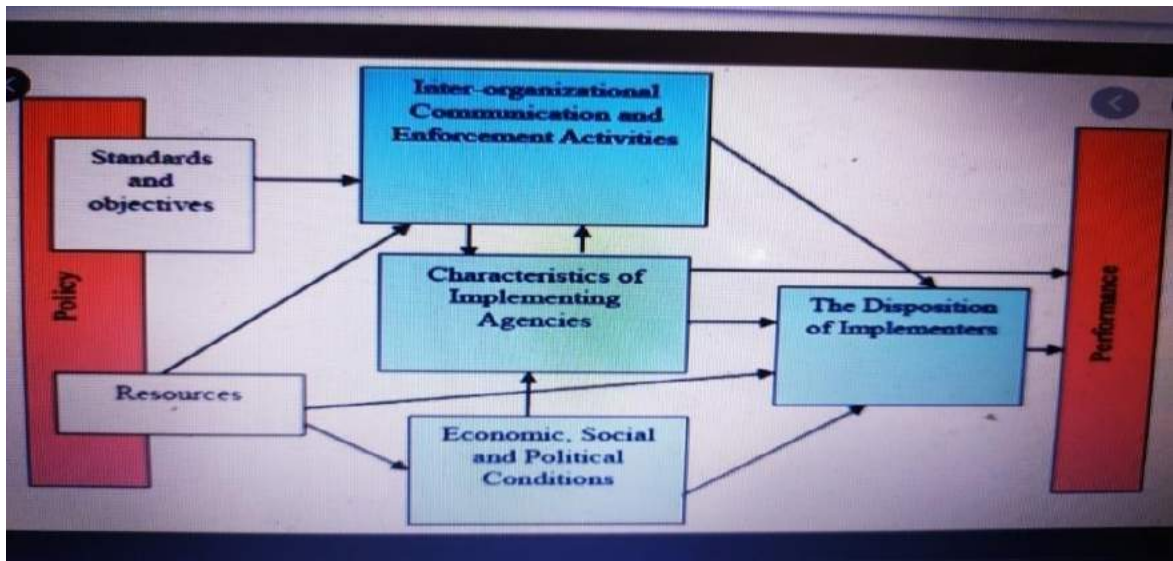
## **2.5 Choice of Theories**

The theory is used in several ways in qualitative research. “The researchers use the lens of the theory that provides a completely transparent idea for studying gender, class, and race. This transparent idea is a safeguard to shape the forms of asking questions and informing how data is collected and explained” (Creswell, 2009). Qualitative research follows inductive nature based on the development of theory. When looking at theories, researchers must consider their observable implications, whether the observations are relevant to the theory’s implications, and what the observations allow researchers to discover the theory’s correctness. Theories are the guider of data. To conduct precise research work, we need to have concepts and theories that we rely on. Besides, these concepts and theories, their specific ontological and epistemological assumptions may also be linked to more appropriate methodologies. The theories relevant for this study are as discussed below:

### **2.5.1 Van Meter and Van Horn’s Theory, 1975**

Meter and Horns depicted 6 variables of the top-down model such as policy standards and objective; Resources; inter-governmental communication; nature of implementing agencies; economic, social, and political conditions and disposition or attitudes of the implementers. The implementation process of any policy is greatly undermined because of the scarcity of adequate resources and incentives (Van Meter and Van Horn, 1975). Policy implementation theory as suggested by Van Meter and Van Horn in the context of “The Policy Implementation Process: A Conceptual Framework” has shown in the figure-2.2 below:

Figure-2.2: Policy implementation Process by Van Meter and Van Horn, 1975



(Source: Adopted from Van Meter and Van Horn, 197: 462.)

### 2.5.2 Grindle and Thomas's Theory, 1991

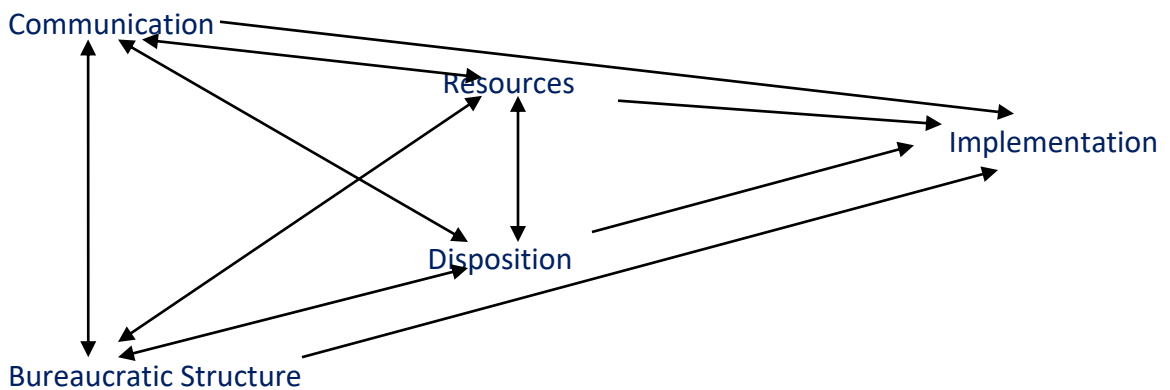
This model suggested that policy content and goals, conflicts among actors, resource allocation, the commitment of lower-level officials, political leverage, etc affect policy implementation. Grindle and Thomas in their article opined policy implementation as the combination of mechanisms, resources, and relationship which connect policies to program action. Simply speaking, it is the carrying out, accomplishing, fulfilling, and completing a specific task. Planning and mobilization of sufficient physical, human, and material resources are required to ensure sustainable and effective implementation of policies. Policy-makers and public managers will take a strategic decision considering the political and economic environment. The public reaction can play a critical role in implementing policies and in that case bureaucratic agencies, administrative officials, and public officials should be very cautious because such reaction is supposed to happen when the policy becomes a burden to the people. The implementation stage should be an open space for the policy-makers, public managers, decision-implementers, stakeholders, donors and people. Logistic support and sufficient resources determine the capacity of implementation. Taking biased and authoritative

decisions can create risk in the policy implementation process. These are the main messages of the Grindle and Thomas model.

### 2.5.3 Implementation Model by George C. Edward III (1984)

One well-known theory of public policy implementation is the implementation theory by George Edward III. G. Edward found that policy implementation is a dynamic process and many factors interact with it and influence its effectiveness. Edward has considered four key issues playing a significant role to achieve success in policy implementation based on its effectiveness which is as shown in figure 2.3 below:

**Figure-2.3: Policy Implementation Process by G. Edward III, 1984**



(Source: Adopted from George C. Edward model, 1984)

Figure-2.3: George. Edward III model (Source: From the Parichat Pongloe, Article 2015)

The theories described above will be used in this study because these theories comply with the variables (Resource for policy implementation, Incentives for the Fishermen, Commitment of lower-level officials, and disposition or attitude) used in the research.

### 2.6 Analytical Framework

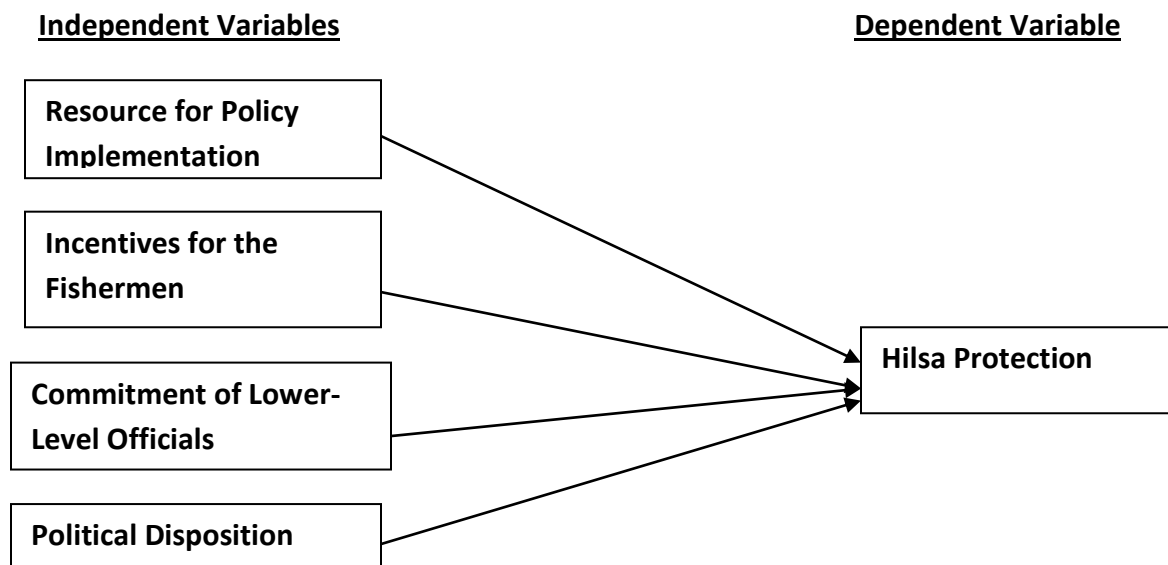
The analytical framework of this research work was derived from the basic concepts shown from

1. Van Meter and Van Horn's Theory, 1975,
2. Grindle and Thomas Theory, 1991 and
3. G. Edward III Model, 1984

**Table-2.4: Summary of some scholar’s Concept regarding Policy Implementation**

Name of Scholar	Elements/Factors affecting policy implementation
Van Meter and Van Horn, 1975	Sufficient resources, Incentives, Inter-organizational communication, political conditions, competent staff, implementers negative disposition
Grindle and Thomas, 1991	Conflicts of actors, Resource, Commitment of lower-level officials, Political leverage, People’s reaction, and inter-governmental relation
G. Edward III, 1984	Communication, Bureaucratic structure, Resource, Disposition
Mazmanian and Sabatier, 1980	Professional and Technical resources, Official Commitment

**Figure 2.4: Analytical Framework**



(Source: Developed by the Author)

**Table-2.5: Variables and their Measuring Indicators**

Variables	Indicators	Sources of data
Hilsa Protection	Degree of implementation of ban policy, Perceived Volume of Production	Primary data : 1. Questionnaire survey . Public Officials 2. Key informant interview . Public Representatives 3. In-depth interview
Resource for Policy Implementation	Financial Resource, Human and Material Resource	



Incentives for the Fishermen	Perception of the Fishermen on incentives, Socio-economic Development of the Fishermen, Selection of Fishermen, and Distribution of Incentives.	. Fishermen Secondary data: Literature review, Journals, Publications & Quantitative data.
The Commitment of the Lower-level Officials	Administrative Capacity, Administrative Willingness	
Political Disposition	Political Participation, Fulfillment of Political Commitment	

## 2.7 Dependent Variable

### 2.7.1 Hilsa Protection

The main reason to choose *Hilsa* Protection as the dependent variable of the study is because *Hilsa* is not only contributing a lot to our GDP but also the livelihood of a huge number of fishermen especially the poorest and most marginalized fishing communities are explicitly or implicitly dependent on *Hilsa* fishing. The demand for *Hilsa* has been increasing due to its food quality and economic value, and traditionally it is recognized in Asia. Reviewed literature indicates that *Hilsa* resource is under threat from several man-made and natural disasters. According to “The Protection and Conservation of Fish act, 1950”, mother *Hilsa* and *Jatka* catching and use of monofilament nets (*Current Jal*) & Gillnet (*Behundi Jal*) is strictly prohibited and the government has been taking so many initiatives as mentioned earlier at problem statement. The government has been providing incentives, Alternative income-generating activities (AIGA), and distribution of nets, cows, goats, sewing machines, vans, and other substitute materials to the fishermen throughout the country every year. Despite providing all these supports from the government, unfortunately, some fishermen are found to catch mother *Hilsa* and *Jatka* during the government declared banned period causing a huge loss of production every year. *Hilsa* is the most important aquatic resource and it is a prospective sector in Bangladesh. To produce more *Hilsa*, we need to protect mother *Hilsa* and *Jatka* by implementing policies. Therefore, *Hilsa* protection policy implementation is required to improve by making it more effective and sustainable.

## **2.8 Independent Variables**

### **2.8.1 Resources for Policy Implementation**

The success of policy implementation is largely dependent on the capability of utilizing available allocated resources. Resources in this study include financial, human and, material resources. The most important determinants in the policy implementation process are human resources. It refers to the sufficient manpower employed in the implementer's office. It also includes financial and material resources that determine the policy performances. All these are treated as vital factors affecting the successful implementation of any policy.

### **2.8.2 Incentives for the Fishermen**

Incentives have been selected as one of the most important independent variables of this study. It has a great impact on *Hilsa* protection policy implementation in Bangladesh. In the existing system of government, incentives are distributed to the fishermen during mother *Hilsa* and *Jatka* protection banned periods. 20 kg of rice is given for 22-days mother *Hilsa* protection activities and 160 kg of rice is given to them for 4 moths *Jatka* protection activities. Fishermen are also given other substitute materials as mentioned earlier in section 2.6.1. This study will try to assess whether such type of incentives is distributed properly, whether the fishermen are satisfied with it or whether it is playing any role in implementing mother *Hilsa* and *Jatka*.

### **2.8.3 Commitment of Lower-level Officials**

The commitment of lower-level officials within the bureaucracy is an important intervening factor that has great influence to achieve the policy goals and their actual performance in society. It is said and believed that the more the public officials are committed implementing policies, the more the success in implementing public policies effectively. It measures the relationship between the policy goal and services actually delivered. In the case of administering any given policy or program, different actors at different tiers of government are involved who are supposed to choose specific

allocations of public resources and many others may try to influence decisions. Moreover, while implementing any policy, in absence of a reasonable amount of responsiveness; public officials are unable to evaluate policy performance and its success. There exist problems among the policy administrators to ensure a sufficient amount of responsiveness for providing flexibility, support, feedback, and maintaining enough control over the distribution of resources to achieve the desired goals. *Hilsa* protection policy implementation in Bangladesh is very much dependent on the administrative capacity, willingness, and commitment of the lower-level bureaucrats as clearly reflected by Vedung (1997). The extents to which the political regimes and administrative organizations have the power to implement policies are very important.

Administrative capacity indicates the measures of governance quality of bureaucratic organizations. In their latest (May 2014) 'Governance Report', Lodge and Wegrich divide administrative capacity into four categories. These are coordination capacity, analytical capacity, regulation capacity; and delivery capacity related to the exercise of power and providing public services in practice. Moreover, the 'internal orientation' of the administrative capacity building focuses on improving the provision of public goods and services by the various public institutions as an end in itself (Lodge M, & K. Wegrich, 2014). The general elements of administrative capacity have shown in the figure 2.5.

**Figure 2.5: General elements of measuring administrative capacity.**



Source: *Ecorys, Assessment of administrative and institutional capacity building interventions and future needs in the context of European Social Fund, 2011, p.49*

#### **2.8.4 Political Disposition**

Disposition is the character and characteristics or attitudes held by the implementer such as participation, commitment, honesty, democratic nature, etc. In the case of *Hilsa* protection, if the public representatives (implementer) have a good attitude, then they will be able to run the policy well as what is desired by policy makers. When the implementer has different characteristics or perspectives from policy makers, the process of implementing the policy also becomes ineffective (Juliartha and Edward, 2009). To achieve the policy goals, political participation can have a great impact, repeatedly happens at the local-level, far beyond the control of national administrators charged with the policy responsibility. Implementation problems in developing countries might often be marked by the failure of bureaucratic and political officials. The political representatives can change the attitude of the local-level officers to the same goal of bringing policy into practice. As clear by Edward (1984) that “Their attitudes, in turn, will be influenced by their views toward the policies and by how they see the policies affecting their organizational and personal interests.” Interest groups may be similarly ineffective in policy implementation in third world countries.

Rossi et al. (2004) stated that many policies are not implemented as per the desire of the politicians. Political influence in the policy implementation process in the third world countries is very significant and such type of policy intervention may simply be poorly managed or may be a cause of policy failure. The impact of “political disposition” is very significant at the field-level and negative attitude is a barrier to effective implementation of policies. As consequence, it has been considered as an important independent variable in this study which has been measured by the participation and the fulfillment of commitment of the political representatives (Up chairman) in the policy implementation process. Edward considered policy implementation as a dynamic process where many factors interact and influence the effectiveness of the policy implementation. Edward III [7] said that “in our approach to the study of policy implementation, we begin in the abstract and ask: What are the preconditions for

successful policy implementation? What are the primary obstacles to successful policy implementation?” One of the four key issues that play important role in policy implementation as per Edward (1984) is the disposition of the implementers (Fig: 2.3)

### 2.8.5 Operationalization of the Variables of the Study

Operationalization is the process of strictly defining variables into measurable factors. The process defines fuzzy concepts and allows them to be measured, empirically, and quantitatively. The operational definitions of variables are discussed in the table below:

**Table-2.6: Variables and their Operational Definition**

Variables	Operational Definition	Collection method
Resource for Policy implementation	Recourse indicates financial; physical and material resources which may be in the monetary form of human capital. It is operationalized by the financial, human, and material resources allocated in the implementer’s office for implementing <i>Hilsa</i> fisheries policies and plans of the government.	Questionnaire Survey
Incentives for the Fishermen	Incentives refer to as a variety of rewards to achieve particular results. In this study, it is a system of paying money or materials to motivate fishermen to refrain from catching mother <i>Hilsa</i> and <i>Jatka</i> to ensure more production. During the banned period of mother <i>Hilsa</i> and <i>Jatka</i> catching, the government has been giving 20 kg and 40 kg of rice every month and other substitute materials as incentives at <i>Hilsa</i> producing districts in Bangladesh every year.	Key informant interview
The commitment of the lower- level officials	The commitment of the lower-level officials may be defined as the dedication of an officer for a certain course of action for which the employer is also committed paying. Knowledge and expertise of the implementers can be a vital issue for implementing policies. Resources, administrative capacity, willingness, and attitudes of the lower-level officials may influence them to be more committed providing more service.	Questionnaire Survey
Political Disposition	It can be defined as the political commitment and participation with a positive attitude to keep attached to a specific task until it is done. The role of political representatives is significant in the third world countries to ensure effective policy implementation.	Key informant interview

Hilsa Protection	It is defined by the seasonal ban on mother <i>Hilsa</i> and <i>Jatka</i> catching, Zone restriction, <i>Hilsa</i> conservation, Observation of Fisheries week, Declaration of breeding grounds, sanctuaries and management to increase production.	In-depth interview
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## 2.9 Conclusion

There are few policy implementation theories although many researchers have been already researched on *Hilsa* fisheries in connection with bio-diversity, obstructions, the impact of sanctuaries, breeding ground and growth, incentives and socio-economic condition of the *Hilsa* Fishermen, Alternative income-generation activities, protection, conservation, production difficulties, lack of administrative capacity and resources, coordination gap, etc. This research literature will contribute a lot to generate concept which will help to conduct the research work. Though there are a few specific single theories, combining relevant theories and scholar's models have been taken into consideration for developing a theoretical framework which will help to enrich the theoretical foundation of this research work. Relying on these literature, theories, and frameworks, this research work will be further preceded.

## **Chapter Three**

### **Research Methodology**

#### **3.1 Introduction**

This chapter focuses on the overall methodology applied in this study. In general, research method refers to the different ways and means of collecting data such as strategies, techniques, processes, evidence, information, or plans which ease the researcher's work to acquire knowledge from a given field or jurisdiction or research areas. The research methodology is one kind of tool or instrument that is systematically applied for accomplishing a particular task or for solving a particular problem. It also defines the activity of research, how to proceed, how to determine progress and it is an indicator of what constitutes the success of the research plan.

#### **3.2 Research Plan**

To select a researchable topic is very important in case of developing a research plan. The existing problem in connection with policy and governance was considered in which the compliance of policy decision was seen to be a problematic issue for the society, administration and politics in most of the developing countries. Implementation is supposed to be the measuring indicator of reducing malpractice in public policies and governance. It is evident from different scholars articles that policy implementation regarding *Hilsa* protection in Bangladesh has become challenging for violation of banned periods. *Hilsa* protection policy implementation has been identified by many researchers as challenging for various disasters. For these reasons, the topic entitled "Policy Implementation: A Case Study of *Hilsa* Protection in Bangladesh" was selected as a research topic to work on this issue. Moreover, it is expected that the findings of this study will help to provide ways and means for rethinking the future increase in *Hilsa* production in Bangladesh.

There are three categories of respondents involved in this study such as public officials, public representatives (Up chairman), and fishermen. To find out the answer to research

questions as well as to meet the objectives of this study, individual questionnaires have been made for these three categories of respondents because the questions which can be answered by the bureaucrats cannot be answered by the fishermen due to their lack of knowledge and education. On the other hand, all variables are not related to every respondent in this study. To conduct good research and getting the appropriate answer to the research questions, both open-ended and closed-ended questions are included in the questionnaires. To find out the challenges of policy implementation well-structured questionnaire survey will be conducted with these three categories of respondents. The key informant interview method and in-depth interview method will be followed for interviewing the public representatives, and the fishermen community.

### **3.3 Research Design and Approach of Inquiry**

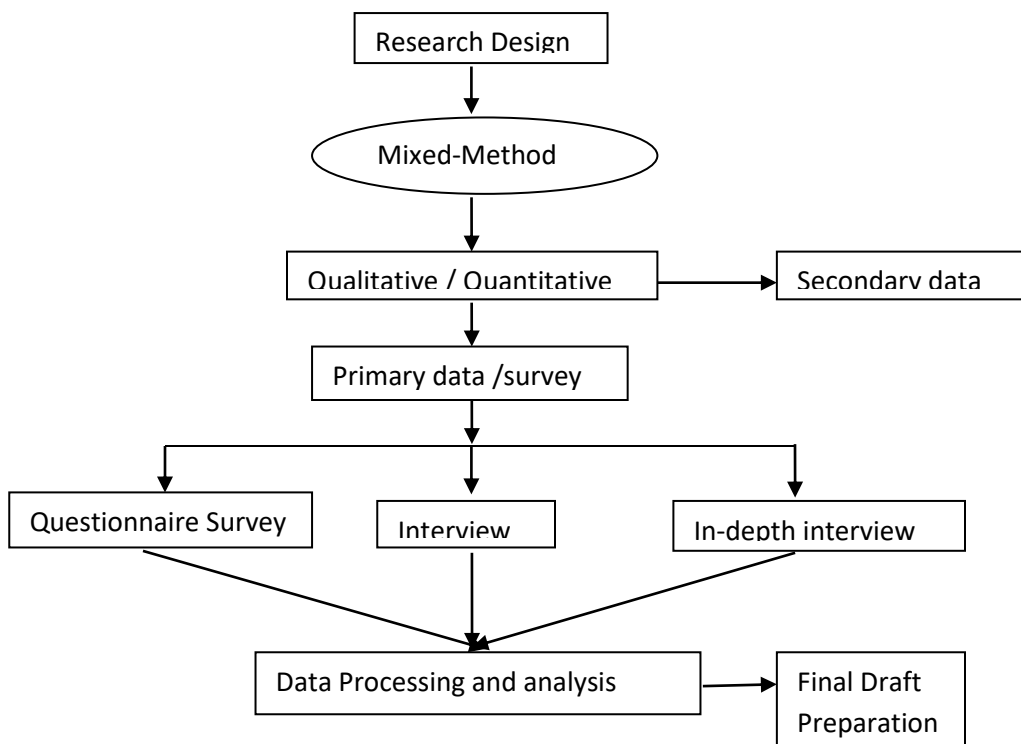
The most important part of research is its design as it is the plan for the research process to achieve the result that an author desires. "A research design is the logic that links the data to be collected (and the conclusions to be drawn) to the initial questions of the study. Every empirical study has an implicit, if not explicit, research design" (Yin, 2003). According to King et al. (1994, p.13), the research design can be divided into four parts: "research question, theory, data, and use of the data". Thus, among the number of activities gathering data, analyzing and interpreting data, presenting the research results and, discussing their theoretical implications are essential parts. There are three approaches: "quantitative, qualitative and mixed-method" of social science research. "Qualitative research is tended to focus on one or a small number of cases, to use intensive interviews or in-depth analysis of historical materials, to be discursive in method, and to be concerned with a rounded or comprehensive account of some event or unit. Even though they have a small number of cases, qualitative researchers generally unearth enormous amounts of information from their studies. Sometimes, this kind of work in the social sciences is linked with the area of case studies where the focus is on a particular event, decision, institution, location, issue, or piece of legislation" (King et.al, 1994).



Qualitative research is exploratory with which the researcher perceives the informant's ideas and insights and draws a picture of his investigating area (Creswell, 2014). This study is based on mixed-method which covers mostly the qualitative approach with some quantitative data analysis. Research design is a plan that helps researchers to an inquiry, collect data, analyze, and describe the findings of the research.(Yin , 2014, p :29). The research design lays the groundwork for the results that the authors hope to achieve from the outset. Research design is about making a plan for the research process: what kind of research questions one wants to address, how one intends to deal with them in terms of theory, data, etc. Research design may be included in the type of study design, research instrument, type of analysis used, and type of sampling strategy. There is no hard and fast rule for choosing a research method from a variety of research methods and approaches. It depends on the nature of the problem being studied, research goals, and the researcher's area of interest or specialization, level of accuracy the researcher wants (Aminuzzaman, 2011; p: 53). Since this study topic is selected to find out the present status and challenges of policy implementation regarding *Hilsa* protection in Bangladesh, Some quantitative descriptive data will also be used to analyze the issue both qualitatively and quantitatively.

To investigate the implementation status and challenges of policy implementation, it is very important to choose an appropriate methodology to get detailed information from those involved in the implementation process. Research methodology allowed an in-depth study and such an approach is common in qualitative research. The strategies used in this research are questionnaire Surveys, Key informant Interviews and In-depth interview. Questionnaire surveys for the Administrative officers, Key informant interviews for the Public representatives, and In-depth interviews are used for the fishermen. All these respondents are involved as the key actors for implementing *Hilsa* protection policy implementation activities and other action plans of the government.

**Figure: 3.1 Research Design at a Glance**



### **3.4 Unit of Analysis**

For any research work, the unit of analysis is an essential element that means understanding 'what' or 'who' is being analyzed in the study. It is used to make summary descriptions of them and clarifies differences among them. Unit of analysis can be individuals, groups, artifacts (like books, photos, film, and website), geographical units (city, village, etc.), organizations and social interactions (dyadic relations, divorce, Facebook, communication, etc.). This study analyzed some administrators from the Department of Fisheries, District Administration, Upazila Administration, some public representatives from union Parisad and, some fishermen. The persons of these institutions are involved as actors of *Hilsa* policy implementation. Bangladesh's government has strengthened the local government institutions by empowering the elected representatives to ensure local level participation and development. Therefore,

at district and Upazila level public representatives have a significant role in development as well as policy implementation activities.

According to section 59 of the Constitution of Bangladesh (1972), “(1) Local government in every administrative unit of the Republic shall be entrusted to bodies, composed of persons elected in accordance with law. (2) Everybody such as is referred to in clause (1) shall, subject to this Constitution and any other law, perform within the appropriate administrative unit such functions as shall be prescribed by Act of Parliament, which may include functions relating to – (a) administration and the work of public officers; (b) the maintenance of public order; (c) the preparation and implementation of plans relating to public services and economic development.”

So, public representatives are part and parcel of government to take part in local-level development, to ensure good governance, maintaining law and order, policy implementation, awareness building to mass people as well as providing assistance to local administrators so that they can implement government rules and regulations to provide effective service to the people for their overall wellbeing.

Implementation of “The Protection and Conservation of Fish Act, 1950” government banned period of mother *Hilsa* and *Jatka* protection and *Hilsa* Fisheries Management Action Plan, 2003 etc are largely dependent not only on the public officials but also on the disposition of public representatives, fishermen, social elites and awareness of mass people. Therefore, concerned administrators, public representatives, and fishermen are selected as important respondents for this study. The main study area includes Matlab North, Matlab South, Chandpur Sadar and Haimchar Upazila administration, and Chandpur district administration as these places are famous for *Hilsa* fisheries, and as consequence, government has declared this district as “The City of *Hilsa*” in Bangladesh.

### **3.5 Research Area: An Overview**

*Hilsa* of Chandpur is historically famous for its economic value, taste, quality, heritage, and production quantity. This district is surrounded by Meghna, Gumoti, Dhonaguda and other small rivers. The Padma is connected with Meghna at their tributaries in Chandpur. A huge amount of *Hilsa* is produced every year in Chandpur. During the breeding season, millions of mother *Hilsa* used to migrate through this zone for releasing their eggs from the Bay of Bengal. There is a *Hilsa* landing station, *Hilsa* conservation cold storage, Ice producing factories, *Hilsa* whole selling Markets, and *Hilsa* Fisheries Research Institute in Chandpur District. Moreover, the government has very recently declared Chandpur as “the city of *Hilsa*”. 155 km area from Shutnol union of Matlab north Upazila of Chandpur District to Alexander of Lakshmipur District abounds with a huge quantity of *Hilsa*. There are nursery grounds, spawning grounds, and *Hilsa* sanctuaries in this district. The major *Hilsa* prone Upazila of Chandpur district includes Matlab North, Haimchor, Chandpur Sadar and, Matlab south Upazila. About more than 50 km *Hilsa* prone areas belong to Matlab North Upazila of Chandpur District. Chandpur is famous for supplying a significant amount of *Hilsa* every year and also contributing a lot to our economy. Considering all these issues, Chandpur district has been selected as a study area rationally. (Details are shown on Annexure-VI, VII, VIII, and XIX and X)

### **3.6 Sampling Method**

There are different types of sampling techniques. Among them, this study logically used convenience sampling based on data collection from population members who are conveniently available to participate in the qualitative study. The main purpose of sampling in qualitative research is to gather information that is useful for understanding the complexity, depth, variation, or context surrounding a phenomenon. In this method, it is easy to get a sample, less expensive, participants and data are readily available and it saves time (Green garage, 2016). It is a non-probability type of sampling that is used and it is considered to be best fitted in this study. This method will be used to collect information through the questionnaire survey, KII, and FGD or an in-depth interview

with the public officials, public representatives, and fishermen regarding the present status and challenges of policy implementation of *Hilsa* protection in Bangladesh. Generally, the sample sizes used in qualitative research are not justified (Marshall et.al, 1996), even though researchers are concerned about using the right sample size (Drowkin, 2012). It is needed to ensure that there is enough, but not too much, data (Boddy, 2016) (>30 too large; Boddy, 2016). The sample size in this study is 38.

### **3.7 Data Collection Method**

Data collection is the most important part of the research methodology as the research questions are justified through it. There are few key methods of data collection, i.e. surveys, interviews, the examination of official and non-official documents and observations. The researcher has chosen the qualitative approach for data collection as the study is fully exploratory in nature and the implementation process can be better explored through interviews and document analysis. Primary data for this study have been gathered by interview of the officials, public representatives, and fishermen. Some of the interviews were taken online by distributing prescribed semi-structured questionnaires to the designated officers both central and local-level due to the obligation on movement for the outbreak of Covid-19. They filled up the questionnaires by answering both closed and open-ended questions and sent them through the mail. Some public representatives were interviewed through mobile phone communication. In-depth interviews were taken with the fishermen in their respective areas. Secondary data are collected from the yearly report on fisheries development from the 'Department of Fisheries' (DoF). Consultation has been made with the *Hilsa* researchers, Chief scientific officer of fisheries research institute, Ex-director and DFO (District Fisheries Officers), and local level implementers. The interviews were carried out from June 5 to June 30, 2020. The duration of each interview was about 25 to 35 minutes.

The researcher has interviewed the respondents after taking an appointment from them and the interview took place either in their homes or offices. All the officers have been

asked the same questions. A questionnaire with very few changes was made for the public representatives. A separate questionnaire was made for the in-depth interview of the fishermen because of their lack of education and also for their little involvement in the policy implementation process. It is proven to be an effective method of collecting information when investigators are interested in understanding the perception of participants. (Berg, 2009). (Details of list of the respondents are shown on Annexure-XI)

### **3.7.1 Data Collections Tools and Techniques**

Both Primary and secondary data were collected for this study. Primary data collection tools and techniques were Questionnaire Survey, Key Informant Interview, and In-depth interview so that the objectives of the study could be justified. Secondary data sources are different types of published Journal articles, reports, books, documents from DoF, MoFL, and BFRI, etc.

#### **i. Questionnaire Survey**

A Questionnaire survey is the main and most widely used tool for collecting primary data of any research work. It is recognized as a very convenient way of collecting data from a large number of individuals. This study has been conducted through the questionnaire survey for collecting primary data from the public officials working at the district and Upazila level who are directly involved in implementing the *Hilsa* protection policy. Questions were set to collect information regarding the success and challenges of the *Hilsa* protection policy implementation and also to get feedback about the impact of resource, incentives, the commitment of the lower-level officials, and political disposition in the *Hilsa* fisheries policy implementation process.

#### **ii. Key Informant Interview**

In this study, Key informant indicates the persons or officials of particular organizations with whom an interview is conducted. These are public officials and public representatives. A key informant interview questionnaire was made based on the

objective and research question of this study. In a sense, the key informant is a proxy for her or his associates at the organization or group. This type of interview is very important to gather information on the public administration issues. The interview was taken with the officers, and public representatives who were dealing with the *Hilsa* policy implementation of government.

### **iii. In-depth interview**

An in-depth interview is a type of 'Focal Group Discussion' that performs in a group, whose meetings present characteristics defined for the proposal; size, composition, and interview procedures (Mishra, 2016). The focus or object of analysis is the interaction inside the group. So, the in-depth interviews were conducted with the fishermen community residing near the bank of Meghna river at Matlab North Upazila, and Haimchar Upazila of Chandpur district. They are fully dependent on *Hilsa* fishing for maintaining their livelihood. Members of fishermen cooperative society were also included in the interview. They were interviewed regarding their perception of incentives and compliance of banned period, quantity of *Hilsa* catching, socio-economic condition and challenges of *Hilsa* fisheries policy implementation, etc.

### **3.7.2 Data Analysis Method**

Mainly, data analysis establishes a linking logic and relationship between the dependent and independent variables of the study. Creswell (2009) rightly mentioned that there is no single way of analyzing data and that analysis is an elective process that attempts to make sense of gathered data. The researcher has analyzed the description of the respondents and documents for qualitative data. Firstly, the raw data have been transcribed in a systematic way to maintain the coherence of the evidence. Creswell (2009) said that during analysis the researcher continually reflects on collected data, moving deeper to the understanding and representing of data, and deriving an interpretation of the larger meaning of the data. In this study, the written comments of the respondents and some verbal responses have been used in the data presentation chapter in narration form for analyzing it systematically and for making it

understandable. However, the researcher has used textual presentation with figures and tables for easy understanding of the arguments. Data were analyzed presenting in tabular form according to the response of the respondents concerning different variables as well as their measuring indicators used in this research. The correlation between the variables and their analysis was done by using statistical formulae. A significant test was done by using social science statistics.

### **3.7.3 Reliability and Validity of Data**

“Reliability is the openness and transparency of the research process and different actions so that a later investigator can conduct the same study with similar findings and conclusions” (Yin, 2009). This research is in-depth and descriptive which used numerous renowned sources of data for finding out the answer to the research questions and objectives. The researcher has taken due care while collecting data because only reliable and valid data can help the researchers to establish their findings. According to King et al (1994), “reliability means applying the same procedure, in the same way, will always produce the same measure”. Again, according to Yin (2009) -“the goal of the reliability is to minimize the errors and biases in a study”. While collecting data, the researcher maintained the protocol of interview and recorded time, place, and date. The researcher wrote answer to the respondents during the interview of the fishermen. Public officials filled up the prescribed questionnaire and sent back through emails. The respondents were completely free to express their views and comments. It can be believed that by using the same procedures any external observer will find the same outcome.

The validity of data is the strength of qualitative research and in this research; the data sources are trustworthy and authentic because the collected data are based on the unbiased comments and answers of the respondents. To make the data valid the interview and document analysis method was used. Cross-checking of data from these two sources ensured the trustworthiness of it. Thus, it can be claimed that if other



researchers use the same questions and interview the same respondents, they will have a similar outcome. In the case of qualitative research, the researcher should take into account actually what is measured, observed and, how it is measured. If data and its interpretation are good then it is reliable. Priority is reliability and then validity “The most important advantage presented by using multiple sources of evidence is the development of converging lines of inquiry, a process of triangulation”(Yin, 2003). In this study, both primary and secondary data are used which were collected from renowned sources. So, the data used in this study are reliable and valid.

### **3.8 Ethical Considerations**

Ethical consideration means the freedom of speech, anonymity, confidentiality, disclosing the purpose of the study, avoiding deceiving participants, respecting norms of indigenous people are very much important in social science research. The researcher has taken maximum care about the confidentiality of the respondents. While collecting data, the researcher has developed a friendly relationship with the participants to ensure their freedom of speech and avoided biasness.

### **3.9 Conclusion**

This chapter aimed to discuss the methodological approaches that were used to collect data for the study. The pros and cons of data collection, sampling method, data analysis method, Overview of study areas and concept of research design of this study have been discussed in detail in this chapter. To ensure the best outcome of information, the researcher has used both interviews and documents for collecting information. This process has ensured a reliable and valid data for the study which has been analyzed descriptively. In the next part of the study, an overview of the *Hilsa* policy implementation related laws/regulations and different activities and action plans of the Bangladesh government to protect *Hilsa* has been presented and analyzed.

## **Chapter Four**

### **An Overview of *Hilsa* Related Policies and Activities of the Bangladesh Government**

#### **4.1 Introduction**

The most commonly used act regarding *Hilsa* protection in Bangladesh is “The Protection and Conservation of Fish act, 1950”. This act has been amended at different times (1995, 2002, 2014) up to 2014. To implement this act, the government has formulated “The Protection and Conservation of Fish Rules, 1985” and “National Fisheries Policy, 1998”. Due to government intervention, *Hilsa* production is gradually increasing. Several research studies suggested that the implementation of those policies at local-level is not satisfactory. This chapter will give an overview to the readers about the different Acts and Rules of government to implement *Hilsa* policy, and other activities of government to protect *Hilsa* resource.

#### **4.2 Policy Implementation and Issues of Legitimacy in Developing Countries**

Implementation concerns the relation between policy output and policy outcomes. It is one of the major stages of the policy formulation process where a policy is enforced by the responsible implementers or bureaucrats. More technically, implementation involves the transformation of a policy output into a policy outcome. There are three different approaches to policy implementation globally. Policy implementation in developing countries is suffered from various challenges and legitimacy concerns (Saetren, 2005). The policy implementation process in developing countries shares a great deal with the process in more developed countries (Lazin, 1999). However, the effects of poverty, political uncertainty, people’s participation as well as the unique character of each developing country cannot be ignored in the policy implementation process (UNDP, 2002). In the case of policy implementation, poverty is directly related and influential. In developing countries, the expected outcomes may not be attained because of poverty.

Jan Erik Lane (1999), in his article entitled 'Policy Implementation in Poor Countries' argued that political stability and economic development are closely correlated in third world countries. Moreover, lower economic development leads to higher political instability which worsens poverty. In third world countries, effective implementation of the policy may improve the poverty condition. The poverty gap between developing and developed countries should be reduced by ensuring a strong and stable regime system and by utilizing the resources. One of the major causes of lack of compliance with "The Protection and conservation of fish Act, 1950" and the banned periods of government regarding *Hilsa* fisheries is the poverty of the fishermen. If one-tenth of *Jatka* could be protected from illegal catching by the fishermen during the ban period, 1 lac MT more *Hilsa* could be added to our total production every year (DoF, 2019). (Existing *Hilsa* Fisheries Policy implementation action plan/committees of government are shown in Annexure-XII, page 171).

#### **4.3 Bangladesh Government's Initiatives in *Hilsa* Fisheries Management**

**1. Miscellaneous initiatives:** Considering *Hilsa* as a national resource, the government has already undertaken many multidimensional initiatives for improving the *Hilsa* resource protection, conservation, and management system to attain production. Some of the remarkable initiatives include:

1. Informing and involving all classes of people and awareness building among them for protecting *Jatka* and Mother *Hilsa*. During the main breeding season of *Hilsa*, to restrict all kinds of catching, marketing, transporting, purchasing, selling of *Hilsa*, the government has been implementing public awareness building program, mobile court and task force operation, and giving VGF to the fishermen for 22 days every year throughout the country.

2. Conduction of Task force operation and Mobile court operation as per “The Protection and Conservation of Fish act, 1950’ in rivers, fish *Ghuts*, <sup>5</sup>at *Aarot* and local fish market during the banned periods of *Jatka* catching from November to June every year.
3. Mother *Hilsa* Banned period implementation program of government has been fixed this year from 14 October to 4 November every year. It has been observed every year.
4. Implementation of Sustainable Coastal and Marine Fisheries Project in Bangladesh.
5. *Hilsa* Fisheries Management Action Plan, 2003 implementation.
6. During the banned period of *Jatka* catching, the government gives incentives to the fishermen for four months under the provision of the VGF program (40 kg of rice every month) so that the fishermen do not face any food scarcity and can maintain their family without any pains. *Jatka* protection and conservation program of government has been operated from February to May every year.
7. The ultra-poor fishermen who are away from catching *Jatka* during the banned periods are distributed different substitute materials (goat, cows, van, sewing machine, nets etc) to create alternative income-generating activities for them. (National Fish Week, 2019, DoF, Dhaka).

## 2. Specific activities

**1. Establishment of *Hilsa* sanctuaries:** The government has amended “The Protection and Conservation of Fish Rules, 1985” for establishing 6 *Hilsa* sanctuaries in Barishal, Bhola, Patuakhali, Lakshmipur, Chandpur and Shariatpur in the moving ground of *Jatka* in the Padma, the Meghna, the *Andharmanik*, the *Tentulia* river, and other coastal rivers. Any kind of *Hilsa* and *Jatka* catching is strictly prohibited from these sanctuaries during the banned period. Total sanctuary areas are 432 sq.km

### . 6 *Hilsa* sanctuaries areas include:

1. From Shutnol of Chandpur district to Char Alexander of Lakshmipur district (100 KM downstream of Meghna river).

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<sup>5</sup> In the case of fishing, ‘Fish Ghut’ indicates a place, generally located near the bank of river, where all the fishermen fasten their fishing boats (in the morning) and sell their fishes through auction. *Aarat* or *storehouse* means a place where the wholesale purchasers sit and store their purchased fishes.

2. From Modonpur/*Char Illisha* of Bhola district to *Charpial* (90 Km areas of *Shahbujpur* branch of Meghna).
3. From Veduria point of Bhola district to *Char-Rustom* of Patuakhali district (About 100 KM areas of Tentulia river).
4. Whole 40 KM areas of *Andharmanik* river of *Kolapara* Upazila of Patuakhali district.
5. Noria and Vedorganj Upazila areas of Shariatpur district and 20 Km areas of Matlab north Upazila of Chandpur district.
6. Hizla, Mehendiganj Uapzila, and 82 KM of Barishal Sadar Upazila including *Kalabodor*, and *Gajaria* areas (Source: National Fisheries Week, 2019, DoF, Dhaka).

**2. Declaration of Hilsa Breeding ground:** The government has declared 7000 sq.km areas as the breeding ground in Mirershorai (Chottogram), Tojumuddin (Bhola), Kolapara (Patuakhali), and Kutubdia (Cox'sbazar) Upazila from which all kinds of fishing is strictly prohibited. These are the safe place for releasing eggs of Hilsa (National fisheries week, 2019, published by DoF).

**3. Special combing operation against illegal nets:** To protect and control different types of illegal nets, 15 days combing operation has been observing since 2019 every year (21 January to 4 February) in 11 coastal districts of Bangladesh. Through these programs 424 mobile courts, 1235 task force operation was conducted and a huge amount of different kinds of nets were seized and finned TK. 5.82 lac in 2019 (National fisheries week, 2019, published by DoF).

**4. VGF program for Hilsa Fishery conservation:** During the banned period of *Jatka* catching, the government has been giving 40 kg of rice to 2, 48, 674 *Hilsa* fishermen family since 2013. From 2008-2009 to 2018-2019, a total of 3, 08, 602.56 MT rice was distributed to the fishermen under this program (DoF, 2019). From the last three years, the VGF program has been extended for the fishermen during the banned period of mother *Hilsa* and also 22, 737, 88 MT rice has been distributed to 3, 95,709 *Hilsa* Fishermen.

**5. Alternative livelihood for *Hilsa* Fishers:** Along with VGF rice, for creating alternative employment during the banned period of Jatka, a total of 52, 760 Jatka fishermen were distributed different substitute materials such as Rickshaw/van, Legal nets, fish cultivation, small business, Cows, goats and, poultry, etc. (National Fisheries Week, 2019, DoF, Dhaka )

**6. Implementation of the fish act to protect *Hilsa* Brood:** At present *Hilsa* protection operation has been conducting in 173 river belt Upazila of 33 districts in Bangladesh. In the last 8 years, 12908 mobile courts were conducted by the executive magistrates and 62011 operations were conducted by the coast guard and other law enforcement agencies. 550.59 MT *Hilsa*, 2167.47 lac meter current net were seized with the jail of 11606 fishermen and with a fine of TK 304.29 lac. (National fisheries week, 2019, published by DoF).

**7. Observation of “*Jatka* Conservation week” every year:** It was started in 2007-2008 financial year in 91 Upazilas of 20 districts. Later on, in 2018-2019, this program was extended to 164 Upazilas of 36 districts in Bangladesh. During this time, 11930 mobile courts, 54176 task force operations were conducted. 2019.80 MT *Jatka* and 5661.94-meter *current jal* was seized through this operation. At the same time, 3910 fishermen were sent to jail and Tk 355.30 lac was finned (National fisheries week, 2019, published by DoF).

**8. *Jatka* Conservation Program:** Separate operation has been conducting by the law enforcing agencies of government in 164 Upazila of 36 districts as per the provisions of the “Fisheries Protection and Conservation Act, 1950”. Eight months *Jatka* catching is prohibited (November to June). In the last 8 years, 11930 mobile courts by the executive magistrates and 54576 operations were conducted by other law enforcement agencies through which 2019.80 lac MT *Jatka*, 5661.94 lac meter current nets were seized. Moreover, 3910 fishermen were sentenced to jail and 355.30 lac TK were fined (National fisheries week, 2019, published by DoF).

**9. Amendment of Fish Conservation Act:** For the protection and development of the *Hilsa* fishery, the government has amended the existing law for its effective implementation. *Hilsa* breeding time and *Jatka* catching time has been extended through this amendment and size of *Jatka* have been refixed as 25 cm instead of 23 cm (National fisheries week, 2019, published by DoF).

#### **4.4 Government Acts and Rules**

The major policies related to mother *Hilsa* and *Jatka* Protection in Bangladesh are-

1. The Protection and Conservation of Fish Act, 1950
2. The Government Fisheries (Protection) Ordinance, 1959.
3. East Pakistan Government Fisheries (Protection), Ordinance, 1959.
4. The Bangladesh Fisheries Development Corporation Act, 1973.
5. Fish Inspection and Quality Control Project, 1976
6. The Fish and Fish Products (Inspection and Quality Control) Ordinance, 1983.
7. The Protection and conservation of Fish ( amendment) ordinance, 1982
8. The Marine Fisheries Ordinance, 1983.
9. The Marine Fisheries rules, 1983.
10. The Protection and Conservation of Fish Rules, 1985.
11. The Protection and Conservation of Fish (Amendment) Act, 1995
12. The Fish and Fish Products Rules, 1997
13. National Fisheries Policy, 1998
14. The Protection and Conservation of Fish (Amendment) Act, 2002
15. Hilsa Fisheries Management Action Plan, 2003
16. Fish Feed Rules, 2011
17. Fisheries Hatchery Rules, 2011
18. The Protection and Conservation of Fish (Amendment) Act, 2014

According to “The Protection and Conservation of Fish Act, 1950” ‘Jatka’ under the size of 23cm from November to May was prohibited to catch. In the latest amendment, it was declared as 25 cm. After this amendment, Jatka catching banned period increased

from November to June every year. All kinds of catching, transporting, selling, socking have been declared as cognizable offence (MoFL, 2020).

#### **4.4.1 The Protection and Conservation of Fish (Amendment) Act, 2002**

*According to 'The Protection and Conservation of Fish (Amendment) Act, 2002'-*

1. Nobody can produce, weave sale, import, and purchase, stock, carry, and transport current net under the provisions of this act.
2. If anybody is found with disobedience of the above act, he shall be convicted with 1-2 years of imprisonment or will be fined Tk. 5000 or both;
3. Producing, weaving, importing, marketing, stocking, carrying, transporting, keeping, and using any monofilament net (*current jal*) is prohibited under this act and anybody found with disobedience of any sections shall be convicted severe punishment of minimum 3 years to maximum 5 years of imprisonment with a fine of Tk. upto10000;
4. Anyone found in carrying, transporting, keeping, and using current nets shall be punished with a severe punishment of 1- 2 years or will be fined Tk. 5000 or both fine and jail;
5. The authorities who will take action against the persons who will disobey 'The Protection and Conservation of Fish Act- 2002':
  - i) All Fisheries Officers, Officers empowered by the Government, and Police Officers can search, investigate and seize the banned current nets.
  - ii) Legal suit cannot be filled in lower courts below those of First Class Magistrate or Metropolitan Magistrate under 'The Protection and Conservation of Fish Act-2002'.

#### **4.4.2 Hilsa Fisheries Management Action Plan, 2003**

*Hilsa* Fisheries production was declined sharply during 2002-2003. The government of Bangladesh has considered *Hilsa* as a huge source of national income and protein and has given the highest importance protecting these natural resources. As consequence, the government has formulated *Hilsa* Fisheries Management Action Plan (HFMAP) to



revive the fishery. A huge amount of juvenile *Hilsa*, *Jatka* and *Hilsa* brood were caught by the fishermen which causes a huge decline in production. To fulfill the main objectives of this plan, 6 *Hilsa* sanctuaries were established by the government to protect juvenile *Hilsa*, *Jatka* in the peak season and brood *Hilsa* in the peak spawning season, eradication of harmful gears, protection of migratory routes, controlling overfishing, providing food incentives (presently @40 kg rice/fisher for almost 7 months, covering all the banned periods) and some AIGA supports. As a result, *Hilsa* production has been increased by at least 5% every year till 2015. Besides, to produce more *Hilsa*, the 'Department of Fisheries' and 'World Fish' have jointly been implementing a project entitled "Enhanced Coastal Fisheries in Bangladesh (ECOFISH-Bangladesh)," a USAID funded five-year initiative (2014-2019). This project includes 22 districts and 102 Upazila in Bangladesh under the sponsorship of the Ministry of Fisheries and Livestock (DoF, MoFL, 2020).

#### **4.4.3 Hilsa Fishery Conservation, Exploitation and Management Program**

As a national fish and single species, *Hilsa* makes the highest contributor to the country's total fish production (>12%). To achieve sustainable *Hilsa* production, it is mandatory to protect berried *Hilsa* and *Jatka* during the peak spawning season, and has also developed a separate economic code for the conservation of *Jatka*. Since 2007, *Jatka* conservation week has been observed in 91 coastal Upazilas of 23 districts as a national program to protect *Jatka* and ensure both its growth and production of *Hilsa* through reducing overfishing of *Hilsa* and facilitating recruitment. During the *Hilsa* and *Jatka* banned periods, the government provides food grains, financial incentives, and distributes trade materials and AIGA support to the fishermen (Annual Report: 2017, DoF). (Upazila Committee and Task force are shown in Annexure XII and XIII)

#### **4.4.4 The Marine Fisheries Ordinance, 1983**

This Ordinance of 1983 was made to manage, conserve, and develop marine fisheries of Bangladesh. The director of the 'Marine Fisheries' office provided the power to issue a

license to local marine fishing vessels. The holders of the license are directed to keep detailed information on catches and their sales. The Director can specify the area of fishing, the species, size, and quantity of fish, the methods of fishing, and the fishing gear of the vessel. With this Ordinance, the director is given the power to suspend or cancel the license of a fishing vessel to catch fish. The director has the power to fine the person who carries explosive, poison or other noxious substance or prohibited fishing gear. The fine is Taka one lac or fifteen times the value of the fish. Hence, the Ordinance controls the fishing vessels and the catching of fishes in the sea.

#### **4.4.5 Fish Inspection and Quality Control Project, 1976.**

The government of Bangladesh has been earning a lot of foreign remittance by exporting fish and fish products since its independence. Currently, this sector has become the most prominent to contribute a lot to GDP. The government implemented the 'National Fish Inspection and Quality Control (FIQC)' project in 1976 by establishing two regional offices at Chottogram and Khulna. The office of the Dhaka zone was established in 1980 under the "The Establishment of National Fish Inspection and Quality Control Service" project at Matsya Bhaban. Microbiological tests have been carried out with the assistance of the microbiological laboratory of Bangabandhu Sheikh Mujibur Rahman Medical University (BSMMU). Presently it is known as "Quality Control Laboratory" situated in Savar, Dhaka. There are three quality control laboratories in Dhaka, Chottogram, and Khulna (Annual Report: 2017, DoF).

#### **The Fish Inspection and Quality Control Services**

The mandate of FIQC is to ensure quality and safe fish and fishery products to global consumers. To maintain the safety and quality of fish and fish products, the following activities are carried out by three regional offices located in Dhaka, Chottogram and, Khulna.

1. Issuance of Licenses of fish processing establishments.
2. Annual evaluation of establishments of renewing of licenses.

3. Regular monitoring of establishments 'activities regarding HACCP, EU, USDA, Australia, GCC regulations etc as per fish and fish products (Inspection and quality control) rules, 1997 ( amended in 2008, 2014 and 2017) and Official Control Protocol.
4. Monitor water, ice, and swab quality of processing establishments and ice factories.
5. Plan and Implementation of NRCP (National residue Control plan), FRCP (Factory Residue Control Plan), & MMP (Microbiological Monitoring Plan).
6. Product Inspection and Issuance of Certificates for exportable fish and fish products.
7. Surveillance and the mobile court to ensure the safety of fish and fish products.
8. Implementation of activities under APA
9. Conduct awareness meeting
10. Training of stakeholders
11. Inspect imported consignments of fish and fish products on request of the Customs department (Annual report, 2017, DoF).

#### **4.5 Ongoing Fisheries Development Projects implementation**

To ensure and protect Hilsa resources, the government of Bangladesh has been implementing the various projects. The name of some important and popular projects is as mentioned below:

- 1) "Jatka Conservation, Alternate Income Generation for the Jatka Fishers and Research Project" (DoF, 2019).
- 2) Incentive-based *Hilsa* Fish Conservation in Bangladesh: Status and Challenges (International Institute for Environment and Development, IIED, NOVEMBER, 2013, Author: Essam Yassin Mohammed).
- 3) Bangladesh Marine Fisheries Capacity Building Project (IBD/GOB) (Annual Report: 2017, DoF)
- 4) Expansion of Aquaculture Technology Services up to union Level Project (Phase II) (2015-2020) (Annual Report: 2017, DoF)
- 5) Greater Cumilla district fisheries development project (2015-2020) (Annual Report: 2017, DoF). (Annexure-XIII: Upazila Task Force Committee and Terms of Reference).

#### **4.6 Conclusion**

This chapter has elaborated on the concept of policies, existing *Hilsa* protection policies, and also have provided the basic information on *Hilsa* protection and conservation strategies and action plans of government as well as the terms of references of the lower-level officials. It has revealed that the government has taken so many innovative initiatives to protect the national *Hilsa* fish. It depends on the capacity and commitment of the local level officials to implement the existing policies and action plan of government. Lipsky (2010) suggested that local level bureaucrats should be given sufficient autonomy and discretion for ensuring effective implementation because they are the front line implementers and they know the real scenario closely. The chapter discussed in length about the overall country context in terms of different policies, initiatives and action plans of Bangladesh government regarding *Hilsa* resources protection, conservation and management. Subsequent chapter will discuss about the data presentation, analysis and interpretation.

## **Chapter Five**

### **Data Presentation and Analysis**

#### **5.1 Introduction**

This chapter essentially intends to present the collected data based on which data analysis and interpretation have been made. In this study, the researcher collected data by using a questionnaire survey, key informant interview, and in-depth interview methods. To meet the objectives and to get answers to the research questions; public officials, public representatives, and fishermen communities were included and interviewed because of their direct involvement in implementing *Hilsa* protection policies and action plans of the government. Data collection was based on the variables and related indicators used in this research. The findings of the variables were analyzed chronologically concerning data tables, literature review, and the answer of the respondents. Then, a critical analysis was made on the collected data to establish a linkage between the dependent variable and independent variables. The survey questionnaires were sent to Matlab North, Matlab south, Chandpur Sadar, Haimchar Upazila, and Chandpur district level officers. Some fishermen were not able to read the questionnaires, then the questions were read out to them and they replied. 10 fishermen were interviewed and 8 public representatives were interviewed online due to the Covid-19 situation. Most of the respondents are field-level administrative officers related to policy implementation efforts (DC, ADC, UNO, DFO, AC land, AC, Police Officers, etc) and then *Hilsa* researchers. This chapter primarily deals with the discussion of survey results reflecting on the dependent and independent variables of the study.

#### **5.2 General Findings**

Based on the theoretical and analytical framework, four factors affecting *Hilsa* protection in Bangladesh have been explored in this study. These are 1) Resource for policy implementation, 2) Incentives for the fishermen, 3) Commitment of Lower-level officials and 4) Political disposition. Primary data has been collected through interviews with the help of semi-structured prescribed questionnaires from 38 respondents

including public officials of central, district, and Upazila levels and public representatives (up chairman) and fishermen community. Questionnaires were made based on the indicators of independent and dependent variables mentioned in the analytical framework. Secondary quantitative data was collected from the Ministry of Fisheries and Livestock and the Department of Fisheries, Online sources, and different journal articles to analyze the issue both qualitatively and quantitatively.

### 5.2.1 Observation on Research Question-1

Our Research Question-1 was finding out the status of *Hilsa* protection policy implementation. In this context, the findings of the study are presented below:

#### 5.2.1 (a) Respondents Views on Present Status of Policy Implementation

The research question-1 in this study is related to find out the present status of the policy implementation regarding *Hilsa* protection in Bangladesh. To get the answer to the research question-1, the respondents were asked to what extent they were satisfied with the present status of implementing mother *Hilsa* fish protection policies and the action plan of government. 38 number of respondents including researchers, field-level implementers, public representatives, law enforcing agencies and, fishermen were responded in this regard which are as mentioned in the Table below:

**Table 5.1 Views of the respondents regarding the present status of policy implementation**

Statements	Mode of Response	Respondents	Percentage (%)
Level of satisfaction with the present status of implementing mother <i>Hilsa</i> fish protection policies and action plan of government.	Very satisfied	2	5.26 %
	Satisfied	19	50 %
	Neither satisfied nor	10	26.32 %
	Dissatisfied	7	18.42 %
	<b>Total</b>	<b>N= 38</b>	<b>100%</b>

(Source: Field survey, 2020, N= 38)

The respondents were asked to what extent they were satisfied with the present status of mother *Hilsa* fish protection policies and the action plan of government. 50 percent of the respondents recommended as “satisfied”, 26.32 percent of the respondents recommended as “neither satisfied nor dissatisfied”, 18.42 percent of the respondents recommended as “dissatisfied” and 5.26 percent of the respondents recommended as “very satisfied” as mentioned in the Table 5.1.

These findings indicate that three-fourths of the respondents are “satisfied” and one-third of the respondents are “dissatisfied” with the present status of policy implementation regarding *Hilsa* protection in Bangladesh. These findings indicate that there is a lack of policy implementation regarding *Hilsa* protection. From the presented data in Table-5.1, we can assume that 55 percent of the respondents are “satisfied” and 45 percent are “dissatisfied” with the present success of *Hilsa* protection policy implementation in Bangladesh. Most of the implementers suggested strict enforcement of existing policies and some suggested reducing political influence, sufficient resource allocation, and providing more logistic supports in favor of local-level implementer’s offices. It also implies that if the existing policies could be implemented more effectively by ensuring strict law enforcement with administrative commitment and control through active participation of all implementers and stakeholders, the *Hilsa* production figure could be at least two times the existing figure.

It is evident from the response of the respondents and records of the Ministry of Fisheries and Livestock although there are so many barriers of compliance with the mother *Hilsa* and *Jatka* protection policies and action plans of the government. In answer to a question in this regard, 8.57 percent of the respondents “agreed” and 21.4 percent of the respondents “strongly Agreed” that the present figure of production could be increased up to 45 percent more if only *Jatka* protection banned periods could be implemented effectively. These findings are also supported by the findings of the literature review of different researchers.

#### **5.2.1 (b) Suggestions of Respondents for the Effective Implementation of *Hilsa* Policies**

1. Most of the respondents emphasized on strict implementation of existing policies.
2. Building up more awareness among the fishermen community and mass people, more research on species’ distribution pattern, Identification, and management of breeding grounds and migration route to improve *Hilsa* production.

3. Increasing manpower to the *Hilsa* prone river belt government offices. The high-speed boat is urgently required to ensure close monitoring and surveillance of mother *Hilsa* and *Jatka* catching.
4. *Hilsa* catching boats should be licensed and kept under a GPS control for close monitoring. Boost up budget allocation for effective implementation of existing laws.
5. Ban period of protecting mother *Hilsa* should be increased up to 30 days. Boat of *Hilsa* sanctuary should be registered by DoF. The efficiency of the engine of all fishermen boats used in the fishing area should be kept less than 35 hp.
6. The following actions may increase the production of *Hilsa*:
  - (a) Local administration, police, and fisheries department have to take proper action against any persons involved in fishing during the banned period. Illegal fishing by politically established local representatives should be controlled strictly.
  - (b) Sufficient food relief should be given to the fishermen during the banned period. A controlled 'Fishing Boat Management' measures should be taken and monitored properly by the local administration.
7. Ensuring and identifying safe breeding zone, proper action with commitment during the banned periods and the laws should be implemented rigorously.
8. Special allocation of resources for conducting mobile court and task force operation, more deployment of law enforcement agencies, and supporting manpower during the banned periods. Modern high-speed boat in *Hilsa* producing Upazila must be allocated.
9. There should be formed a special team consisting of different departmental officers for working during the banned period. At that time, they will work only for implementing *Hilsa* and *Jatka* protection. After finishing the operation, they will join again in their original post. This can be treated as a temporary deputation for the concerned officers. Coordination among the team members should be very responsive and participatory.
10. Creating alternative income-generating activities during the banned periods.
11. Increasing incentives along with cash amount and local political willingness should be increased. Logistic support should be increased during the banned period. Sufficient



manpower of fisheries, police, coast guard, and an extra number of executive magistrates should be deployed during the banned period.

12. Local chairman and member need to bring under accountability so that they can be made answerable if any fisherman is found catching *Hilsa* or *Jatka* in his area.

## 5.2.2 Observation on Research Question-2

### 5.2.2 (a) Views of Respondents regarding the Challenges of Policy Implementation

To get the answer to the research question-2, the respondents were asked to identify the present challenges of policy implementation regarding *Hilsa* protection in Bangladesh. 38 number of respondents including administrators, researchers, field-level implementers, public representatives, law enforcement agencies and fishermen responded in this regard which are as mentioned in the Table-5.2 below:

**Table: 5.2 Views of the respondents regarding the challenges of *Hilsa* policy implementation**

Challenges	Respondents	Responded	Percentage (%)
1.Lack of logistic support	38	34	89.47 %
2. Use of Current nets and gillnets	38	34	89.47 %
3. Lack of inter-organizational cooperation	38	33	86.84 %
4. Lack of resources (financial, human and material)	38	33	86.84 %
5. Lack of political participation and fulfillment of the commitment	38	33	86.84 %
6. Lack of alternative income for the fishermen	38	33	86.84 %
7. Lack of compliance of ban policy	38	33	86.84
8.Overfishing activities	38	33	86.84 %
9. Natural and man-made disasters	38	30	85.29%
10. Change in migration routes of Hilsa	38	31	81.58 %
11. Poverty of fishermen	38	31	81.58 %
12. Water pollution, construction of water structure, siltation of rivers	38	31	81.58 %
13. Lack of incentives	38	30	78.95 %
<b>Total</b>	<b>N= 38</b>		<b>85.03%</b>

(Source: Field survey, 2020, N= 38)

Despite all these challenges, there are some other challenges as mentioned by some respondents. These are 1. Use of destructive fishing gears, 2. Lack of identification of migratory routes of *Hilsa*, 3. Throwing human waste, livestock waste, chemical, textile,

and leather waste in water, 4. Disturbance of water eco-system and other industrial effluent falling into the river water, 5. Destroying bi-diversity and biological oxygen demand, etc. These are the major challenges of *Hilsa* protection in Bangladesh. Some *Hilsa* policy implementation experts and researchers suggested that if all these challenges could be overcome, then a large amount of *Hilsa* could be produced because our rivers have abounded with *Hilsa* fishes.

#### **5.2.2(b) Respondent's Suggestions to Overcome the Challenges of Policy Implementation**

1. Most of the respondents emphasized effective law enforcement with a coordination.
2. More logistic support as per the demand of implementers, incentives, and resources are needed along with a commitment from both officers, and local community and proper compliance of banned period.
3. Only by eagerness of political representatives, administration, police, and fisheries department's officials, and by creating mass awareness.
4. Local communities must need to come forward with officers to protect *Hilsa*.
5. We should equip with speedy vehicles with sufficient fuels and management costs.
6. The comprehensive and inter-ministerial policy should be formed and implemented.
7. Resource allocation should be increased to implementer's offices. Integrated initiatives should be taken with active coordination. Duty distribution and taking everyday feedback from the top.
8. Enhancing financial assistance to poor fishermen during the banned period. Sealing of all kinds of illegal nets producing factories.
9. The 'Good Willingness' of the politicians and appointment of a focal point, which can, in case of violation of duty and responsibility, make a charge against any personnel of any department.

#### **5.3 Major Findings**

The major findings of different indicators of independent and dependent variables are analyzed below:

## **Independent Variables**

### **5.3.1 Observation on “Resource for Policy Implementation”: Local-Level**

As a dynamic process, many factors influence and interact with the effective implementation of policies. Communication, resources, disposition or attitudes and, bureaucratic structure of organizations are four preconditions that play a significant role to achieve policy success (Edward, 2015). Effective implementation of any policy is seriously undermined for the lack of sufficient resources (Meter and Horn, 1975; Mazmanian and Sabatier, 1989; Brinkerhoff and Crosby, 2002; Lipsky, 2010). In Bangladesh, to what extent *Hilsa* and *Jatka* protection policies, and other related action plans of the government are influenced by the allocation of resources at the local-level have been explored through an interview with the responsible respondents. The indicators of resources are financial and human and material resources that have been allocated in different implementer’s offices at local-levels for implementing *Hilsa* and *Jatka* protection policies during the banned periods. To assess the status of ‘Financial Resources’ and ‘Human and Material Resources’ allocated at the field-level offices, primary data was collected through the interviews among 20 ‘Administrative Officials’ and 8 ‘Public Representatives’, and secondary data was collected through the document analysis. With the data generated from these sources, the current status of ‘Financial Resources’ and ‘Human and Material Resources’ allocated in the field-level offices have been analyzed below based on their indicators:

#### **5.3.1(a) Financial Resource Allocation**

Financial Resources is an important factor that determines the performance of “The Protection and Conservation of Fish Act, 1950”. To carry out the day to day function of the mother *Hilsa* and *Jatka* protection banned periods, and other action plans of the government, street-level bureaucrats/implementers need adequate ‘Financial Resources’. During the banned time, the *Hilsa* protection team has to move frequently to the river, fish landing station, illegal nets Ice producing factory, different fish market, and also to hoarders, smugglers, and traffickers stores to conduct mobile court and task

force operation. They need sufficient fuel and lubricants. The majority of the field-level implementers recommended allocating financial resources as per their actual demand. The financial allocation should be need-based but not a fixed figure. The majority of the respondents were agreed that the lack of financial resource allocation in field-level offices is a barrier to effective implementation of the Hilsa protection policy. The study explores the extent to which the local implementers are satisfied with the financial resource allocated by the government. In this regard, the respondents put the following comments in the survey questionnaire:

**BOX-1: Comments of respondents on 'Financial Resource' allocation**

In answer to a question regarding resource allocation one of the district level officers said, "Existing amount of resource allocation should be at least 10 times for effective implementation of *Hilsa* Policies. It may be allocated through revenue funds or by development project implementation".

Upazila-level officials put their following comment in the survey questionnaire:

"Resource must be allocated based on the demand for the local policy implementers/related government officials,"

In this regard, one district-level official said,

"Resource allocation should be increased with the improvement of the monitoring system from the top to ensure the effectiveness of resource utilization".

Most of the policy implementers responded as

"Existing amount of resource should be increased more for ensuring effective implementation of mother Hilsa and Jatka banned period of government".

one of the UNOs stated,

"It must be allocated based on the demand of local policy implementers."

Respondents during interview argued that financial resource is not allocated based on the perceived volume of production of Upazila. Chandpur Sadar, Haimchar, and Matlab North Upazila financial allocation in 2018-2019 was 200000, 138000, 190000, and 105000 respectively whereas the production figures in the same fiscal were 22548 MT,

8475 MT, 7780 Mt, and 36.70 MT respectively. So, the production trend in Matlab South Upazila is negligible concerning to Chandpur Sadar, Haimchar and Matlab north Upazila although there is no massive difference in allocating financial resource. We can assume that if more amount of financial resources could be allocated in Chandpur Sadar, Haimchar, and Matlab North Upazila there could be produced a more significant amount of *Hilsa*. It fits and matches with the comments of the respondents they put in the survey questionnaire during the interview.

Respondents claimed that “Degree of implementation of ban policy “and “Perceived volume of production” of *Hilsa* resource is directly related to sufficient financial allocation. It means that for effective *Hilsa* protection, sufficient financial allocation is very urgent which is insufficient at present as mentioned by the implementers during the interview. Moreover, when the researcher was working in field-levels as *Hilsa* policy implementers (as ADC, UNO, and Ac land), it was observed that financial resources allocation was found much less than the actual requirement. Not only that, resource allocation must be variable as per the geographical areas of concerned Upazila and degree of production because *Hilsa* protection areas in the Meghna river areas and production quantities in Matlab south Upazila are the smallest than Matlab North, Chandpur Sadar, and Haimchar Upazila. Therefore, the financial allocation should be based on the production possibility, availability of *Hilsa*, and geographical areas. Financial resource allocation and *Hilsa* production figures in Chandpur Sadar, Haimchar and Matlab North Upazila indicate that although production volume in Chandpur Sadar, Haimchar, and Matlab North Upazila are 614.39 times, 231 times and 211 times compared to Matlab south Upazila but the resource allocation is only 1.90, 1.31 and, 1.81 times only compared to Matlab south Upazila.

It implies that financial resource has not been allocated based on the volume of production of Chandpur Sadar Hamchar and Matlab north Upazila compared to Matlab South Upazila. It indicates that if more financial resources and human resources could

be allocated at Chandpur Sadar, Haimchar and Matlab north Upazila, then they could contribute more production by implementing mother *Hilsa* and *Jatka* protection policies more effectively. If the task force and mobile court members cannot move frequently to protect mother *Hilsa* and *Jatka* from the illegal catch of the fishermen during the banned periods due to insufficient allocation of fuel, lubricant, and other related materials, then effective implementation of *Hilsa* protection policies are not possible. Finally, according to the views of the respondents, it can be concluded that the present status of financial resource allocation is poor compared to actual demand and it should be allocated according to the demands of the local-level implementers and as per areas and production volume of Upazila. In addition to that, secondary sources of data as well as the information from the KII corroborate the findings from the field.

According to the survey data, the influence of ‘Financial Resource’ in implementing *Hilsa* and *Jatka* protection policies and government action plans are as mentioned in the Table-5.3 below:

**Table -5.3: Views of the respondents on “Financial Resource” allocation**

Statement	Mode of Response	Respondents	Percentage (%)
Level of satisfaction of the respondents on “Financial Resources” allocated from the government.	Dissatisfied	17	60.72 %
	Neither satisfied nor dissatisfied	8	28.57 %
	Satisfied	3	10.71 %
	<b>Total</b>	<b>N= 28</b>	<b>100%</b>

(Source: Field Survey, 2020, N = 28)

The ‘Financial Resource’ allocation in favor of field-level implementer’s offices is very important to execute the *Hilsa* protection policies and government action plans. In this regard, the respondents were asked to what extent they were satisfied with the “Financial Resources” allocated from the government for effective implementation of *Hilsa* policies. The different views of respondents are summarized in the Table 5.3. From the table, it is evident that 60.72 percent of the respondents ‘dissatisfied’; 28.57 percent of the respondents ‘neither satisfied nor dissatisfied’ and 10.71 percent of the respondents ‘satisfied’ with the present amount of financial allocation from the government for implementing mother *Hilsa* and *Jatka* protection banned periods.

The presented data (Table 5.3) and their correlation (Table 5.9) values show that the “Financial Resource” and “Degree of implementation of ban policy” and “Perceived volume of production” are significantly correlated with each other. Indicator i.e. “Financial Resource” is correlated with “Degree of implementation of ban policy” ( $r = .723$ ,  $N = 28$ ,  $p < .000014$ , significant at  $p < .01$  and  $p < .05$ ) and “Perceived volume of production” ( $r = .598$ ,  $N = 28$ ,  $p < .000777$ , significant at  $p < .01$  and  $p < .05$ ). It seems that if the ban policy is implemented effectively due to an increase in “Financial Resource”, then there is a probability of increasing the volume of *Hilsa* production. While interviewing, almost all the respondents proposed increasing the existing amount of ‘Financial Resource’ allocation and they argued that the present amount is much less than the actual requirements which have been hampering the concerned policy implementation process mostly at the field-levels.

### **5.3.1(b) Human and Material Resource Allocation**

The ‘Human Resource’ includes the number of employees working at the local-level offices. ‘Material Resource’ includes different logistic support for conducting mobile court and different operations. Respondents during an interview stated that there was lack of logistic supports and skilled and dedicated manpower almost at all field-offices which were a barrier for conducting *Hilsa* protection operation during banned periods<sup>6</sup>. Local administrative officers (UNO, AC land, and Executive magistrates), District and Upazila fisheries officers are primarily responsible for *Hilsa* protection policy implementation in association with other departmental officials. But, at the field-level, some of the fisheries officers are claiming that they are facing manpower shortage, cars, speed boats, fuel and lubricants, and other related substitute materials such as life jacket, etc. It is a matter of fact that even mobile court team members were also sometimes attacked and wounded by the fishermen which we saw many times in the

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<sup>6</sup> *The opinions of the respondents were collected by using Likert scale (Five Scale measurements); “Strongly Agree”-5, “Agree”-4, “Partially agree”-3, “Disagree”-2, “Strongly Disagree”-1 . No comments parts are excluded in the analysis.*

newspaper. As a result, officers are sometimes found to be discouraged to conduct operations frequently due to the lack of safety. Fishermen attacked Matlab North and Haimchar Upazila mobile court team in 2019 and 2020. Moreover, they also suggested forming a strong *Hilsa* protection team consisting of the executive magistrate, police force, Fisheries Officer, Coastguard who will work only for *Hilsa* protection during banned periods and whose activities will be closely monitored by the top-level for ensuring effective utilization of resources and implementation of *Hilsa* banned policies.

Upazila Fisheries Officers stated during an interview that executive magistrates and police forces are not always available for conducting emergency mobile courts and other operations. On the other hand, the post of AC (land) is lying vacant in some Upazila where UNOs are working as in-charge of AC (land). While interviewing, officers of four Upazila in Chandpur district (Chandpur Sadar, Haimchar, Matlab North, and Matlab south Upazila), it was found that only Haimchar and Chandpur Sadar Upazila have been allocated speed boat. At present, the Sadar Upazila speed boat is out of order. But, they told that they faced a lack of fuel and lubricant to use that boat. Respondents highly recommended providing more than 35 horsepower speed boats because the speed of the locally made country boats is often found less than the speed of the boats of the fishermen. As a result, the law enforcement agency members sometimes failed to reach the boats of the fishermen when they catch mother *Hilsa* illegally during the banned periods. Speed boat is required not only for capturing the fishermen boat while catching *Hilsa* and *Jatka* during the banned periods but also to ensure the safety and security of the law enforcement agency members during the mobile court and task force operations because they were seen to be attacked by the fishermen with their small boats having high horse power engines. It was observed that the task force members were mostly failed to catch the fishermen by using the locally made low speed trawlers during the banned periods. As consequence, the Upazila having speed boats were able to protect mother *Hilsa* and *Jatka* more compared to the



other two Upazila having no speed boats. In this regard, the respondents put the following comments in the survey questionnaire:

**BOX-2: Comments of respondents on 'Human and Material Resource' allocation**

Regarding human and material resources, one of the Upazila fisheries officers said, "More logistic support, incentive and resources are needed along with commitment from both officers and local community for proper compliance with banned period."

In this regard, one of the policy implementers at Upazila-level said,

"All kinds of logistics support must be increased to ensure the implementation of *Hilsa* protection policy more effectively."

One of the respondents puts the following comment in the survey questionnaire:

"Workforce, logistics support, financial allocation in the offices and organizations related to the protection of *Hilsa* should be increased to a satisfactory extent. A sufficient number of coast guard personnel should be deployed with speed boat at every kilometer especially in February, March, and April."

One of the district level officers said,

"Resources (financial, human and material) and sufficient logistic support should be provided."

They (implementers) also argued that they had limited logistic support and manpower to implement the *Hilsa* protection policy at the field-levels. In practical terms, there is a trend that officers are not interested to be posted in remote and backward Upazila and if they are posted they always try to be transferred as early as possible. While interviewing, it was found that the post of "Senior Upazila Fisheries Officer" was lying vacant in Haimchar Upazila for about one year and a subordinate was in charge of that post (current charge). If junior officers are given additional charge of the designated senior post for a long time, then there arises the lack of coordination and lack of compliance of policies and also inefficiency in performing duties effectively. As per frequency distribution data, respondent's comments and correlation between two variables, it seems that there is a possibility of implementing *Hilsa* protection policies and action plans of government more effectively, if there exists sufficient skilled

manpower and are provided logistics support as per the demand of the local-level implementers. Most of the respondents stated that they had a lack of both human and material resources in their offices.

According to the survey data, the influence of ‘Human and Material Resource’ in implementing *Hilsa* and *Jatka* protection policies and government action plans are as mentioned in the Table-5.4 below:

**Table-5.4: Views of the respondents on ‘Human and Material Resource’ allocation**

Statement	Mode of Response	Respondents	Percentage (%)
Level of satisfaction on “Human and Material Resource” that have in field-level offices.	Dissatisfied	19	67.86 %
	Neither satisfied nor dissatisfied	6	21.43 %
	Satisfied	2	7.14 %
	Very satisfied	1	3.57 %
	<b>Total</b>	<b>N= 28</b>	<b>100%</b>

(Source: Field Survey, 2020, N = 28)

Human and material resource is very important for implementing *Hilsa* and *Jatka* protection banned periods of government as mentioned by the implementers during the interview. In this regard, the respondents were asked to what extent they are satisfied with the ‘Human and Material Resource’ (Manpower and Logistic support) that have in field-level offices for effective implementation of mother *Hilsa* and *Jatka* banned policies. The different views of respondents are summarized in the Table 5.4. It is found that 67.86 percent of the respondents ‘dissatisfied’; 21.43 percent of the respondents ‘neither satisfied nor dissatisfied’, 7.14 percent respondents “satisfied” and 3.57 percent of the respondents ‘very satisfied’ with the present amount of ‘Human and Material Resources’ that at present they are usually allocated in their offices.

The presented data (Table 5.4) and their correlation (Table 5.9) values show that the “Human and Material Resource” and “Degree of implementation of ban policy” and “Perceived volume of production” are significantly correlated with each other. Indicator i.e. “Human and Material Resource” is positively correlated with “Degree of implementation of ban policy” ( $r = .660$ ,  $N = 28$ ,  $p < .000133$ , significant at  $p < .01$  and  $p$

<.05) and “Perceived volume of production” ( $r = .591$ ,  $N = 28$ ,  $p < .000928$ , significant at  $p < .01$  and  $p < .05$ ). Therefore, if the ban policy is implemented effectively due to an increase in “Human and Material Resource” allocation, then probably the production of *Hilsa* may be increased. High level of positive correlation values (Table-5.9) between “Human and Material Resource” and “Degree of implementation of ban policy” and “Perceived volume of production” indicate a general trend that, the more the allocation of “Human and Material Resource” in favor of local-level implementer’s office, may ensure the implementation of *Hilsa* protection policies more effectively and in practice, it has been come out from the implementer’s views. The overall comments of the respondents regarding the role of resources are shown in the Table-5.5 below:

**Table-5.5: Respondents overall comments on “Resource” allocation**

Statement	Mode of Response	Respondents	Percentage (%)
Implementation of any policy can be seriously undermined due to the lack of sufficient resources.	Strongly Disagree	1	3.57 %
	Disagree	2	7.14 %
	Partially agree	3	10.71 %
	Agree	18	64.29 %
	Strongly Agree	4	14.29 %
	<b>Total</b>		<b>N= 28</b>

(Source: Field Survey, 2020,  $N = 28$ )

Respondents during the interview stated that there is lack of financial resource, logistic supports, and skilled and dedicated manpower almost in all field offices which is a great barrier for *Hilsa* protection policy implementation. They also suggested forming a strong *Hilsa* protection team whose activities will be closely monitored by the top-level and during the banned period such committee members will be concentrated only on *Hilsa* protection operation. In response to another question entitled “To what extent do you agree that implementation of any policy can be seriously undermined due to the lack of sufficient resources?” 64.29 percent of respondents “agreed”, 10.71 percent of respondents “partially agreed,” 14.29 percent of respondents “strongly agreed,” and 7.14 percent of respondents “disagreed” as shown in the Table-5.5. It indicates that 90 percent of the respondents emphasized resource allocation for effective policy implementation and it also signals that the effectiveness of *Hilsa* protection policy

implementation is largely dependent on sufficient resource allocation as per the demands of the local implanters.

As per the data presented above, it is evident that *Hilsa* protection in Bangladesh is largely dependent on sufficient resource allocation in favor of the local implementer's office. Most of the respondents argued that the resources allocation at the field level offices is insufficient which disrupts the effective implementation of *Hilsa* protection policies. According to the concept of Van Meter and Van Horn theory, in each stage, implementation requires skilled human resources appropriate to the work implied by the policies established by apolitical. The empirical findings from both the qualitative and the quantitative data (as mentioned in the Table 5.3, 5.4 and 5.5) fit with the argument of Van Meter and Van Horn Theory that the implementation of any policy can be seriously undermined due to the lack of sufficient resources allocation at the implementer's offices.

### **5.3.2 Observation on “Incentives for the Fishermen”**

Some scholars confirmed that the implementation of any policy may fail due to the lack of incentive (Meter and Horn, 1975; Bridgman and Davis, 2004). In this context, the findings for the study are discussed below:

#### **5.3.2 (a) “Perception of the Fishermen on Incentives”**

Among the various reasons, lack or insufficient incentives and lack of alternative income-generating activities are a few of the causes of lack of compliance of mother *Hilsa* and *Jatka* banned periods in Bangladesh. During an in-depth interview, almost all the fishermen argued that they cannot maintain their family expenses only with 20 kg of rice during 22-days mother *Hilsa* banned period and 160 kg of rice during 4-moths *Jatka* banned operation. Some fishermen claimed that they do not receive the incentives properly. Most of the fishermen are poor and some of the fishermen are facing overburden pressure of loan installments of the local money-lenders

(*Mohajon/Aarotder/Dadonder*). Some of them do not have their nets and boats. As consequence, they used to take conditional loans from the local private money lenders. They have to sell the fishes to the money lenders as per the price fixed by them. They never receive a reasonable price. But, some public representatives argued that no incentive will work until the fishermen are aware and avoid their greed or bad nature of violating the banned period as there are chances of catching a huge amount of fishes within a short time during both mother *Hilsa* and *Jatka* banned periods.

During an interview with the local administrators and public representatives, they were asked to assess the perception of the fishermen regarding the present amount of incentives provided for them from the government for implementing *Hilsa* and *Jatka* protection policies and action plans. Three-fourths of the respondents stated that fishermen were not happy only with 40 kg of rice for maintaining one month of their family expenses because except rice they have to bear many other supplementary expenses such as spices, salt, pulses, vegetable, oils, fuels, medical expenses, clothes, loan installments, etc. Moreover, they argued during the interview that they do not receive the actual amount of incentives due to the lack of transparency in distribution. On the other hand, some fishermen are bound to violate banned periods due to the pressure from the middleman and money-lenders although they are given incentives.

Some fishermen during the interview argued that after one-month *Hilsa* catching they could buy a minimum 1000 kg rice but the price of 40 kg course rice as an incentive is only 1500 taka. Fishermen also have to bear the carrying cost of receiving rice from the local Up complex. Not only that, on the day when the fishermen come and go to the local union council to fetch incentive rice, they cannot do any other work at that day. As a result, there is no income in that day for receiving the incentives. So, overall perception of the fishermen regarding the incentive is not good as mentioned by most of them during the interview. In this regard, the respondents put the following comments in the survey questionnaire:

### **BOX-3: Comments of respondents on 'Perception of the Fishermen on Incentives'**

The Ex-Director of DoF and DFO during the interview said, "Perception of the fishermen is not good with the existing amount of rice only and it needs to be increased with cash TK 2000 for mother Hilsa and TK 4000 during Jatka protection banned periods."

During an interview one of the fishermen of a particular Union said,

"Sir, during banned periods I received only 30 kg of rice from chairman office. Don't we need anything with rice like spices, salt, pulses, oils, fuels, clothes, educational expenses, and medical expenses? Who will pay our installment of loans?"

One of the Executive magistrates said, "Sufficient money and food should be given to the compensated fishermen during banned periods."

One of the Upazila fisheries officers said, "Present amount of incentives for the fishermen is not sufficient. Cash amount should be given with the present incentive."

One of the district-level officials mentioned in the survey questionnaire, "The present amount of incentives should be doubled for the fishermen for effective implementation of mother Hilsa protection banned period."

One fisherman during the of a particular Upazila argued with the researcher that during the banned periods they received only rice but they could not manage other related expenses at that time. They demanded some cash with rice. On the other hand, almost all the local public representatives argued that although fishermen are provided incentives but some greedy fishermen violate ban periods intentionally for their uncontrolled greed. It can be assumed that if the fishermen follow the banned periods more with the impact of more incentives, then the mother *Hilsa* and *Jatka* will be protected more. While interviewing the respondents, most of them assess that the perception of the fishermen are not satisfactory regarding the present amount of incentives. Most of the respondents responded that the more amounts of incentives may ensure implementation of "The Protection and Conservation of Fish Act, 1950" more effectively because some fishermen violate banned periods due to poverty.

According to the survey data, views of respondents on “Perception of fishermen on incentives” in *Hilsa* and *Jatka* protection policies and government action are shown in the Table 5.6 below:

**Table -5.6 Views of the respondents on “Perception of Fishermen on Incentives”**

Statement	Mode of Response	Respondents	Percentage (%)
Assessment of perception of the fishermen regarding the amount of incentives they received during the banned period	Very Dissatisfied	1	2.63%
	Dissatisfied	17	44.74 %
	Neither Satisfied nor Dissatisfied	9	23.68%
	Satisfied	11	28.95%
	Total	N= 38	100%

(Source: survey data, 2020, N = 38)

In response to the question entitled “How would you assess the perception of the fishermen regarding the amount of incentives they received for compliance of mother *Hilsa* and *Jatka* protection banned period?” 20 public officials, 8 public representatives and 10 fishermen responded in different ways. In response, 44.74 percent of respondents recommended it as “dissatisfied”; 23.68 percent of respondents recommended as “neither Satisfied nor Dissatisfied”; 28.95 percent of respondents recommended it as “Satisfied” and 2.63 percent recommended as “very dissatisfied” as mentioned in table-5.6. These are the views of public officials and public representatives regarding the perception of the fishermen about the present amount of incentives they received during mother *Hilsa* and *Jatka* protection banned periods. On the other hand, to justify the answers to the policy implementers regarding incentives, fishermen are also asked to assess the amount of incentives that they received from the government. In response, 70 percent of respondents recommended it as “insufficient”; 20 percent of respondents recommended it as “sufficient”, and; 10 percent of respondents recommended it as “very insufficient”. About 60 percent of the public officials and public representatives recommended that fishermen are not satisfied with the present amount of incentives. 80 percent of the fishermen recommended that the present amount of incentives is “insufficient” for them compared to their actual requirements.

The presented data (Table 5.6) and their correlation (Table 5.9) values show that the “Perception of fishermen on incentives” and “Degree of implementation of ban policy” and “Perceived volume of production” is significantly correlated with each other. Indicator i.e. “Perception of fishermen on incentives” is positively correlated with “Degree of implementation of ban policy” ( $r = .801$ ,  $N = 38$ ,  $p < .00001$ , significant at  $p < .01$  and  $p < .05$ ) and “Perceived volume of production” ( $r = .622$ ,  $N = 38$ ,  $p < .000031$ , significant at  $p < .01$  and  $p < .05$ ). Therefore, if the banned policy is implemented effectively due to the satisfaction of fishermen on incentives they received then probably the production of *Hilsa* may be increased. High level of positive correlation values (Table-5.9) between “Perception of fishermen on incentives” and “Degree of implementation of ban policy” and “Perceived volume of production” indicate a general trend that, the more the allocation of incentives, the more the satisfaction of the fishermen. Similarly, the more the fishermen are perceived and satisfied with the incentives, the more easily they can maintain their family expenses which may lead them to be motivated to follow the *Hilsa* and *Jatka* banned periods more. As a result, mother *Hilsa* and *Jatka* will be protected more.

### **5.3.2 (b) Socio-economic Development of the Fishermen**

Most researchers recommended the socio-economic development of the fishermen rather than incentive-based *Hilsa* protection. Almost all the respondents confessed that depending on *Hilsa* catching; the socio-economic development of the fishermen has been improved. But, it could be more if the fishermen could get a reasonable price for their fish. According to Prothom Aloe report on 9 October 2020, “The life of the fishermen would change dramatically if they at least get the 50 percent price of their fishes”. They have to sell their fish as per the price fixed by the middlemen, money lenders, so-called *Mohajon or Aarotder*. Poor fishermen became bound to get conditional loans from them to manage their nets and boats. It is a complex syndicate that can be broken by the stern action of local administration. Otherwise, the fate of the fishermen will never change because “The profit of molasses is eaten by ants”.



*Hilsa* is a costly fish and its demand is very high due to its food quality. As a result of increasing price and production, fishermen are also getting their benefits and their socio-economic condition has been gradually increasing due to *Hilsa* fishing. While interviewing, most of the fishermen willingly confessed that their monthly average income on *Hilsa* fishing is around 20000 and they can save some portion of it after meeting their family expenses. In the *last* three years *Hilsa* production data as reported by the respondents indicate that it has been gradually increasing every year. The *Hilsa* production data of the Ministry of Fisheries and Livestock indicate that the volume of production has been increasing. On the other hand, some fishermen are facing the burden of loan installment of NGOs or poverty with large family or pressure from a local middleman or local private money lenders (*Aarotder/Mohajon*) and due to their influence and pressure, they violate the banned periods and catch mother *Hilsa* and *Jatka*. Some others are also violating due to their excessive greed of getting a huge amount of adult mother *Hilsa* during breeding time within a short time. Most of the fishermen do not have their nets and boats and they are fishing by managing them with a group of fishermen taking conditional loans from local *Mohajon*. During an interview, fishermen and other respondents told that the socio-economic condition of the fishermen is gradually increasing and they are now more capable of bearing the educational expenses of their children. Fishing is a collective effort. <sup>7</sup>

As a result, a group of fishermen is needed to be combined otherwise; all fishermen cannot bear the whole expenses of nets and boats. Therefore, they have to take conditional loans from the local politicians, middlemen, or private money lenders. The

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<sup>7</sup> *Mohajon* means the local moneylenders. They provide conditional high interest rate loans to the poor fishermen to buy their nets and boats because most of the fishermen cannot have the capacity to bear the large expenses of managing nets and boats. Fishermen have to pay a major part of their income to the moneylenders because of paying monthly installments with high rated interest. The pressure of loan burden is also a cause of violation of mother *Hilsa* and *Jatka* banned periods that need to be revisited and reconsidered by the implementers. Local administration may solve the issue by providing interest-free easy loans to the fishermen. *Aarotders* are the so-called leader of the fish landing station which is mostly situated at the very close to the bank of rivers. Generally, fishermen accumulate their fishes at the *Aarot* and sold there as per the settlement of auction. Fishermen do not get the rational price of their fishes they caught overnight. *Aarotder* usually controls the price of local fish landing station. They also provide loans to the fishermen. As a result, they have to follow the command-control mechanisms of the *Aarotder*. They need to be brought under the purview of law through stern action against them.

fact is that this development could be much more if they were not needed to pay high interest rate loans from the local middlemen. Moreover, practically fishermen have to sell their fishes to the local *Mohajon* as per the price fixed by the so-called middlemen or *Aarotder* or *Mohajon*. If *Hilsa* worth one lakh is caught-1. The owner of the net and trawler will get half; 2. Sareng or Majhi (Boat operator) will get 14 percent; 3. Others associated with the trawler will get 4 percent; Fishermen will get only 2 percent and 5. 30 percent of the cost of the trawler (Prothom Aloe, 9 October, 2020.) In this regard, the respondents put the following comments in the survey questionnaire:

**BOX-4: Comments of respondents on ‘Socio-economic Development of the Fishermen’**

**In the survey questionnaire, one of the Upazila Fisheries Officer pointed out that:**

“Poor fishermen are generated by Mohajon/ Aaratder. During the banned period, they take loan from them by the deed with them to catch Hilsa and Jatka during the banned period. *Mohajon /Aaratder* recruit them for catching Hilsa and Jatka. Besides this, the insufficient incentive does not get the fishermen due to the influence of local up chairman and member.”

**One of the district-level officials said,** “Sometimes they are bound to go due to pressure of ‘Mohajon’ and to some extent due to greed and political shelter.”

According to the survey data, the views of respondents on the “Socio-economic Development of the Fishermen” in *Hilsa* and *Jatka* protection policies and government action are as shown in the Table 5.7 below:

**Table-5.7: Views of the respondents on “Socio-economic Development of the Fishermen”**

Statement	Mode of Response	Respondents	Percentage (%)
Socio-economic condition of the fishermen has been improving due to Hilsa fishing	Agree	31	81.58 %
	Disagree	7	18.42 %
	<b>Total</b>	<b>38</b>	<b>100%</b>

(Source: Field Survey, 2020, N= 38)

In response to the question entitled “Do you think that the socio-economic condition of the fishermen has been improving due to *Hilsa* fishing?” - 20 public officials, 8 public representatives, and 10 fishermen responded in different ways. In this regard, 81.58

percent of respondents “agreed” and 18.42 percent of respondents “disagreed” which are as mentioned in the Table 5.7.

According to the frequency distribution data (Table 5.7) and their correlation (Table 5.9) values indicate that the “Socio-economic Condition of the Fishermen” and the “Degree of implementation of ban policy” and “Perceived volume of production” are significantly correlated with each other. Indicator i.e. “Socio-economic Condition of the Fishermen” is positively correlated with “Degree of implementation of ban policy”(r =.779, N = 38, p <.00001, significant at p <.01 and p <.05) and “Perceived volume of production” (r =.589, N = 38, p <.0001, significant at p <.01 and p <.05). A high level of positive correlation (Table-5.9) between the “Socio-economic Condition of the Fishermen” and the “Degree of implementation of ban policy” and “Perceived volume of production” indicate that if the socio-economic condition of the fishermen is more improved by incentives and *Hilsa* fishing, then it can be assumed that they will be able to maintain their family expenses and educational expenses of their children. As a result, fishermen are supposed to follow concerned policies more. It also depends on to extent they can save their fishing profit from the middlemen, money lenders, or so-called local “*Mohajon*” and “*Aarotder*”. The local administration should revisit this type of critical problem between poor fishermen and middlemen and may take steps to provide low interest rated easy loans to the fishermen. -If so happens, then the poverty of the fishermen will reduce and they will not suppose to violate banned periods which result in an increase in “Perceived volume of production.”

### **5.3.2© Selection of Fishermen and Distribution of Incentives**

The primary selection of fishermen for incentives is done by the concerned Union Committee where the UP chairman is the chairperson. The primary list is sent to the “Upazila *Hilsa* and *Jatka* Protection Committee”. Upazila Committee is supposed to scrutinize the UP chairman recommended list. Practically, a very few changes are made to the list of Union committee. The list of Upazila committee is sent to the central

government via DC's recommendations. The government then sanctions the allocation of incentives to the concerned UNO via DC. The UNO used to send the allocated incentives to the concerned UP chairman for distributing to the fisherman. Therefore, the Union committee, more specifically Up chairman is playing the most important role in selecting and distributing the incentives. Although there are provisions and scopes of selecting actual fishermen for giving incentives, practically, some non-fishermen are included and real fishermen are excluded as said by the fishermen during the interview. While interviewing the fishermen, most of them argued that they always receive less amounts of incentives than they are allocated from the government. Therefore, "Selection of Fishermen and Distribution of Incentives" has an impact on banned period implementation and an increase in the "Perceived volume of production".

In practical terms, some non-fishermen are included in the distribution list as said by the fishermen during the interview. 80% of respondents agreed that all *Hilsa* fishermen are included in the incentive distribution list. Some fishermen disagreed with the statement with the argument that every year new members of the fishermen community are being added and they suggested updating the list every year with the inclusion of new ones. They suggested ensuring impartiality and transparency in selecting fishermen for incentives and distributing actual amounts. Otherwise, incentive-based *Hilsa* protection program will not work properly. The size of family members is not considered in the existing system in giving incentives. The fact is that a significant number of non-fishermen are receiving the same amount of incentives compared to real fishermen who should be excluded for identifying and benefitting the real fishermen. It will not only reduce government expenditure but also it will help to provide more incentive to the real fishermen that will ultimately motivate them to follow the banned periods.

. Among 38 respondents, more than 82% recommended that the size of family members should be considered while selecting the fishermen to give incentives. Some researchers recommended that the size of family members should be considered while distributing incentives to the fishermen otherwise; it may lead to some fishermen to violate the

banned periods because of being a failure to bear their family expenses. While interviewing, almost all fishermen and other implementers argued that some fishermen violate laws due to their poverty and loan burden. Some public representatives argued that some fishermen violate the law due to their greed and habit and in that case, no incentives will work. It is also true that the fishermen cannot control their greed of catching a huge amount of *Hilsa* during the breeding season within a short time.

Some administrative officers such as UNO, Ac land, and fisheries officers during an interview recommended that the incentive distribution list should be updated every year to include the new fishermen and exclude the non-fishermen. They further told that incentive needs to be distributed properly before the banned period. The carrying cost of incentives should be increased. The banned period should be reviewed by continuous research. Some public representatives demanded 30 Kg rice with 2000 taka for 22-days mother *Hilsa* banned periods and 50 kg rice with TK. 3000 every month for the *Jatka* protection period. One of the UNOs told that the present amount of incentives should be doubled for the fishermen for effective implementation of mother *Hilsa* protection banned period. Incentives are given through rice; but for livelihood, the fishermen need many more things. Some respondents suggested that the incentive distribution through local representatives (Chairmen/Members) should be reconsidered. Another UNO said that the amount of incentives should be increased and needed to be distributed before the banned period. In this regard, one fisheries officer said that the present amount of incentives is not enough for the fishermen which need to be increased and some cash amount should be given with the present incentive. In response to the statement "All *Hilsa* fishermen are included in the incentive distribution list" one-third of the respondents "disagreed" which means that the incentive distribution list is not prepared properly and impartially. In response to the statement "The size of family members should be considered for giving incentives". In this regard, almost all fishermen and 82 percent public officials and public representatives "agreed." In this regard, the respondents put the following comments in the survey questionnaire:

**BOX-5: Comments of respondents on ‘Selection of Fishermen and Distribution of Incentives’**

**One of the respondents put the following comment in the survey questionnaire:**

"A complete list of the compensated fishermen should be made by visiting door to door. Fishermen should be enlisted without considering the political identity."

It implies that the assurance of proper selection of fishermen, impartial distribution of incentives, and more amounts of incentives can play a significant role to protect mother *Hilsa* and *Jatka* banned periods. Moreover, frequency distribution, qualitative analysis, and correlation coefficients between the variables signal that there is a trend to implement *Hilsa* banned policies more effectively subject to the proper selection and distribution of fishermen for incentives. An increase in banned period implementation probably increases the volume of *Hilsa* production.

As per the survey data, views of respondents on “Selection of fishermen and distribution of incentives” for *Hilsa* and *Jatka* protection are shown in the Table 5.8 below:

**Table-5.8 Views of the respondents on “Selection of Fishermen and Distribution of Incentives”**

Statements	Mode of Response	Respondents	Percentage (%)
All fishermen are included in the incentive distribution list	Disagree	6	15.79 %
	Partially agree	8	21.05 %
	Agree	23	60.53 %
	Strongly Agree	1	2.63 %
	<b>Total</b>	<b>N= 38</b>	<b>100%</b>
Statements	Mode of Response	Respondents	Percentage (%)
The size of family members should be considered while selecting the fishermen for giving incentives.	Disagree	7	18.42 %
	Partially agree	7	18.42 %
	Agree	18	47.37%
	Strongly Agree	6	21.44 %
	<b>Total</b>	<b>N= 38</b>	<b>100%</b>

(Source: Field Survey, 2020, N= 38)

Regarding the “Selection of Fishermen and Distribution of Incentives”, respondent’s views on specific statements are shown in the Table 5.6. In response to the statement “All *Hilsa* Fishermen are included in the incentive distribution list”, 60.53 percent of respondents “agreed”, 21.05 percent of respondents “partially agreed,” 2.63 percent of respondents “strongly agreed” and 15.79 percent of respondents “disagreed”. In

response to the statement “The size of family members should be considered while selecting the fishermen for giving incentives”, 47.37 percent of respondents “agreed,” and 25 percent of respondents “partially agreed”, 21.44 percent of respondents “strongly agreed” and 18.42 percent of respondents “disagreed” with the statement. Some public representatives argued and disagreed in the sense that if the size of family members is considered then there will be hitching while distributing the different amount of incentives to the different fishermen families.

The presented data (Table 5.8) and their correlation values (Table 5.9) show that “Selection of Fishermen and Distribution of Incentives” and the “Degree of implementation of ban policy” and “Perceived Volume of production” are significantly correlated and with each other. Indicator i.e. “Selection of Fishermen and Distribution of Incentives” is positively correlated with “Degree of implementation of ban policy ( $r = .884$ ,  $N = 38$ ,  $p < .00001$ , significant at  $p < .01$  and  $p < .05$ ) and “Perceived Volume of production” ( $r = .667$ ,  $N = 38$ ,  $p < .00001$ , significant at  $p < .01$  and  $p < .05$ ). The strong positive correlation (Table-5.9) between “Selection of Fishermen and Distribution of Incentives” with “Degree of implementation of ban policy and “Perceived Volume of production” imply that impartial selection of fishermen and proper distribution of incentive is very important for implementing *Hilsa* protection policies effectively. More specifically, some fishermen claimed during an interview that some non-fishermen are included and actual fishermen are excluded while making incentive lists and they suggested updating the list. The impact of incentives in this study is measured by three indicators such as the perception of the fishermen on incentives, Socio-economic development of the fishermen through incentives and selection of fishermen and distribution of incentives. The empirical data shows that the fishermen are not satisfied with the incentives they received during the *Hilsa* and *Jatka* banned periods. As consequence, they do not receive the actual quantity. All these may have negative effect on *Hilsa* protection policy implementation.

Van Mater and Van Horn (in Widodo 1974) asserted that incentives are the major part of resources. “These resources consist of funds or other incentives that can facilitate the

implementation of a policy. Lack of or limited funds or other incentives in policy implementation are a major contribution to the failure of policy implementation. *Hilsa* protection policy implementation process is greatly influenced by the incentives distributed to the fishermen in the form of rice, goats, cows, sewing machines, van, nets, and other substitute materials so that they can maintain their family expenses during the mother *Hilsa* and *Jatka* protection banned periods by the proper utilization of these incentives. The empirical data found from the survey regarding incentives meet the main theme of Van Meter and Van Horn Theory.

### 5.3.3 Correlation Matrix between Independent and Dependent Variables

Table -5.9 Correlation between Independent variables and Dependent Variable, N=38, N=28)

	Degree of implementation of ban policy	Perceived volume of production
<b><i>Resource for Policy Implementation</i></b>	<i>N = 28</i>	<i>N = 28</i>
Financial Resource	.723***	.598***
Human and Material Resource	.660***	.591***
<b><i>Incentives for the Fishermen</i></b>	<i>N = 38</i>	<i>N = 38</i>
Perception of Fishermen on Incentives	.801***	.622***
Socio-economic Development of the Fishermen	.779***	.589***
Selection of Fishermen and Distribution of Incentives	.884***	.667***
<b><i>Commitment of Lower-level Officials</i></b>	<i>N = 38</i>	<i>N = 38</i>
Administrative Capacity	.789***	.747**
Administrative Willingness	.760***	.764***
<b><i>Political Disposition</i></b>	<i>N = 38</i>	<i>N = 38</i>
Political Participation	.739***	.652***
Political Commitment	.714***	.847***

\*\*\* indicates that the calculated p-values are < 0.001. Result is significant at p <0.01 and p <0.05

### 5.3.4 Observation on the “Commitment of Lower-level Officials”

#### 5.3.4 (a) Administrative Capacity

The commitment of Lower-level Officials positively affects as an explanatory variable. It mainly depends on the administrative capacity and willingness of the local-level implementers. So, the measuring indicators for the commitment of the lower-level officials have been selected as ‘Administrative Capacity’ and ‘Administrative Willingness’



of the Officials in this study. Almost all the respondents during the interview recommended that more administrative capacity of the implementers can ensure the implementation of “The Protection and Conservation of Fish Act, 1950” more effectively. Some of them further claimed that the role of some law enforcement agencies members is questionable during the banned periods. They suggested ensuring transparency and accountability of implementers. Policy implementation depends on the administrative capacity, responsiveness, and willingness of the actors, their self-interests and techniques for attaining policy goals, and the regime typology in which they interact. Administrative capacity is composed of observable resources or means of public administration that ensure the physical functioning of the organizations.

One of the most important determinants of administrative capacity is the regulatory capacity of the implementers. Good governance, public administration performance, public administration reform, political environment, and civil societies are general elements of administrative capacity. Practically, it was observed that some officers are capable more and enforce the law strictly. On the other hand, officers of the same category and post of the neighboring workplace are seen to be reluctant in enforcing law compared to other Upazila. As consequence, some Upazila are producing more *Hilsa* than others. There should have a mechanism to ensure a particular target for Upazila level officers from the top. Almost all the respondents believed and agreed that if the officers are administratively more capable to implement *Hilsa* protection policies, then they can attain the policy goals more effectively. *Hilsa* production is increasing every year due to government intervention. But, we have to take into consideration how much increasing and how much it could be actually.

The literature review shows that *Hilsa* production could be doubled if only 10 percent of *Jatka* could be protected. Another research study suggested that 56 percent of fishermen violate banned periods and if only *Jatka* could be protected, the production of *Hilsa* resource could be increased 45% more. Fishermen were seen to catch a huge

quantity of mother *Hilsa* and *Jatka* every year due to the lack of administrative control. Moreover, the production and use of prohibited nets are also frequent. During the banned periods, a significant amount of nets are seen to burn before concerned magistrate and other law enforcement agency members almost every day. Now the question is, if the controlling capacity of the local administration was strong, then, how all these were possible? In this regard, the respondent put the following comments in the survey questionnaire:

**BOX-6: Comments of respondents on ‘Administrative Capacity’**

**One Upazila Level Officer mentioned in the survey questionnaire that-**  
 “Political interference, corruption, and administrative actions cannot go together in the name of so-called ‘Coordination’. Government officials are not strongly committed and there is a lack of political support.”

According to field survey data, the views of respondents regarding administrative capacity are as shown in the Table 5.10 below:

**Table 5.10: Views of the respondents regarding Administrative Capacity**

Statement	Mode of Response	Respondents	Percentage (%)
The more the administrative capacity, the more the success in implementing government policies.	Partially agree	3	7.90
	Agree	16	42.10
	Strongly Agree	19	50%
	<b>Total</b>	<b>38</b>	<b>100%</b>

**(Source: Field Survey, 2020, N= 38)**

In response to the statement entitled “The more the administrative capacity, the more the success in implementing government policies”, 50 percent of respondents “strongly agreed”, 42.10 percent of respondents “agreed” and 7.90 percent of respondents “partially agreed” as shown in the Table 5.10.

During the interview, three-fourths of the public officials and public representatives stated that the successful implementation of any policy is largely dependent on the clear understanding of the policies and administrative capacity of the bureaucrats. About 80 percent of the public officials during the interview told that they are administratively capable and the capacity and skill of all members of the *Hilsa*

protection team “Meets standards”. On the other hand, the public representatives were asked to assess the capacity of the local level administrative officials to implement the *Hilsa* and *Jatka* protection policies and action plans of Government. In response, about 75 percent of public representatives expressed their “dissatisfaction” with the role and capacity of the local public officials to implement *Hilsa* protection policies. Administrative capacity also depends on regulatory capacity, coordination capacity, analytical capacity; and delivery capacity related to the exercise of power and providing public services in practice, sufficient resources allocation, logistic support, technical know-how and level of understanding of the policy goals, content, context, etc by the implementers.

The presented data (Table 5.10) and their correlation values (Table-5.9) show that the “Administrative capacity” and “Degree of implementation of ban policy” and “Perceived Volume of production” are significantly correlated with each other. The indicator “Administrative Capacity “is positively correlated with “Degree of implementation of ban policy” ( $r = .789$ ,  $N = 38$ ,  $p < .00001$ , significant at  $p < .01$  and  $p < .05$ ) and “Perceived volume of production” ( $r = .747$ ,  $N = 38$ ,  $p < .00001$ , significant at  $p < .01$  and  $p < .05$ ). A strong positive correlation (Table-5.9) between administrative capacity and “Degree of implementation of ban policy” and “Perceived Volume of production” indicates that the more the administrative capacity of the lower-level administrative officials, the more the success in banned period implementation. So, more success in banned period implementation may lead to more *Hilsa* production.

#### **5.3.4(b) Administrative Willingness**

One of the major causes of policy failure is the absence of administrative willingness of the street-level bureaucrats (Vedung ,1997). The more success in banned period implementation, the more the *Hilsa* production. In practical terms, all public officials are not equally capable, willing, dedicated and committed to implementing public policies although all are equally benefited from the government. There may have various internal and external reasons behind it. The degree of willingness of an officer to

implement policies strongly or effectively is largely dependent on to what extent an officer is committed, transparent, accountable, and morally strong to take stern action against the offenders. The administrative willingness of the local-level implementers to implement policies may be disrupted, if local-level implaners are inclined to fulfill their vested interest or if they fear to lose popularity in their working environment or if an implementer is very much interested to stay a long time in a particular and desired place of posting or if local implementers are inclined to please local particular influential persons or leaders to get favor for future desired promotion, posting, and deputation or if the implementers have less moral strength, transparency, accountability, etc. There are many other factors affecting the administrative capacity and willingness of the lower-level officials which seriously hampers the effective implementation of policies.

Some invisible factors are affecting and influencing the effectiveness of banned period implementation. As per the media report, some money lenders indirectly allow and support the fishermen to violate banned periods so that they can purchase and store huge *Hilsa* during the banned periods to sell at a high price after the bans. The 'Mafia cycle', invisible hands, *Hilsa* trafficker, and money lender's roles have to be uprooted. This is a very complex syndicate that can only be broken if the local-level public officials are capable and willing to implement concerning policies very strictly. All these factors imply that *Hilsa* protection policy implementation is greatly influenced and affected by the administrative control and willingness of the lower-level officials. Some respondents recommended that local implementers should be more accountable to the higher authority and coordination between top and bottom-level should be increased. Some respondents suggested framing charge or taking legal action against the implementers to punish them for their irresponsibility or incapability or reluctance or ineffective implementation of the *Hilsa* Policy. Before doing it, mechanisms and management systems should be applied sincerely to measure and identify the implementers who are enforcing laws rigorously or who are loosely or reluctant. In this regard, the respondents put the following comments in the survey questionnaire:

**BOX-7: Comments of respondents on ‘Administrative willingness’**

One of the Upazila-level public Officials put the following comment in the survey questionnaire:

“Local administration, Police and Fisheries department have to take proper action against any persons involved in fishing during the banned period. Illegal fishing by politically established local representatives should be controlled. A controlled ‘Fishing Boat Management’ should be taken and monitored properly by the administration.”

One of the UNOs mentioned the following comment in the survey questionnaire:

“All field level officials do not fulfill their commitment properly. So, they should have more responsibilities to do their jobs.”

The majority of the respondents “agreed” that implementation of any policy can be seriously undermined due to the absence of administrative willingness of the bureaucrats. It seems that there is a lack of administrative control and willingness of the local implementers to implement *Hilsa* and *Jatka* protection policies at the field-level.

According to field survey data, the views of respondents regarding administrative willingness are as shown in the Table 5.11 below:

**Table 5.11: View of the respondents regarding Administrative Willingness**

Statements	Mode of Response	Respondents	Percentage (%)
The more you are willing to implement policies, the more you are able to attain the policy goals	Partially agree	2	5.26
	Agree	19	50
	Strongly Agree	17	44.74
	Total	38	100
Statements	Mode of Response	Respondents	Percentage (%)
The more you are committed implementing policies, the more you are able to attain the policy goals.	Partially agree	3	7.90
	Agree	27	71.05
	Strongly Agree	8	21.05
	Total	38	100%

(Source: Field Survey, 2020, N= 38)

In response to the statement entitled “The more you are willing to implement policies, the more you are able to attain the policy goals”, 50 percent of respondents “agreed”, 44.74 percent of respondents “strongly agreed” and 5.26 percent of respondents

“partially agreed” (Table-5.11). In response to another statement titled “The more you are committed implementing policies, the more you are able to attain the policy goals.” 71.05 percent of respondents “agreed”, 21.05 percent of respondents “strongly agreed” and 7.90 percent of respondents “partially agreed” (Table-5.11).

During the interview, about 96 percent of the respondents “agreed” that more administrative capacity and willingness of the implementers can ensure effective implementation of policies. Moreover, 100 percent of the respondents emphasized active participation and 89.29 percent of respondents emphasized fulfillment of the commitment of the implementers for effective implantation of policies. Three-fourths of public officials stated that participation and fulfillment of commitment of the public representatives are “Poor”. But, 100 percent of public representatives considered themselves as committed, willing, and participatory in *Hilsa* protection policy implementation actively. During the interview, three-fourths of the pubic officials and public representatives stated that the successful implementation of any policy is largely dependent on the administrative willingness. Regarding the participation and commitment of the bureaucrats, they considered themselves very much willing and dedicated implementing government policies.

On the other hand, pubic representatives were asked to assess the willingness of public officials. In this regard, 6 out of 8 public representatives, “dissatisfied” and 2 “satisfied “ with the overall willingness of the local-level administrative officials’ to implement the *Hilsa* and *Jatka* protection policies. It is mentionable here that the views of public officials are opposite to that of public representatives regarding the administrative capacity and willingness of the lower-level public officials. Therefore, the fact is that the willingness of the public officials is more compared to public representatives because the public officials have to be more or less accountable to their higher authority for their working performance and as they have a long tenure of service; most of them have to maintain a minimum level of transparency and accountability for the sake of their future

satisfactory service, promotion, posting, etc. Almost all respondents during the interview stated that more administrative willingness of the implementers can ensure the implementation of *Hilsa* protection policy more effectively.

The presented data (Table 5.11) and their correlation values (Table-5.9) show that the “Administrative willingness” and “Degree of implementation of ban policy” and “Perceived Volume of production” are significantly correlated with each other. The indicator “Administrative Willingness” is positively correlated with “Degree of implementation of ban policy” ( $r = .760$ ,  $N = 38$ ,  $p < .00001$ , significant at  $p < .01$  and  $p < .05$ ) and “Perceived Volume of production” ( $r = .764$ ,  $N = 38$ ,  $p < .00001$ , significant at  $p < .01$  and  $p < .05$ ). A strong positive correlation (Table-5.9) between administrative capacity and “Degree of implementation of ban policy” and “Perceived Volume of production” indicates that the more the administrative willingness of the lower-level administrative officials, the more the success in mother *Hilsa* and *Jatka* ban policy implementation. So, more success in the implementation of the banned policy may lead to more *Hilsa* production. Moreover, a strong positive correlation between the administrative willingness of the lower-level administrative officials indicates that with the increase in the administrative willingness of the local implementers, there is a trend of more success in the *Hilsa* banned period implementation.

### **5.3.5 Observation on Political Disposition**

#### **5.3.5 (a) Political Participation**

The impact of ‘Political Disposition’ in the policy implementation process is very significant in third world countries. As consequence, it has been considered as an important independent variable in this study which has been measured by the participation and fulfillment of the commitment of the political representatives (UP chairman and members) in the *Hilsa* protection activities of the government. George Charles Edward III (1984) has considered the disposition or attitudes of the implementers as an important intervening factor affecting the policy implementation

process. In the case of *Hilsa* protection policy implementation in Bangladesh, two main categories of implementers are directly involved. These are public officials and public representatives i.e. concerned up chairmen are the members of the “Upazila Hilsa Protection Team” and chairperson of Union Hilsa and Jatka protection committee. To assess their participation and also to explore the fulfillment of their commitment, political disposition has been selected as an independent variable in this study.

During the interview, almost all the public representatives said that a positive attitude and active participation of public representatives can play a very important role in mother *Hilsa* & *Jatka* protection operation of government. But, public officials claimed that participation of local up chairman and members is poor in policy implementation at the local-level. In this regard, the respondents put the following comments in the survey questionnaire:

**BOX-8: Comments of respondents on ‘Political participation’**

One of the respondents put the following comments in the survey questionnaire:  
“Illegal fishing by politically established local representatives should be controlled. A controlled ‘Fishing Boat management’ measures should be taken and monitored strictly by the administration. Fishermen should be enlisted without political consideration. A huge number of mother Hilsa and Jatka are caught during the banned period and it is like a ‘Fishing Festival’ not only to the fishermen but also to some greedy local representatives and businessmen.”

All the respondents agreed that the more the public representatives take part to implement policies, the more they can attain the policy goals. Public representatives during the interview stated that they usually take part in mother *Hilsa* and *Jatka* protection programs actively which is disregarded by more than three-fourths of the public officials. The fact is that local fishermen are the voters of local representatives<sup>8</sup>. As an important member of the Upazila *Hilsa* Protection Team, up chairmen could play a significant role, if they could take part in mother *Hilsa* and *Jatka* protection program

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<sup>8</sup> In this study ‘public representatives’ mostly include the local UP chairman and members. So, political disposition means to understand the disposition of the concerned Up chairman and members because they are the members of the Hilsa protection committee in Upazila and Union levels.



more actively. The impact of “Political Disposition” is very significant in the third world countries in the policy implementation process. In response to a question like “How would you assess the local political influence regarding mother Hilsa and Jatka protection policy implementation in field administration?”, majority of the respondents put their comments in the survey questionnaire that local political influence is at a ‘Moderate’ level and some have considered it as “Severe’ level which disrupts the effective implementation of *Hilsa* protection policy implementation process.

According to field survey data, the views of respondents regarding political participation are as shown in the Table 5.12 below:

**Table 5.12 Views of the respondents regarding Political Participation**

Statements	Mode of Response	Respondents	Percentage (%)
The more the political participation in the <i>Hilsa</i> protection activities, the more successful policy implementation	Agree	20	52.63
	Strongly Agree	17	44.74 %
	Neither Agree nor Disagree	1	2.63
	<b>Total</b>	<b>N= 38</b>	<b>100%</b>
Statement	Mode of Response	Respondents	Percentage (%)
Lack of political participation is one of the causes of policy failure.	Agree	23	60.53 %
	Neither agree nor disagree	5	13.15 %
	Strongly Agree	10	26.32 %
	<b>Total</b>	<b>N= 38</b>	<b>100%</b>

(Source: Field Survey, 2020, N= 38)`

In response to the statement titled “The more the political participation in the *Hilsa* protection activities of government, the more successful implementation of government policies”- 52.63 percent of respondents “agreed,” 44.74 percent of respondents “strongly Agreed” and 2.63 percent of respondents “neither agreed nor disagreed” (Table-5.12). The degree of political participation to implement *Hilsa* policy has been assessed based on the views of respondents on the following statement:

“Political participation is very important for successful policy implementation. Moreover, lack of political participation is one of the causes of policy failure.” In response, 60.53 percent of respondents “agreed”, 26.32 percent of respondents “strongly agreed” and 13.15 percent of respondents “neither agreed nor disagreed” with this statement as shown in the Table 5.12.

The presented data (Table 5.12) and their correlation values (Table-5.9) show that the “Political participation” and “Degree of implementation of ban policy” and “Perceived Volume of production” are significantly correlated with each other. The indicator “Political participation” is positively correlated with “Degree of implementation of ban policy” ( $r = .739$ ,  $N = 38$ ,  $p < .00001$ , significant at  $p < .01$  and  $p < .05$ ) and “Perceived Volume of production” ( $r = .652$ ,  $N = 38$ ,  $p < .00001$ , significant at  $p < .01$  and  $p < .05$ ). A strong level of positive correlation is found from the frequency distribution and statistical calculation which are the outcome of the views of respondents regarding the role of political participation in the “Degree of implementation of ban policy” and “Perceived volume of production.” From the statement of the public officials, it is evident that participation of the political representatives in the *Hilsa* and *Jatka* banned activities are poor. If they can actively participate then the government officials will be more able to implement the *Hilsa* protection act according to their willingness and commitment. Frequency distribution data, correlation value regarding “Political participation” imply that the more the “Political participation,” the more the “Degree of implementation of ban policy.” This is very common to happen which has been reflected in the views of respondents during the interview.

### **5.3.5 (b) Political Commitment**

Most of the public officials during the interview agreed that the implementation of any policy can be seriously undermined due to the lack of political commitment and participation. But, they further told that every jurisdiction has political influence regarding mother *Hilsa* and *Jatka* protection policy implementation in the field administration as severe, moderate, or mild levels. Most of the public representatives during the interview confessed that they are very much committed to participate in the banned period implementation programs. But, most of the local public officials told that their participation and fulfillment of commitment are “Poor.” Their positive participation and fulfillment of commitment could play a very significant role in mother

*Hilsa* and *Jatka* protection policy implementation. In this regard, the respondents put the following comments in the survey questionnaire:

**BOX-9: Comments of respondents on ‘Political Commitment’**

One of the district-level interviewees said, “Political influence should be reduced to ensure effective implementation of ban policy.”

One of the public officials put the following comments in the survey questionnaire:

“I think that willingness of political representatives, local administrators, police, and officials of the fisheries department is enough to implement “The Protection and Conservation of Fish Act, 1950”. Political interference, corruption, and administrative actions cannot go through in a line in the name of so-called ‘Coordination.’”

“Government officials are not strongly committed fulfilling their commitment but, if they get local political support, they will surely do something better in their respective fields. I strongly believe that negative political influence is hampering the willingness of street-level bureaucrats to implement any policy. Only political and administrative willingness is needed to control illegal fishing activities during the banned periods that ultimately will give us a huge return in this regard”.

Almost all the respondents were agreed that commitment, capacity, and willingness of the local-level bureaucrats to implement any policy may be undermined by the negative political influence. It means that there is some negative political influence that affects the policy implementation process. Political representatives during the interview stated that they are very much committed to implementing *Hilsa* policies which are disregarded by the public officials. Almost all the respondents agreed that commitment, capacity, and willingness of local-level bureaucrats to implement any policy may be undermined by the negative political influence.

According to field survey data, the views of respondents regarding fulfillment of the political commitment are as shown in the Table 5.13 below:

**Table 5.13 Views of the respondents regarding Political Commitment**

Statements	Mode of Response	Respondents	Percentage (%)
The more the fulfillment of political commitment to implement policies, the more you can attain the policy goals.	Agree	28	73.68 %
	Neither Agree nor Disagree	3	7.89
	Strongly Agree	6	15.80 %
	Strongly Disagree	1	2.63
	Total	N= 38	100%
Statements	Mode of Response	Respondents	Percentage (%)
How would you assess the participation and fulfillment of the commitment of the public representatives on mother <i>Hilsa</i> and <i>Jatka</i> protection?	Very poor	2	7.14 %
	Poor;	14	50%
	Good	10	35.72 %
	Excellent	2	7.14 %
	Total	N= 28	100%

(Source: Field Survey, 2020, N= 38)

In response to the statement titled “The more the fulfillment of political commitment to implement policies, the more you can attain the policy goals.”- 73.68 percent of respondents “agreed”, 15.80 percent of respondents “strongly Agreed”, 7.89 percent of respondents “neither agreed nor disagreed” and 2.63 percent of respondents “strongly disagreed” (Table-5.13). In response to the question entitled “How would you assess participation and fulfillment of the commitment of the public representatives regarding mother *Hilsa* and *Jatka* protection policy implementation?”, 50 percent of the respondents recommended as “poor”, 7.14 percent of the respondents<sup>9</sup> recommended as “very poor”, 35.72 percent of the respondents recommended as “good” and 7.14 percent of the respondents were recommended as “very good” (Table 5.13).

The presented data (Table 5.13) and their correlation values (Table-5.9) show that the indicator “Political commitment” and “Degree of implementation of ban policy” and “Perceived volume of production” are significantly correlated with each other. The indicator “Political commitment” is positively correlated with “Degree of implementation of ban policy” ( $r = .714$ ,  $N = 38$ ,  $p < .00001$ , significant at  $p < .01$  and  $p < .05$ ) and “Perceived volume of production” ( $r = .847$ ,  $N = 38$ ,  $p < .00001$ , significant at  $p$

<sup>9</sup> Opinions of the respondents were collected through “Excellent”-5; “Good”-4; “Fair”-3; “Poor”-2 and “Very poor”-1 compared to Likert scale measurements. No comments portion is excluded.

<.01 and  $p <.05$ ). Moreover, a strong positive correlation between the “Political commitment” and “Degree of implementation of ban policy” and “Perceived volume of production,” as shown above indicate that the more the fulfillment of the commitment of the public representatives in the *Hilsa* protection policy implementation, the more the success in implementing banned policies. If the commitment of the public representatives is fulfilled, then they can aware of the fishermen or refrain the fishermen from catching *Hilsa* and *Jatka* during the banned periods. I.e. more effective banned period implementation may positively lead to more increase in *Hilsa* production. It means that there is an influence of fulfillment of the commitment of the public representatives especially the local UP chairman to implement *Hilsa* protection policy. From the qualitative and quantitative findings, it is evident that positive political disposition has its significant impact on the *Hilsa* protection policy implementation in Bangladesh especially at the local-level which complies with the statement of G. Edward III (1984) model of policy implementation that disposition or attitudes of the implementers are one of the components of his theory affecting policy implementation.

### **5.3.6 Hilsa Protection**

For protecting *Hilsa* resources, the government has been taking many initiatives as discussed in detail in chapter four. Ban period implementation and increase in production have been selected as two measuring indicators of *Hilsa* protection. Two questions were asked to the respondents based on the measuring indicators which are mentioned in table 5.14 and 5.15. Finally, bivariate analyses of correlations between *Hilsa* protection, and relevant independent variables are done to identify their strength of relations and level of significance.

#### **5.3.6 (a) Degree of Implementation of Ban Policy**

Government has recently declared “Banned period” of mother *Hilsa* catching from 14 October to 4 November (Earlier it was 7-28 October). During this time, all kinds of fishing, selling, carrying, transporting and storing is strictly prohibited. Use of current

nets, and gillnets are also strictly prohibited around the year. In March every year, the “Jatka Conservation Week” operation is observed. Moreover, the government also provides incentives to the fishermen so that they can maintain their family expenses during the banned period. Despite all these efforts and government interventions, some fishermen are seen to violate ban periods and catch mother *Hilsa* and *Jatka* causing a huge loss of production of *Hilsa* resource. Due to the lack of compliance with the banned period, overfishing activities have been increasing causing a major threat for future increases in the production of this species. Researchers have suggested that the present figure of production could be increased up to 45 % more by ensuring the effective implementation of only the Jatka ban period. Other study suggested that 56 percent of fishermen violate banned periods as mentioned earlier. Almost all the respondents agreed with this statement during the interview. This study finds out the causes of violation of banned periods by the fishermen. In this regard, the respondent put the following comments in the survey questionnaire:

**BOX-10: Comments of respondents on ‘Administrative Capacity’**

One of the fisheries officers put the following comment in the survey questionnaire: “Fishermen are not much skilled for other occupation. They do not have much savings. So they drive to catch Hilsa and some are seen to violate banned period”.

One of the respondents put the following comment in the survey questionnaire: “Existing volume of production could be 10 times if mother Hilsa and Jatka protection banned periods could be implemented effectively.”

According to field survey data, the views of respondents regarding the “Degree of implementation of ban policy” are as shown in the Table 5.14 below:

**Table 5.14 Views of the respondent on “Degree of Implementation of ban policy”**

Statements	Mode of Response	Respondents	Percentage (%)
Level of satisfaction of the mother <i>Hilsa</i> and <i>Jatka</i> protection banned period implementation.	Very satisfied	6	15.79 %
	Satisfied	17	44.74 %
	Neither satisfied nor dissatisfied	8	21.05 %
	Dissatisfied	7	18.42 %
	Total	N= 38	100%
Statements	Mode of Response	Respondents	Percentage (%)
Following the rule of	Never	7	25%

specific mesh size of current nets and gillnets during the banned period of catching mother <i>Hilsa</i> and <i>Jatka</i> .	Rarely	12	42.86 %
	Sometimes	6	21.43%
	Often	2	7.14%
	Always	1	3.57%
	<b>Total</b>	<b>N= 28</b>	<b>100%</b>

(Source: Field Survey, 2020, N= 38)

In response to the question entitled “To what extent are you satisfied with the mother *Hilsa* and *Jatka* protection banned periods implementation?”, 44.74 percent of respondents “satisfied”, 18.42 percent of respondents “dissatisfied”, 15.79 percent of respondents “very satisfied” and 21.05 percent of respondents “neither satisfied nor dissatisfied” as shown in table 5.14. In response to the question entitled “To what extent do fishermen follow the rule of specific mesh size of current nets and gillnets during the banned period of catching mother *Hilsa* and *Jatka*?”, 3.57 percent of respondents recommended as “always”, 7.14 percent of respondents recommended as “often”, 21.43 percent of respondents as “sometimes” and 42.86 percent of respondent recommended as “rarely” and 25 percent of respondent recommended as “never” as shown in the Table 5.14.

It is evident from the views of respondents that more than one-third of the respondents are not satisfied with the implementation of banned periods of mother *Hilsa*. A huge amount of prohibited monofilament nets (*Current jal*), gillnets (*Behundi jal*), and other locally made nets have been producing and selling openly in the local markets. According to the existing laws, the mesh size of nets is specified. As per the response of the respondents (Table-5.14), the fishermen rarely compliance with the mesh size of nets. As consequence, all kinds of very small size juvenile *Hilsa*, *Jatka* are caught by the fishermen which are reflected in the media reports. There exist a strong positive correlation among the “Degree of implementation of ban policy” and all other indicators of four independent variables. It indicates that effective implementation of *Hilsa* protection policies, rules, and action plans of the government are largely dependent on sufficient resources, incentives for the fishermen, the commitment of the lower-level officials, and positive political disposition.

### 5.3.6 (b) Perceived Volume of Production

*Hilsa* production figures of “The Ministry of Fisheries and Livestock” and the perceived volume of production found from the survey data indicate that the *Hilsa* production has been increasing almost every year although there are some challenges and lack of compliance of government acts and rules. *Hilsa* production was largely declined from 2001 to 2003. As a result, *Hilsa* Fisheries Management Action Plan, 2003 was formulated. To achieve the increased target of *Hilsa* production, the Department of Fisheries (DoF) of government is implementing a unique coordinated management program. The government introduced incentive-based *Hilsa* production in 2007 and since then to date, production had been increasing gradually. The government has been implementing many initiatives to protect this natural resource such as ‘Ban on mother *Hilsa* and *Jatka* catching,’ Observation of *Jatka* conservation week,’ mobile court and task force operation, ‘Establishing *Hilsa* sanctuaries’ and ‘Breeding ground’, etc.

According to field survey data, the views of respondents regarding the “Perceived volume of *Hilsa* Production” are as shown in the Table 5.15 below:

**Table 5.15 Views of the respondents on “Perceived volume of *Hilsa* Production”**

Statements	Mode of Response	Respondents	Percentage (%)
The extent to which <i>Hilsa</i> production is increasing due to government interventions	Strongly Disagree	2	5.26%
	Neither Agree nor Disagree	1	2.63%
	Agree	25	65.79 %
	Strongly Agree	10	26.32 %
	Total	N= 38	100%

(Source: Field Survey, 2020, N= 38)

In response to the question entitled “To what extent do you agree that *Hilsa* production is increasing due to the government interventions?”, 65.79 percent of respondents “Agreed”, 26.32 percent of respondents “Strongly Agreed”, 2.63 percent of respondents “Neither Agreed nor Disagreed” and 5.26 percent of respondents “Strongly disagreed” as shown in the Table 5.15. In response to another question, 100 percent of respondents have answered that the size and production of *Hilsa* have been increasing



gradually due to banned period implementation. The government office records show that *Hilsa* production has been gradually increasing.

*Hilsa* production is increasing gradually every year but it could be much more if the existing policy could be implemented more effectively. There exists a strong positive correlation among the ‘Perceived volume of production’ and all other indicators of four independent variables which imply that an increase in the volume of production of *Hilsa* resources in Bangladesh is closely related to effective implementation of *Hilsa* protection policies, rules, and action plans of the government. On the other hand, effective implementation of *Hilsa* protection policies are largely dependent on sufficient resource (financial resource, human and material) allocation, incentives (perception of fishermen on incentives, socio-economic development, selection and distribution of incentives), the commitment of the lower-level officials (Administrative capacity and willingness), and positive political disposition (political participation and commitment). In this regard, the perceived volume of production as mentioned in the respondents in the survey questionnaire is shown in the Table-5.16 below:

**Table-5.16 Perceived volume of production VS resource allocation as per information provided by the respondents**

Name of Upazila	Area km <sup>2</sup>	Perceived volume of production (MT)		Financial Resource allocation (Taka)		Human and material resource.	
		2017-2018	2018-2019	Maa Ilish	Jatka Protection	Speed boat	Human resource
Haimchar Upazila	174.5 km <sup>2</sup>	8225	8475	38000 (22days)	100000 (160 days)	allocated	Vacant post : SUFO, OA, Peon
Matlab North Upazila	277.5 km <sup>2</sup>	6300	7780	90000 (22 days)	100000 (160 days)	Not allocated	Vacant post : Peon
Matlab South Upazila	131.7 km <sup>2</sup>	35.2	36.70	35000	70000	Not allocated	Vacant post : OA
Chandpur Sadar Upazila	308.8 km <sup>2</sup>	15247	22548	80000	120000	not allocated	Vacant post: OA

From the data collected from implementer’s offices, it is clear that although production at Chandpur Sadar Upazila is 614.39 times ( $22548/36.7 = 614.39$ ), Haimchar Upazila is

230 times ( $8475/36.7= 231$ ) times and Matlab North Upazila is 211 times ( $7780/36.7= 211$ ) than Matlab South Upazila (36.7 MT), financial resource allocation is only ( $200000/105000 = 1.90$ ) 1.90 times, 1.31 ( $138000/105000 = 1.31$ ) times and 1.81 times ( $190000/105000 = 1.81$ ) respectively. It implies that financial resource has not been allocated based on the volume of production of Hamchar and Matlab north Upazila<sup>10</sup> compared to Matlab south Upazila. On the other hand, the post of Upazila Fisheries Officer, Office Assistant and Peon are lying vacant at Haimchar Upazila although their production quantity is the highest. It indicates that if more financial resource and human resource could be allocated at Chandpur Sadar, Haimchar and Matlab north Upazila, they could contribute more production by implementing mother *Hilsa* and *Jatka* protection policies more effectively.

#### **5.4 Respondent's Suggestions Regarding the Violation of Banned Periods**

In response to a question entitled "Although fishermen are given incentives but some are seen to violate banned periods. What are the causes behind it?" The views of the respondents in this regard are as mentioned below:

1. The cause might be found in their socio-cultural and socio-economic structure.
2. Fishermen are not much skilled in other occupations. They have not much savings. So, they drive to catch *Hilsa* and some are seen to violate banned periods due to insufficient incentives and influence of political syndicate.
3. Some fishermen violate banned periods due to Poverty, Bank/Ngo loans, local influence, and lack of agricultural land and, lack of alternative income sources.
4. Poor fishermen are generated by *Mohajon*. During the banned period, fishermen take loans from them by the deed to catch *Hilsa* and *Jatka*. *Mohajon* recruits them for catching *Hilsa* and *Jatka*. Besides, the insufficient incentive does not get the fishermen due to the influence of local up chairman and member.
5. This is the habit of the fishermen and also due to the pressure of middleman, greediness of fishermen, Lack of administrative control, etc. During the banned period,

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<sup>10</sup> In this study 'Upazila' means 'sub-district'. The activities of Upazila-level officers are coordinated and monitored by the district level officers. District-level officers are monitored by the divisional-level etc.

rivers abound with *Hilsa*. Fishermen cannot tackle their greed as maximum amount of *Hilsa* can be caught within a short time.

7. Lack of awareness and ignorance among the fishermen. Lack of proper distribution of incentives, lucrative price of fish, indebtedness, fears for not getting fish after the ban period. Sometimes they are bound to go due to the pressure of Mohajon and also to some extent greed and political shelter.

#### **5.5 Respondent's Suggestions Regarding Effective Implementation of Banned Periods**

1. Almost all respondents emphasized strict enforcement of the law and assurance of political participation, and the fulfillment of their commitment.

2. They emphasized increasing incentives with some cash amount, and assurance of alternative livelihood for fishermen. They stated that political and administrative willingness is needed to control fishing activities in the banned period that will ultimately give us a huge return in this regard. *Hilsa* banned time should be 30-days.

3. A comprehensive policy should be formed and implemented. The existing challenges should be mitigated. Current nets, Gillnets and all other nets and, destructive fishing gears should be banned by sealing the production factories.

4. Sufficient allocation of logistic support and manpower, awareness building among fishermen, effective and frequent mobile court operation during the banned periods.

5. Increasing financial support to implementer's office. All concerned officers should be committed and devoted to *Hilsa* protection during the banned period.

6. Effective implementation of HFMAP, providing training to the fishermen community. All activities should be performed under one umbrella. Strict coordination and monitoring from the top should be ensured and political pressure is to be considered.

8. Team building, proper duty distribution, target fixing and taking feedback, and creating an instance of punishment for showing reluctance in doing responsibility.

9. Assurance of framing charge and fine to anyone found with violation of any directive.

10. More research on species' distribution pattern, breeding sites, and migration route to improve *Hilsa* management measures that can enhance *Hilsa* production.

## 5.6 Chapter Summary

This chapter essentially has focused on data presentation, analysis, and interpretation. Data has been qualitatively explained with the help of information provided by the respondents. Quantitative data was analyzed through statistical tools of SPSS and Pearson R-calculator. This chapter has also identified the relations among the independent and dependent variables related to their concerned indicators. Findings depict that *Hilsa* protection policy implementation in Bangladesh is influenced by sufficient resource allocation, incentives, commitment of the lower-level officials and political disposition. Correlation coefficient  $r$ -values, and  $p$ -values are calculated among the variables, and the results are found statistically significant at  $p < .01$  and  $p < 0.05$ . Moreover, the respondents identified the present status and challenges of the *Hilsa* protection policy implementation through survey questionnaires. Comparing the correlations amongst the variables listed in Table 5.9, we have observed that there exist strong positive correlation values amongst all independent variables and dependent variable. Statistically significant high level of correlation implies that *Hilsa* protection policy implementation in Bangladesh is significantly dependent on all the indicators of independent variables. There is lack of compliance of *Hilsa* and *Jatka* protection policy implementation as mentioned by the respondents. These findings mostly match and fit with the arguments of Van Meter and Van Horn (1975), Grindle and Thomas (1991) and G. Edward III (1984) theories with the concepts that implementation of any policy is seriously undermined due to the lack of sufficient resources for policy implementation, incentives distribution to the fishermen, administrative capacity and willingness of the implementers and disposition of the political implementers.

## Chapter Six

### Analysis of Findings and Discussions

#### 6.1 Introduction

This chapter covers the overall research findings based on research objectives and research questions. The findings are then analyzed in light of the analytical framework and theoretical background. The specific objective of this study is to find out the present implementation status and the challenges of policy implementation regarding *Hilsa* protection in Bangladesh. To explore the present status of *Hilsa* policy implementation, challenges of policy implementation, and objectives of this study; the ideas of Van Meter and Van Horn's (1975), Grindle and Thomas's (1991) and G. Edward III's (1984) integrated implementation model provided the necessary framework for this study. The indicators used to justify the dependent variable '*Hilsa* protection' are "Degree of implementation of ban policy", and "Perceived volume of production" in terms of *Hilsa* resource protection because the main theme of "The protection and conservation of Fish Act, 1950" and, its concerning rules, *Hilsa* Fisheries Management Action Plan, 2003 are to ensure mother *Hilsa* and *Jatka* protection as well as to increase *Hilsa* production. Although there are different acts, rules and, action plans of the government to protect valuable *Hilsa* resources, there is a lack of compliance with these policies due to different challenges and other factors affecting implementation. Therefore, it is necessary to explore the present status and identify the challenges of implementation through analyzing the implementer's opinions and beneficiaries at the local-level considering their participation, commitment, willingness, and capacity.

Resource for policy implementation, Incentives for the fishermen, Commitment of lower-level officials and Political disposition were considered as independent variables that probably affect the performance of the *Hilsa* protection policy implementation. The author further measured the status of *Hilsa* policy implementation (Degree of implementation of ban policy and Perceived volume of production) in terms of the

influence of resource allocation, incentives distribution, the commitment of lower-level officials, and political disposition. Likewise, the indicators of these variables were examined based on the responses of the field-level implementers. The impacts of these indicators were collected by interviewing the public officials, public representatives, and fishermen at the field-level.

## **6.2 Major Findings of this Study**

The major findings of this study imply that there is a lack of compliance with *Hilsa* protection policy implementation as mentioned by the respondents due to the lack of sufficient resources, incentives, the commitment of lower-level officials and positive political participation. The empirical findings revealed that *Hilsa* protection policy implementation in Bangladesh has been affected by the lack of sufficient financial and human and material resources, incentives for the fishermen, the commitment of lower-level officials, political participation, and lack of fulfillment of their commitment. All these findings are linked with the concepts of Van meter and Van Horn theory, 1975 (implementation of any policy is seriously undermined due to the lack of sufficient resource and incentives), Grindle and Thomas theory, 1991 (Factors affecting policy implementation are Conflicts among actors, Resource, the Commitment of lower-level officials, Political leverage, People's reaction and Structure of inter-governmental relation) and G. Edward model, 1984 ( Resource, Communication, Bureaucratic structure, and Disposition or Attitudes of implementers affect policy implementation).

### **6.2.1 Independent Variables**

#### **6.2.1.1 Resource for Policy Implementation**

##### **6.2.1.1(a) Financial Resource**

It was found that financial resource allocation is 'insufficient' compared to the actual demand of the local implementers which is a barrier for effective implementation of mother *Hilsa* and *Jatka* protection banned policies at the field-level. Financial resource should be allocated based on the volume of production of a particular Upazila. Although

production figures at Chandpur Sadar, Haimchar, and Matlab North Upazila are 614.39 (22548 MT) times, 230 (8475 MT) times, and 211(7780MT) times respectively than Matlab South Upazila (36.70MT), but, financial resource allocation was only 1.90 times, 1.31 times and 1.81 times respectively. The findings regarding the 'financial resource' revealed that there is a significant relationship between financial resource allocation, and *Hilsa* protection.

There exists a strong positive correlation among the different indicators of dependent and independent variables, and their level of significance indicates that *Hilsa* protection is dependent on financial resource allocation in favor of the implementer's office as per their demands. Only one-tenth of the (10.71 %) the respondents 'satisfied' and the rest of them "dissatisfied" with the present amount of financial resource allocation from the government for implementing the mother *Hilsa* and *Jatka* protection policies. However, the implementer's perception on financial resource allocation is that if the financial resource could be allocated based on the demand of local level implementers, then it would play a very significant role to implement *Hilsa* and *Jatka* protection banned periods more effectively and as a result, *Hilsa* production would be increased significantly. More specifically, it was found that the existing amount of financial resources allocation is much less than the actual requirement to implement mother *Hilsa* and *Jatka* protection during banned periods effectively. It means that policy implementers still believe that more allocation of financial resource would ensure the implementation of mother *Hilsa* and *Jatka* protection banned periods more effectively.

#### **6.2.1.1 (b) Human and Material Resource**

It was found that there is a lack of human and material resource allocation at the local implementer's office which causes the lack of compliance of policies. Human and material resource allocation is not uniform at different Upazila. Although production at Chandpur Sadar, Haimchar, and Matlab North Upazila is 614.39 (22548 MT) times, 230 (8475 MT) times, and 211(7780MT) times than Matlab south Upazila (36.70MT), but

Chandpur Sadar and Matlab North Upazila has no speed boat. Moreover, they faced shortage of manpower in their offices.

The findings regarding the 'Human and Material Resource' revealed that there is a significant relationship between 'Human and Material Resource' and *Hilsa* protection. A strong positive correlation value among the different indicators of dependent and independent variable, and their level of significance indicates that the *Hilsa* protection is largely dependent on human and material resource allocation in favor of the implementer's office as per their demand. Human and material resources are important factors which determine the performance of "The Protection and Conservation of Fish Act, 1950". To carry out the day to day function of the mother *Hilsa* and *Jatka* protection banned periods and other action plans of the government; the local-level implementers need adequate human and material resources. The majority of the respondents stated that they have a lack of both human and material resources in their offices. For example, the posts of supporting staffs such as office assistants or peons are lying vacant in different Upazila. During the interview, the Haimchar "Upazila Assistant Fisheries Officer" told that the post of "Senior Upazila Fisheries Officer" is lying vacant at his office for about one year. They suggested increasing all kinds of logistic supports for the effective implementation *Hilsa* protection policy.

Specifically, 'human resource' in this study refers to the manpower deployed in the implementer's offices. 'Material resource' includes logistic supports such as car, speedboat, boat, fuel, lubricant, life jacket, etc for conducting mobile court and task force operations. Some UNO and senior fisheries officers suggested providing high-speed engine boat with the argument that traditional low-speed locally made trawler boats cannot reach the high-speed small boats of the fishermen while they were found catching mother *Hilsa* and *Jatka* illegally during the banned times. Sometimes mobile court team members and other law enforcement agency members are even attacked by the fishermen due to the lack of high-speed vehicles. Sometimes personnel are not available or facilities are inadequate. Speed boat of Sadar Upazila is now out of order and Haimchar Upazila has speed boat but they are facing a lack of fuels.



These empirical findings are supported by the basic concepts of Van Meter and Van Horn's theory that lack of competent staff, implementer's negative disposition may cause policy failure (Van Meter and Van Horn, 1975).

The significant positive correlation between the 'Resource' and 'Degree of implementation of ban policy' and 'Perceived volume of production' would fit 1) with the arguments of Van Meter and Van Horn, 1975 that the implementation of any policy is seriously undermined due to the lack of sufficient resources, 2) with the concept of Grindle and Thomas, 1991 that planning and mobilization of sufficient physical, human and material resources are required to ensure sustainable implementation of policies and 3) with the concepts of G. Edward III, 1984 that four key elements of policy implementation are resources, communication, bureaucratic structure and disposition.

#### **6.2.1.2 Incentives for the Fishermen**

##### **6.2.1.2 (a) Perception of Fishermen on Incentives**

The fishermen are not perceived and satisfied with the existing amount of incentives (rice) only. The respondents demanded more amount of rice with some cash. Some violate banned periods due to poverty and some violates intentionally due to their uncontrolled greed of getting a maximum amount of fishes within a minimum time during the peak breeding season. Perception of fishermen is an important measuring indicator of incentive because if the fishermen are not perceived and satisfied with the amount of incentives they received, then they may not follow the banned periods effectively due to the failure of maintaining their family expenses. The findings regarding the 'Perception of fishermen on incentives' depicted that there is a significant relationship between the 'Perception of fishermen on incentives' and *Hilsa* protection. About two-thirds of the respondents (public officials and public representatives) assessed that fishermen are not satisfied with the amount of incentives they received for compliance with mother *Hilsa* and *Jatka* protection banned period. On the other hand, 75% of fishermen expressed their perception regarding the amount of incentive as "insufficient." The majority of the respondents recommended increasing the amount

of incentives. At present every fisherman receives 20 kg of rice for 22-days mother *Hilsa* banned period and 160 kg of rice for 4 months *Jatka* banned period. Besides, some respondents recommended giving them some cash with rice so that they can maintain their other family needs during the banned periods. During the interview, the fishermen confessed that average income from *Hilsa* fishing per month is TK. 20000. They argued that the market price of 40 kg coarse rice is about TK. 1500 with a deduction of carrying cost whereas they could buy at least 600 kg of rice by fishing one month.

On the other hand, almost all the local public representatives argued that although fishermen are provided incentives, some greedy fishermen usually violate the banned periods intentionally due to their uncontrolled greed. They further stated that this is the bad nature of some greedy fishermen because a huge amount of mother *Hilsa* moves towards the upstream of rivers from the Bay of Bengal to lay eggs and at that time fishermen could not control their greed of catching a lot of fishes within a short time. Some fishermen do not have their nets and boats. Some of them have their boats but not nets and vice versa. Some are facing excessive loan burden of local money lenders and some do not have any alternative income during the banned periods. These are the statements of the fishermen regarding the cause of violating banned periods.

#### **6.2.1.2 (b) Socio-economic Development of the Fishermen**

The socio-economic development of the fishermen is more important than incentive-based *Hilsa* protection. Their socio-economic condition has been improving due to *Hilsa* fishing but it could be much more if they could get the actual price of their fishing worth. Fishermen have to pay a major part of their fishing income to the local money lenders as installments of high-rated conditional loans which disrupt their economic development. The socio-economic condition of the fishermen has been improving due to *Hilsa* fishing which is confessed by the majority of the respondents but it could be much more if they could get at least half of the prices of their fishing worth.

The quantitative data of the Department of Fisheries and the last three years *Hilsa* production data as reported by the respondents indicate that *Hilsa* production has been gradually increasing every year due to government interventions. As a result, most of the fishermen are now more capable of bearing their family expenditure and educational expenses of their children compared to before because the demand for *Hilsa* is very high for all classes of people due to its food quality and popularity. Moreover, it is also true that some fishermen are still facing the burden of loan installment of NGOs or poverty with large family or pressure from local middlemen (*Aarotder/Mohajon*) and due to their influence and pressure, they violate banned periods to catch mother *Hilsa* and *Jatka*. The invisible influence of the local money lenders (*Mohajon/Aarotder*) hampers the socio-economic development of the fishermen. Most of the fishermen have been managing fishing boats and nets with a group of fishermen by taking a conditional loan from a local *Mohajonr*. In this context, the local administration should revisit this type of critical bondage between poor fishermen and middlemen and may take steps to provide low interest rated easy loans.

#### **6.2.1.2 (c) Selection of Fishermen and Distribution of Incentives**

It was found that the selection of fishermen for the incentive is not done properly. Fishermen should be selected by going door to door. Fishermen locally receive less amount of incentives than they are allocated. The incentive distribution list should be updated every year to include the new fishermen and exclude the non-fishermen. Incentive distribution through local representatives should be reconsidered. About 90 percent of the respondents believe that the existing amount of incentive is “insufficient” for the fishermen to maintain their family during the banned ban periods and they recommended doubling the present amount with some cash with the argument that they need many other things to maintain their family other than rice. Regarding the selection of fishermen and distribution of incentives, three-fourths of the respondents believe that all *Hilsa* fishermen are included in the incentive distribution list and the rest

of them believe that some non-fishermen are included in the list. The incentive distribution list should be updated every year to include the new fishermen.

On the other hand, more than three-fourths of the respondents believe that the size of family members should be considered while selecting the fishermen for the incentives. In the existing system, a fishermen family consisting of 10 members is getting the same amount as received by a family consisting of four members. But, as per government family planning policies, giving birth to more than two children has been discouraged. Some public officials (policy implementers) suggested making the list of fishermen by going door to door. Some public officials argued that the distribution of incentives through local representatives (Chairmans) should be reconsidered. Fishermen argued that in most of the cases, some non-fishermen are included and real fishermen are excluded due to the lack of proper and impartial selection. Some public officials commented in the survey questionnaire that fishermen should be enlisted without considering the political identity. It reveals that there exist some particular problems (improper selection and distribution) in selecting fishermen and, distributing the incentives that impacts the *Hilsa* protection policy implementation process.

### **6.2.1.3 Commitment of Lower-level Officials**

#### **6.2.1.3 (a) Administrative Capacity**

The participation and fulfillment of the commitment of local public representatives are poorer compared to public officials. The more the officers are administratively capable to implement policies, the more they can attain the policy goals. There is a lack of administrative control on *Hilsa* protection policy implementation. The capacity of the local-level implementers is variable according to their desire of implementing policies. Some enforce policy strictly and some are not. It depends on their commitment, coordination and assurance of accountability from the top, and level of transparency.

The findings regarding the “Commitment of lower-level officials” revealed that there is a significant relationship between administrative capacity and implementation of “The protection and Conservation of Fish Act, 1950”. Regarding the ‘administrative capacity’ of the lower-level officials, more than 96 percent of the respondents believed that the more the administrative capacity, the more the success in implementing the government policies. Three-fourths of the public officials believe that they are administratively capable and their skill and capacity to implement *Hilsa* protection policy and action plans of government “Meets Standards”. On the other hand, three-fourths of the public representatives expressed their “dissatisfaction” with the role and capacity of the local public officials to implement *Hilsa* protection policies. The fact is that all field level officials do not fulfill their commitment properly. They should have more responsibilities to do their jobs. All are not equally capable, committed, and dedicated. Even if they get equal benefits, some officers strictly enforce the law while others remain inactive or apply nominal laws for various invisible reasons. In the case of implementing public policies at the local-level, the administrative capacity of the officers may be variable due to various reasons. These are the great barriers to effective implementation of mother *Hilsa* and *Jatka* protection policies and action plans of the government. Coordination between top and bottom-level must be increased to ensure the accountability of the local-level implementers.

#### **6.2.1.3 (b) Administrative Willingness**

It was found that generally public officials are more willing than public representatives to implement the *Hilsa* ban policy. All government officials are not strongly committed and willing and there is a lack of political support. The findings regarding the “Commitment of lower-level officials” revealed that there is a significant relationship between the administrative willingness and implementation of “The protection and Conservation of Fish Act, 1950”. Regarding the ‘administrative willingness of the lower-level officials, more than 96 percent of respondents believed that the more the officers are willing and committed to implementing policies, the more they can attain the policy goals. The

majority of the public officials and public representatives stated that the successful implementation of any policy is largely dependent on the administrative willingness of the officials. Regarding the participation and the commitment of the bureaucrats, they considered themselves very much willing and dedicated to implementing government policies. Almost all the public officials stated that the participation and fulfillment of commitment of public representatives are “poor”. But, three-fourths of the public representatives “dissatisfied” with the overall willingness of the local-level administrative officials’ in implementing policies. Practically, all public officials are not equally willing, dedicated, and committed to implementing public policies although all are equally benefited from the government. As per literature review, lack of technical know-how, lack of administrative capabilities, in the prevalence of self-serving goals of street-level bureaucrats and absence of administrative willingness affect the implementation process. The empirical findings regarding the commitment of lower-level officials match with the argument and main message of Grindle and Thomas’s theory of policy implementation.

#### **6.2.1.4 Political Disposition**

##### **6.2.1.4 (a) Political Participation**

The findings regarding the “political participation” revealed that there is a significant relationship between the “political participation” and implementation of “The protection and Conservation of Fish Act, 1950”. Regarding “political participation” of the public representatives to implement the banned periods, almost all respondents “agreed” that positive political participation is very important for successful policy implementation. Moreover, lack of political participation is one of the causes of lack of compliance with the *Hilsa* protection policy implementation.

##### **6.2.1.4(b) Political Commitment**

It was found that the fulfillment of political commitment and participation at the local-level is poor. There exist ‘Mild’ or ‘Moderate’ or ‘Severe’ levels of political influence at

the local-level in the policy implementation process as per views of the respondents. In this context, the findings regarding the “political commitment” revealed that there is a significant relationship between the “Political Commitment” and the implementation of “The protection and Conservation of Fish Act, 1950”. Regarding “Fulfillment of Political Commitment” in implementing mother *Hilsa* and *Jatka* protection banned periods, the majority of the respondents (public officials) stated that the fulfillment of the commitment of the public representatives is poor. On the other hand, the public representatives have considered themselves as fully committed. Local UP chairmen are the members of Upazila *Hilsa* and *Jatka* protection committee. Some respondents recommended that political influence should be reduced to ensure the effective implementation of ban policy. Political influence and administrative actions are moving together in the name of ‘Coordination’ that is hampering the implementation process.

### **6.2.2 Dependent Variable**

To analyze and focus the main variable, *Hilsa* Protection, two supportive variables were developed. “Degree of Implementation of Ban Policy” and “Perceived Volume of Production” has been considered as two important explanatory variables in this study. If mother *Hilsa* and *Jatka* banned periods are implemented effectively and production increases, only then we can say that *Hilsa* resource has been protected properly.

#### **6.2.2 (a) Degree of Implementation of Ban Policy**

It was found that there is a lack of compliance with the banned policies due to the lack of sufficient resources allocation, incentives, the commitment of lower-level officials, and political participation. Displaying of sufficient information regarding the level of satisfaction on the mother *Hilsa* and *Jatka* protection during the banned periods implementation was taken into consideration at this segment wherein it was found that the majority of the respondents “satisfied”, more than one-fifth of the respondents “neither satisfied nor dissatisfied”, and less than one-fifth of the respondents “dissatisfied” with the “Degree of implementation of ban policy”. The findings depicted

that a huge amount of mother *Hilsa* and *Jatka* have been caught by the fishermen every year during banned periods and sold openly in the markets. Although the use of monofilament nets, gillnets are prohibited as per existing law, the fishermen rarely follow these rules. The fishermen never or rarely follow the specific mesh size of using different nets and fishing gears. As a result, from larvae to adult fish can be caught by the fishermen using these nets.

The findings regarding the 'Degree of implementation of ban policy' revealed that there is a significant relationship between 'Degree of implementation of ban policy' and all other indicators of four independent variables. It indicates that the effective implementation of *Hilsa* protection policies, rules, and action plans of the government is largely dependent on sufficient resources (financial resource, human and material) allocation, incentives (perception of fishermen on incentives, their socio-economic development, selection of fishermen and distribution of incentives ), the commitment of the lower-level officials (administrative capacity and willingness) and positive political disposition (political participation and, the fulfillment of the commitment).

As per the field survey, the possible reasons behind the lack of compliance with the banned periods are 1) lack of administrative control and incentives, 2) poverty of some fishermen, 3) traditional habits of the fishermen, 4) pressure of middlemen and pressure of loan installment of money lenders (*Mohajon/Aarotder*), 5) During banned period rivers have abounded with *Hilsa* and some greedy fishermen violate banned periods to catch huge *Hilsa within a short time*, 6) Poor savings of the fishermen which force them to utilize the opportunity even by breaking rules because fishermen do not get the actual price of their fishing worth because the price is fixed and controlled by the middlemen or money lenders, 7) Lack of alternate source of income for the fishermen during banned periods, 8) Ignorance and lack of awareness among the fishermen, 9) Fear of not getting fish after the ban period, 10) Local shelter of influential persons, 11) Lack of transparency/negative role of some law enforcement agency members, 12) Lack of proper management of *Hilsa* fish appears to be insufficient for a



sustainable production and 13) Overexploitation and Overfishing by the fishermen, weak institutional settings, and lack of good governance, and a slow judiciary system to carry out enforcement.

### **6.2.2 (b) Perceived Volume of Production**

It was found that although there are some challenges and lack of compliance of the government acts and rules, *Hilsa* production has been gradually increasing due to government interventions. However, production could be much more if the existing policies could be implemented more effectively. The “Perceived volume of production” depends on the effectiveness of *Hilsa* policy implementation which was measured by the level of agreement or disagreement of the respondents regarding the increase of production. More than 90 percent of the respondents “agreed” that the production of *Hilsa* resource has been increasing gradually due to government interventions. While a minority (<10%) “Disagreed” with the argument that *Hilsa* production could be much more if the existing policy could be implemented more effectively.

Some were disagreed because although production has been increasing but they have argued that 1) it could be much more if the implementers were more capable, willing and committed to implement existing policies rigorously, 2) locally there are rumors that some law enforcement agency members have secret connection with the fishermen and indirectly allow the fishermen to catch mother *Hilsa* and *Jatka* during the banned periods by fulfilling their vested interest, 3) interestingly, some argued that if no law is enforced, or nobody is deployed to protect the fishermen from catching mother *Hilsa* and *Jatka* during banned periods then also production will increase to some extent because they argued that rivers are abounded with huge *Hilsa* resource and a single adult *Hilsa* can breed 10-25 lac eggs during breeding season, 4) some also argued that *Hilsa* production has been increasing does not mean that the law enforcement agency members were vigilant enough and they enforced the law very strictly. If they are supposed to enforce the laws very strictly then how a thousand tones of mother *Hilsa*

and Jatka are caught by the fishermen every year and how prohibited nets are used, sold, and produced openly. Some argued that If they were vigilant enough and enforce law very strictly then production could be five times. All these are views of local respondents. A research study suggested that 56 percent of fishermen violate banned periods and if one-tenth of Jatka could be protected then production could be doubled compared to the existing figures. The findings regarding the “Perceived volume of production” revealed that there is a significant relationship between ‘Perceived volume of production’ and all other indicators of four independent variables. All these findings fit with the concepts of theories used in this study.

### **6.3. Present Status of Implementation of *Hilsa* Protection Policy**

The first research question set for this study was “To what extent *Hilsa* protection has been successful in Bangladesh? The implementation status of “The Protection and Conservation of Fish Act, 1950” and its respective rules, “*Hilsa* Fisheries Management Action Plan, 2003” of the government of Bangladesh was measured by observing the level of satisfaction of the public officials; views from local public representatives, and the fishermen. Respondent’s perception regarding the success status of *Hilsa* protection policy implementation was taken on the diverse range from-“very satisfied” to “very dissatisfied”. The findings depict that the majority of the respondents fall on “satisfied” regarding their satisfaction level. More than one-fourths falls on “neither satisfied nor dissatisfied” and less than one-fourths fall on “dissatisfied”. It was identified that the major reason behind the dissatisfaction was the violation of mother *Hilsa* and *Jatka* banned periods and the use of prohibited nets and fishing gears during the banned periods. The majority of the respondents “agreed” that ‘Perceived volume of production’ could be much more if the mother *Hilsa* and *Jatka* banned periods and the use of prohibited nets could be controlled effectively. The implementers demanded more allocation of financial and human resources, and logistic support for conducting mobile court, more incentives to fishermen, and assurance of positive political participation for the effective implementation of *Hilsa* protection policies and action

plans of the government. So, it implies that there is a lack of policy implementation regarding *Hilsa* protection in Bangladesh. Empirical findings of this study depict that the lack of compliance with the mother *Hilsa* and *Jatka* protection policies and action plans of government is due to the lack of sufficient resources allocation, incentives, the commitment of lower-level officials and the positive political participation, and fulfillment of the commitment of the public representatives.

#### **6.4 Challenges of Policy Implementation regarding *Hilsa* Protection in Bangladesh**

The second research question set for this study was “What are the challenges of policy implementation regarding *Hilsa* protection in Bangladesh? According to empirical findings, the major challenges of policy implementation regarding *Hilsa* protection in Bangladesh as identified by the respondents’ are-

1. Lack of logistic support
2. Use of current nets, gillnets, and destructive fishing gears
3. Lack of resource allocation (financial, human, and material)
4. Lack of inter-organizational cooperation
5. Lack of political participation and fulfillment of the commitment
6. lack of compliance with the banned periods
7. Lack of alternative income-generating activities for the fishermen
8. Overfishing activities
9. Natural and man-made disasters
10. The poverty of the fishermen
11. Water pollution, construction of water structure, salinity, and siltation of rivers
12. Change in migration routes of *Hilsa*
13. Lack of incentives

##### **6.4.1 Other Challenges**

*Hilsa* Fisheries sector in Bangladesh has been facing many natural and man-made disasters which should be overcome by taking different innovative initiatives to ensure a

more significant return from the sector. During the study, it was found that despite all these policy challenges, there are some other challenges of *Hilsa* protection policy implementation at the local-level. These are as mentioned briefly below:

1. Disturbance of water-eco system and falling of industrial effluent to rivers.
2. Private money lenders (*Dadan's*) stealth trap exists everywhere. Fishermen are not getting the minimum price of their *Hilsa* worth. "If *Hilsa* worth one lakh is caught fishermen get only 2 percent. The remaining 98 % is distributed to the owner of the net and trawler (50%), *Sareng or Majhi* (boat operator) (14%), others associated with the trawler (4%), and 30 percent of the cost of the trawler owner."(Prothom Aloe, 9 October 2020). As consequence, although fishermen are giving 100% labor for *Hilsa* catching, they are receiving only 25% benefits. Due to poverty, fishermen are bound to take conditional loans from the local money-lenders. The condition is that the captured *Hilsa* should be sold only to the traders. One of the very alarming condition is to catch *Hilsa* and *Jatka* during the banned times. Therefore, some fishermen violate banned periods to fulfill the loan installment of the money lenders. This type of illegal business of the so-called *Mohajon, Aarotder or Dadonder* is not only exploiting the fishermen but also they compelled them to violate banned periods. No incentive will work if the fishermen are not given easy loans to purchase their nets and boats from the government and until private money lenders business are uprooted by the stern action of local administration.
3. If only half of the sold price is received by the fishermen, it would change their life dramatically. The cause of the high price of *Hilsa* is the influence of the "Mafia cycle". The nets of this cycle spread from the Bay of Bengal to Calcutta.
4. Intermediate at all stages to determine price, smuggling routes, the beneficiaries control every step from catching *Hilsa* in the sea to selling it in the market. It is difficult to break this barrier overnight. Incentives given by the government to the fishermen during the season of *Hilsa* catching due to middlemen is not really of much use to them.

5. Destroying biological dissolved oxygen and bio-diversity by throwing industrial waste into river water is another challenge. As consequence, a huge amount of larvae of *Hilsa* has been destroying every year and affecting the actual volume of production.

6. Illegal dredging not only creating river bank erosion, but also create disruption on migration routes of *Hilsa* during the breeding season. The fishermen and *Hilsa* specialists are claiming that the quantity of *Hilsa* movement from the Bay of Bengal to upstream of Padma, Meghna, Jamuna, Karotua etc are declining gradually.

### **6.5 Theoretical Implications**

This research used the ideas of Van Meter and Van Horn's (1975), Grindle and Thomas's (1991), and G. Edward III's (1984) policy implementation theory to study policy implementation status regarding *Hilsa* protection in Bangladesh. Van Meter and Van Horn's (1975) policy implementation practices stated that the lack of sufficient resources; incentives, competent staff, and implementer's positive disposition, inter-organizational communication, etc seriously undermine the policy implementation. Grindle and Thomas's (1991) theory is based on the assumption that the commitment of lower-level officials, coordination mechanisms among bureaucrats, political leverage, and structure of intergovernmental relations affect the policy implementation process. According to their concept, planning, and mobilization of sufficient physical, human, and material resources are required to ensure sustainable and effective implementation of policies (Grindle, 1991). According to G Edward model, factors affecting the effectiveness of policy implementation are resource; communication, bureaucratic structure and, disposition, or attitude of the implementers. Theories of Van Meter and Van Horn (1975), Grindle and Thomas (1991), and G. Edward III (1984) have been examined in this research to clarify the subject matter.

Now, it is important to have a brief discussion on the justification of the application of these theories in the context of Bangladesh. Van Meter and Van Horn's (1975) theory help to explain how a lack of sufficient resources and incentives influences the policy

implementation process. 'Financial Resource' refers to the money allocated in the local implementers' offices. Human resource refers to the manpower deployed in the implementer's offices especially at the field-level offices such as Deputy Commissioner's office, District Fisheries Offices, Upazila Nirbahi Office, Upazila Fisheries Office, Coastguard and Naval police, etc. Moreover, 'Material Resource' includes logistic supports for the implementers to implement *Hilsa* and *Jatka* protection banned period such as transport (car, speedboat, etc), fuel and lubricant, life jacket, etc during their operation. 'Incentives for the fishermen' refer to the rice and other substitute material resources such as cows, goats, sewing machines, nets, van, etc usually distributed to the poor fishermen before starting mother *Hilsa* and *Jatka* banned periods.

Most of the respondents stated that they have a lack of financial, human and material resources in their offices. It is indicated in this study by the respondents that how the lack of sufficient resources in favor of implementer's offices and the incentive distribution to the fishermen affects the implementation of mother *Hilsa* and *Jatka* banned policies of the government. Thus, in this study, it is found that the more the financial, human and, material resource allocation in the implementer's office and incentives to the fishermen, the more the possibility of implementing *Hilsa* protection policies more effectively. Empirical data shows that at local-level, *Hilsa* policy implementers have been facing the lack of financial, human and, material resources for implementing the *Hilsa* protection policy effectively.

On the one hand, almost all the respondents agreed that incentives given to the fishermen are insufficient to their actual requirement and these are not distributed properly. As a result, a huge amount of mother *Hilsa* and *Jatka* are caught by the fishermen almost every year. Moreover, public representatives argued that some fishermen are greedy. No incentive would work for them. During the breeding season, fishermen could not tackle their greed. So, strict implementation of the policy is the only option. Respondents stated that although the 'Perceived volume of production' of *Hilsa*

resources is increasing gradually, it could be much more if the mother *Hilsa* and *Jatka* could be protected from the fishermen effectively. The intended policy participants may not exist in sufficient numbers or may not be identified precisely or may be found to be non-cooperative. Lack of competent staff, implementers" negative disposition may cause policy failure (Meter and Horn, 1975).

During the interview, it was found that the post of 'Senior Upazila Fisheries Officer' is lying vacant at Haimchar Upazila for about one year. Practically, officers are not interested to work at remote working stations for a long time. Moreover, there observed a lack of subordinate and supporting staffs such 'Office assistant' and 'Peon,' etc at some Upazila. There exists a strong positive correlation between resource allocation and incentives distribution with "Degree of implementation of ban policy" and "Perceived volume of production". This type of findings does fit and match with the arguments and basic concepts of Van Meter and Van Horn's (1975) theory and Grindle and Thomas's theory of Policy implementation.

The commitment of lower level officials is an independent variable in this study which was measured by the administrative capacity and willingness of the lower-level implementers. Grindle and Thomas have considered the 'Commitment of lower-level officials' as an important explanatory variable that positively affects the policy implementation process. This mostly indicates the administrative capacity and willingness of the implementing agency as well as their organizational characteristics. Grindle and Thomas's (1991) theory intends to explain how the commitment of lower-level officials influences the policy implementation process. It is indicated in this study how the clear understanding of the policy content and the role of administrative capacity and willingness of the street-level bureaucrats enable them to implement *Hilsa* and *Jatka* protection policies effectively. Thus, this study has found that the more the administrative capacity and willingness of the lower-level officials, the more the success in implementing mother *Hilsa* and *Jatka* protection policies of the government.

Empirical data show that the administrative capacity and willingness of both public officials and public representatives at the local-level have a great impact on the policy implementation process. Administrative capacity and willingness of the local officers are variable which depends on so many factors. Some are more capable and willing than others. There seems to have a lack of commitment of lower-level officials in case of implementing the *Hilsa* protection policy implementation process.

Political disposition is one of the independent variables of this study which has been measured by the participation and fulfillment of the commitment of local public representatives i.e. the role of the concerned UP chairman and members have been examined in this study towards *Hilsa* protection policy implementation. Empirical findings of this study indicate that the participation and fulfillment of commitment to *Hilsa* protection policy implementation of local representatives are poor compared to the public officials. Respondents believed that active participation and fulfillment of the commitment of the local representatives could play a significant role in implementing the *Hilsa* protection policies in Bangladesh. G. Edward III (1984) model identified disposition or attitudes of the implementers as an important factor affecting the policy implementation process, especially at the local-level. Van Meter and Van Horn's (1975) policy implementation theory also have considered the implementer's positive disposition as one of the important factors affecting the policy implementation.

About 95 percent of respondents "agreed" that political participation is very important for successful policy implementation and lack of political participation is one of the causes of policy failure. In this study, political representatives have considered themselves completely committed and participative in the policy implementation process. But, public officials claimed that political participation is poor in policy implementation at the local-level. Empirical findings and reality reveal that there are a lack of positive participation and fulfillment of the commitment of the UP chairman and members. The majority of the respondents stated that there exists political influence at



the local-level severe, moderate, or mild levels. As a result, some of the respondents recommended reducing political interference because such type of interference hampers the policy implementation effectively. The political representatives can change the attitude of the local-level officers to the same goal of bringing policy into practice. As stated by Edward [1984] that “Their attitudes, in turn, will be influenced by their views toward the policies and by how they see the policies affecting their organizational and personal interests.” Interest groups may be similarly ineffective in policy implementation in third world countries. Thus, while political participation is frequently limited to policy implementation, these findings are fitted with the Van Meter and Van Horn (1975) theory that depicted political conditions and disposition of the implementers as an important variable, and G. Edward III (1984) recommended implementer’s disposition as one of the key elements which impact the policy implementation process.

## 6.6 Summary of the Major Findings of the Study

Table-6.1 Summary of the Major Findings of the Study

Variables	Findings
Hilsa Protection	There is a lack of compliance with <i>Hilsa</i> and <i>Jatka</i> banned policies due to the lack of sufficient resources, administrative control, political participation, incentives for the fishermen and the loan burden and pressure from the local money lenders etc. Some violate banned periods due to poverty and some are intentionally due to their uncontrolled greed. <i>Hilsa</i> production has been gradually increasing due to government interventions. It could be much more if the existing policies could be implemented more effectively.
Resource for Policy implementation	Financial and human and material resource allocation is ‘insufficient’ compared to the actual requirement. Resource allocation does not very much comply with the production volume and geographical area and availability of <i>Hilsa</i> of a particular Upazila. The production (2018-2019) at Chandpur Sadar, Haimchar, and Matlab North Upazila are (22548MT) 614.39 times, (8475 MT) 230 times and (7780MT) 211 times than Matlab south Upazila (36.70MT). But financial resource allocation at Chandpur Sadar, Haimchar, and Matlab North Upazila were only (TK.2 lac.) 1.90 times, (TK. 1.38 lac.) 1.31 times, and (TK, 1.9 lac) 1.81 times only compared to Matlab South Upazila (105000). Moreover, Only Haimchar Upazila has a speed boat. The Sadar Upazila speed boat is now out of order. The post of Senior Upazila Fisheries Officer is lying vacant at Haimchar Upazila for about one year.
Incentives for the Fishermen	The fishermen are not satisfied with the existing amount of incentives (20 kg rice for 22 days mother <i>Hilsa</i> and 40 kg /month for <i>Jatka</i> protection banned

	<p>periods). They argued that they need many other things to maintain their family other than rice. They demanded more amount of rice with some cash. The socio-economic developments of the fishermen are more important than the incentive-based <i>Hilsa</i> protection. Fishermen have to pay a part of their income to the local money lenders. There are also loopholes in selection and distribution process of incentives. Fishermen claimed that they receive less quantity of incentives than they are allocated from the government. A large number of non-fishermen are included in the incentive list. This may be due to a lack of transparency in incentive distribution and administrative control.</p>
Commitment of Lower-level Officials	<p>The capacity of the local-level implementer is variable according to their desire of implementing policies. Some enforce policy strictly and some are not. It depends on their commitment, coordination, and assurance of accountability from the top, and transparency of the implementers. The more the implementers are willing to implement policies, the more they will be able to attain policy goals. Public officials are more willing than public representatives. This is happening due to a lack of accountability.</p>
Political Disposition	<p>Political participation and fulfillment of the commitment at the local level are poor. There exist mild, moderate or severe levels of political influence at the local-level as mentioned by the respondents. This is a barrier to effective implementation of policies and it also hampers the willingness of the local bureaucrats to implement policies. This is happening due to the lack of accountability, cooperation, participation, and fulfillment of the commitment.</p>

## 6.7 Chapter Summary

Based on the analysis and discussions, it can be concluded that this study was able to explore the present implementation status and challenges of *Hilsa* protection policy implementation at the field-level. The overall findings indicated that implementation of the *Hilsa* protection policy is to some extent satisfactory. Although *Hilsa* sector in Bangladesh has been facing various challenges, production has been increasing every year due to government intervention and also our rivers are a huge source of *Hilsa*. It is also believed that as a productive and prosperous sector, *Hilsa* be will be contributing a lot to our national economy by facing the existing challenges. Findings revealed that the major factor that affects the implementation of the *Hilsa* protection policy was found to be the lack of administrative control, accountability, coordination, resources (financial, human, and material), and political participation. We are optimistic that we will be able to mitigate those constraints of policy implementation and *Hilsa* production will be much more in future.

## Chapter Seven

### Conclusions

#### 7.1 Introduction

The Government of the People's Republic of Bangladesh has taken various initiatives action plans to stop catching of mother *Hilsa* and *Jatka* to increase overall production. But, there are deficiencies in implementing all these action plans. This study aimed to explore the implementation status and challenges of *Hilsa* protection policies at the local-level in Bangladesh with a reference to four Upazila of Chandpur district. Once, *Hilsa* resource was in serious threat due to a major decline in production especially from 2001 to 2003. As consequence, the government formulated *Hilsa* Fisheries Management Action Plan, 2003 and last two and half decades were seen to increase in *Hilsa* production gradually. To fulfill the objectives of this study, 38 numbers of respondents were interviewed to identify their views on the status and challenges of *Hilsa* protection policy implementation. Respondent's suggestions were also collected to recommend the ways and means to overcome the challenges, and also to ensure effective implementation of existing policies. Based on their views, comments and suggestions, some recommendations have been suggested for ensuring effectiveness in the *Hilsa* protection policy implementation.

It was found in this study that the local-level implementers are trying to implement the concerned policies with different limitations. The overall findings of this study indicated that the *Hilsa* protection policy implementation seemed to be somehow satisfactory as the majority of public officials, public representatives, and fishermen communities expressed their level of satisfaction in this regard. However, there is still a huge scope to develop the *Hilsa* fisheries management system by implementing existing policies more effectively. Another research study on *Hilsa* resource has suggested that around 56% of fishermen catch *Hilsa* during banned periods and 44 percent of respondents have

admitted that fishermen catch fish during the banned time to reduce their loan burden. Another study suggested that 45 of production could be increased by saving only *Jatka*.

Although *Hilsa* production has been increasing gradually due to government interventions, this study identified some challenges and factors affecting the implementation process. It is evident through this study that production could be much more if the mother *Hilsa* and *Jatka* protection banned periods could be implemented more effectively. This study found that the major challenges faced by the *Hilsa* sector are lack of resources, logistic supports, administrative control, political participation, accountability, inter-departmental cooperation and change of *Hilsa* migration routes, destroying bio-diversity and water eco-system by falling various industrial waste into water, use of prohibited nets which may lead to lack of compliance with existing mother *Hilsa* and *Jatka* protection policies. The livelihood of a large number of fishermen families is dependent on *Hilsa* fishing. Moreover, *Hilsa* has been contributing more than 1 percent to GDP every year and this sector has a great prospect in the future.

To implement *Hilsa* protection policies effectively, local administration, the Department of Fisheries, and other law enforcement agencies need more support for financial, human, and material resources. Although the government has been providing incentives and other substitute materials to the fishermen, there are loopholes in the selection and distribution process that needs to be revisited and reconsidered. Fishermen are not perceived and satisfied with the existing amount of incentives. The socio-economic development of the fishermen may be better than incentive-based *Hilsa* protection. The incentive distribution list should be updated every year to include the new fishermen and exclude the non-fishermen. The influence of local money lenders and middlemen must be stopped through administrative action. They should be provided easy loans because the fishermen are not getting the minimum price of their fishing effort as price is fixed by the middlemen or local money lenders. Production centers of all kinds of prohibited nets have to be sealed. It is needed to check and increase the institutional

capacity and willingness of the lower-level officials, participation, and fulfillment of the commitment of the local representatives and accelerating coordination between top and bottom to ensure the accountability of the lower-level implementers.

## **7.2 Policy Implications**

Government policy can be modified to increase economic, social, and ecological sustainability of the fishery in the following ways: 1) River training, and reducing pollution of river water through controlling human and industrial waste (Chemical, leather, dying, fuels, oils, salinity, etc, 2) Construction of water structure in a planned way so that the river cannot be silted and hence increasing free flow of water, 3) Formulation of separate policy for *Hilsa* fisheries sector with provisions of more punishment and provision of their strict enforcement 4) Reformation of a strong *Hilsa* protection team with more resource and logistic supports who will work only for mother *Hilsa* and *Jatka* protection during the banned period 5) Revisiting and updating the incentive distribution list. 6) Selection of fishermen for incentives and distribution of incentives by the local administration instead of local representatives, 7) A large number of fishermen are exploited by the local money lenders and so-called *Mohajon* or *Aarotder* which needs to be uprooted 8) All *Hilsa* fishermen and their boats and nets are needed to be registered to control by GPS, 9) Encouraging more research on *Hilsa* species, bio-diversity, and eco-system development, 10) It is necessary to increase coordination and surveillance from the top and ensuring accountability of the implementers.

## **7.3 Implication for Future Research**

There is a lack of research on the *Hilsa* resource in Bangladesh. The findings of this study seem to open a new door of studying the role of resource, incentives, the commitment of lower level officials, and political disposition in mother *Hilsa* and *Jatka* protection policy implementation. The study observed the present status and challenges of policy implementation in terms of resources, incentives, the commitment of lower-

level officials, and political disposition that cause interference in implementing mother *Hilsa* and *Jatka* protection policies and other action plans of the government. The findings of this study does fit and match with the argument of Van Meter and Van Horn theory, 1975 (sufficient resources, incentives), Grindle and Thomas theory, 1991 (the commitment of lower-level officials), and G. Edward III, 1984 (Disposition or Attitude) might seriously undermine and affect the policy implementation process. Moreover, lack of administrative capabilities, in the prevalence of self-serving goals of street-level bureaucrats, and absence of administrative willingness (Vedung, 1997) seriously affect the implementation process.

There is still scope for further research with a more in-depth analysis of this research problem by reducing the theories, literature, and policy implementation concepts used. This study includes only four *Hilsa* producing Upazila of Chandpur district due to the restrictions of movement for the Covid-19 situation and time limitation. So, there is room for detail and an in-depth analysis of this issue including all *Hilsa* producing districts in Bangladesh. Furthermore, for a better understanding of the research problem, quantitative research can produce more interesting and noteworthy findings. Apart from these, every Upazila in Bangladesh shares almost the same features, from the administrative point of view. *Hilsa* protection policy implementation scenario explored through this study also resembles the scenarios of the whole country. This study identifies more substantive and contextual knowledge which may also be used to resemble the findings revealed by the study done in the future. Other dimensions like culture, inter-organizational coordination, and cooperation, political influence, the influence of local money lenders can be addressed in future research. Further research can be conducted with a large sample size covering the major areas of Bangladesh. Future research can be done with other factors such as political economy, *Hilsa* trafficking, the role of middlemen in *Hilsa* price-fixing, *Hilsa* sanctuaries, species development, biodiversity management, institutional capacity building, water pollution, demarcation of migration routes, etc.

#### 7.4 Policy Suggestions

In context of the findings of this research, we may suggest certain policy options that may be considered by Government. These are given below:

1. Single largest species *Hilsa* has been contributing a lot to our national economy. So, separate policies may be formulated for *Hilsa* and *Jatka* protection considering the present status and challenges of implementation, and other action plans.
2. Existing financial resource allocation should be increased with the improvement of the monitoring system from the top to ensure the effectiveness of implementation.
3. Logistic supports should be increased based on the demand of local implementers by giving a target of production and improving the accountability mechanisms.
4. There should have a mechanism to ensure active participation and commitment from both the officers and the local community for proper compliance with the banned periods. No posts of implementers at the local-level should be kept vacant during the banned period.
5. Considering the high speed of fishermen boats, speed boats may be allocated in most *Hilsa* producing Upazila only during the banned time of mother *Hilsa* and *Jatka*.
6. Fishermen may be provided incentives with some cash for mother *Hilsa* and *Jatka* banned period. Incentive distribution may be executed by the local administration in association with local representatives to avoid partiality and also to ensure proper distribution. Fishermen should be enlisted without considering the political identity.
7. The role of local *Aarotder*, *Mohajon*, *Dadonder*, etc should be revisited. They should be enlisted and brought under the purview of the law. The fishermen may be provided easy loans by the local administrators.
8. The incentive distribution list may be updated by excluding the non-fishermen and including the new and real fishermen.
9. Political participation should be increased. The role of UP chairman in the mother *Hilsa* and *Jatka* protection banned period implementation may be revisited.

10. It is necessary to check out the role of implementers as well as their administrative capacity, willingness, and fulfillment of commitment so that the concerned implementers can be brought under liability, transparency, and accountability.
11. Coordination between top and bottom is needed to increase. Day to day activities of mother *Hilsa* and *Jatka* protection banned period implementation may be sent to the higher authority. Failure of target by the lower-level officials may be treated as a failure of the contract with the lawful order of the competent higher authority.
12. Fishermen found with violation of banned periods or convicted for mother *Hilsa* and *Jatka* catching may be excluded from the incentive distribution list.
13. All kinds of prohibited nets producing factories must be sealed. Fishing boats and fishermen may be registered and marked by the local administration.
14. Although, the government has been providing incentives and other substitute materials to the fishermen, why they violate banned periods may be investigated.
15. The alternative source of income for the fishermen during the banned periods may be increased. Impartiality and transparency in selection and distribution is required.
16. As a part of the socio-economic development, "Fishermen Community School" may be established to ensure the quality education of their children.
17. To mitigate the natural and man-made disasters such as siltation, salinity, throwing industrial effluents and human waste to rivers, destroying of biodiversity and essential nutrients of fishes and dissolved oxygen, it is required to enforce law very strictly to ensure a free flow of water and planned dredging to avoid the disruption of migration routes of *Hilsa* from the Bay of Bengal during the breeding season. The migration routes of the *Hilsa* may be demarcated.
18. In the existing system, every fisherman has free access to the river for catching *Hilsa*. Since the owner of the river is the government, there may have a regulatory mechanism in this regard about who will get free access to catch fish from rivers under what conditions. River areas may be leased out as short or long term basis.
19. The number of the fishing vessel may be reduced to reduce overfishing. *Hilsa* catching is the easiest source of income since our rivers have abounded with huge *Hilsa*.



As a result, the number of fishing boats is increasing at an alarming rate as the production grows.

20. A 'Sustainable *Hilsa* Fisheries Management Team' may be formed with strong surveillance and coordination from the top. It is also important to conduct more qualitative and quantitative studies to identify the present status and challenges of policy implementation since there are shortages of quality research on *Hilsa* resource.

## References

**Aminuzzaman, S.M. (2013)** "Dynamics of Public Policy: Determinants of Policy-making and Implementation in Bangladesh". Publisher: Springer International Publishing.

Published in November, 2013. <http://link.springer.com/article/10.1007/s11115-013-0262-7#article-information>.

**Beddington, J.R et.al. (2007)**. ON THE MANAGEMENT OF SINGLE FISH SPECIES OF HILSA SHAD (*TENUALOSA ILISHA*) RESOURCES OF BANGLADESH. Bangladesh Marine Fisheries Capacity Building Project, Department of Fisheries, Matshya Bhaban, Dhaka, Bangladesh.

**Hjern, B and Hull, C. (2002)**. Implementation Research as Empirical Constitutionalism. European Journal of Political Research, DOI: 10.1111/j.1475-6765.1982.tb00011.x .

**BFRI (2008)** "Hilsa Fisheries Conservation, Development and Management Technique, BFRI, (2008)". Fakirapool, Dhaka-1000.: Published by: Department of Fisheries, Bangladesh, Matshya Bhaban, Rahmna, Dhaka-1000.

**BFRI (2012)** "Hilsa Fisheries Research and Management ". An extension Manual no. 42(Second edition). Bangladesh fisheries Research Institute, Mymensingh, 32p. Booklet, Momin Offet Press, Dhaka: Published by" Director General, Bangladesh Fisheries Research Institute , Mymensingh., 2012.

**BFR (2012)** "Small T. Ilisha (Milat) (up to 23.0 cm size) catch, transportation, marketing, selling and possessing must be banned in the spawning and nursery areas.

**Birkland, T. A. (2010)** "An introduction to the Policy Process: Theories, Concepts, and Models of Public Policy Making." Fourth edition, Published by: Routledge, Page no. : 448

**Boddy, C.R (2016).** "Sample size for qualitative research". American Psychological Association, 750 First Street NE, Washington, DC 20002-4242.

**D.W Brinkerhoff, J.M Brinkerhoff (2002).** Public Sector Management Reform in Developing Countries: Perspectives Beyond NPM Orthodoxy. Public Administration and Development, Published by: wiley Online Library. DOI: [10.1002/pad.1739](https://doi.org/10.1002/pad.1739), RTI International, USA 2 George Washington University, USA

**Creswell, J.W (2014).** "Research Design: Qualitative, Quantitative, and Mixed Methods Approaches." Published by : The Sage Publications Limited.

**DOF (Department of Fisheries), (2017).** "Yearbook of Fisheries Statistics of Bangladesh (July 2016--June--2017)". Volum: 34, Fisheries Resources Survey System, Department of Fisheries Bangladesh, Ministry of Fisheries and Livestock, Government of the People's Republic of Bangladesh. Tejgaoan, Dhaka: Published by Syed Arif Azad, Director General, Department of Fisheries Bangladesh. Published from, BG Press, Dhaka.

**DOF (Department of Fisheries), (2017)** "National Fisheries Week 2017" 18-24 July. Dhaka: Director General, Department of Fisheries Bangladesh, Ministry of Fisheries and Livestock, Government of the people's Republic Of Bangladesh", Corporate Printers, 159/c, Industrial area, Tejgaon, Dhaka-1208.

**DOF (Department of Fisheries), (2019)** "National Fisheries week 2019 , 17-23 July, Department of Fisheries, Ministry of Fisheries and Livestock, Government of the People's Republic of Bangladesh". Yearly Report of bangladesh Government, Shikder Enterprise , 290/2, Fakirapool, Dhaka: Published by Director General, Department.

**Drowkin, SL (2012).** "Sample Size Policy for Qualitative Studies: Using In-Depth Interviews." A Journal Published by: Springer Science+Business Media, LLC 2012, Published online:12 September 2012.

**Edward, C.G (1991).** "Low Carbon City Policy Implementation in Muangklang Municipality, Thailand"-Written by Parichat Pongloe. Published by: International Journal

of Applied Sociology, p-ISSN: 2169-9704 e-ISSN: 2169-9739, 2015; 5(2): 99-105, DOI :10.5923/j.ijas.20150502.05.

**Elmore, R.F. (1978)** "Backward Mapping: Implementation Research and Policy Decisions." Source: Political Science Quarterly, Vol. 94, No. 4 (Winter, 1979-1980), pp. 601-616. Stable URL: <http://www.jstor.org/stable/214962>.

**FRSS (Fisheries Research Survey System), (2017)**. "Yearbook of Fisheries Statistics of Bangladesh 2016--2017," December 2017. Tejgaon, Dhaka. Published by Syed Arif Azad, Director General, Department of Fisheries, Bangladesh, Printed by: BG Press.

**Grindle, M. S. and Thomas, J. W. (1991)**. "Politics and Policy Implementation in the Third World ". New Jersey. Published by : Princeton University Press, Princeton, New Jersey, In the United Kingdom: Princeton University Press, Guildford.

**Goggin, M. L et.al. (1990)**. "Implementation theory and practice: Toward a third generation. New York: Harper Collins. American Political science Association, Boston Massachusetts, September 3-6, 1998. A part of a larger book project entitled, Public Policy Implementation: Theory and Practice.

**Hogwood, B.W and Gunn, L (1984)**. " Policy Analysis for the Real World". Oxford [Oxfordshire] ; New York. Published by : Oxford University Press, 1984.

**Howlett, M. and Ramesh, M. (1995)**. Studying Public Policy: Policy Cycles and Policy Subsystems. UK: Oxford University Press.

**Hossain, A . et.al. (2018)** "Supply Chain Analysis of Hilsa (*Tenualosa ilisha*) Egg in Bangladesh." Published by: Journal of FisheriesSciences.com, © 2018 [www.fisheriessciences.com](http://www.fisheriessciences.com).

**Israt, J. et.al. (2015)** "Fishers' local knowledge on impact of climate change and anthropogenic interferences on Hilsa Fishery in South Asia: Evidence from Bangladesh." Received, 7 December 2014. Accepted, 28 November 2015. Published online, 9 December 2015. Publisher: Springer science + Business Media Dordrecht 2015.

**Juliartha, Edward, G.C. (2009)**. "Concept of George C. Edwards III on Implementation of Regional Regulations No. 12 of 2017 Concerning Youth in Granting Youth Service in West Sumatera"- by Roby Hadi Putra et.al (2019) Master Program in Master of Public

Administration. Padang state university. International Journal of Progressive Sciences and Technologies (IJPSAT), ISSN: 2509-0119, © 2019.

**Khair, R. (2004)** "The Dynamics of Policy Making in a Developing Country: The Environmental Sector in Bangladesh, 2004." Unpublished Ph.D thesis, University of New England, Australia.

**King, G., Keohane, R. O., and Verba, S. (1994)** Designing Social Inquiry: Scientific Inference in Qualitative Research. Princeton, New Jersey: Princeton University Press.

**Khan, Anisur Rahman. (2016)** "Policy Implementation: some Aspects and Issues." Published by Community Positive Practices, XVI(3) 2016, 3-12 ISSN Print: 1582-8344; Electronic: 2247-6571. Published by: Journal of Community Positive Practice.

**Knill, C. and Tosun, J.(2012)** "Public Policy: A New Introduction"." Basingstoke: Palgrave Macmillan, 2012. [Political Studies Review](#), Political Studies Association, vol. 11(3), Book pages 438..

**Lazin, D. (1999)** "Facts and Myths about Research on Public Policy Implementation: Out-of-Fashion, Allegedly Dead, But Still Very Much Alive and Relevant." Published in: The Policy Studies Journal, Vol. 33, No. 4, 2005.

**Lehodey, P et.al. (2006).** "Climate Variability, Fias, and Fisheries". Published by © 2008-2020 Research Gate GmbH. All rights reserved.

[https://www.researchgate.net/publication/236533085\\_Climate\\_Variability\\_Fish\\_and\\_Fisheries/link/02e7](https://www.researchgate.net/publication/236533085_Climate_Variability_Fish_and_Fisheries/link/02e7).

**Lipsky, M (1980)** "Policy implementation, street-level bureaucracy and the importance of Discretion." This is a book written on Street-level bureaucracy: Dilemmas of the individual in public services...

**Lodge M. and K. Wegrich (2014)** " The Problem-Solving Capacity of the Modern States: Governance Challenges and Administrative Capacities." Published by: Oxford University Press, 2014.

**Martin, L Van Brakel. et.al. (2017)** "Reimagining large-scale open-water fisheries governance through adaptive comanagement in hilsa Shad sanctuaries." An article published here under license by the Resilience Alliance.van Brakel, M. L., M. Nahiduzzaman, A. Mahfuzul Haque, M. Golam Mustafa, M. Jalilur Rahman, and M.

Abdul Wahab. 2018. *Ecology and Society* 23(1):26. <https://doi.org/10.5751/ES-09917-230126>, , 2017.

**Maitland , R. E. (1995)** "Synthesizing the Implementation Literature: The Ambiguity-Conflict Model of Policy Implementation." Published by: Oxford University Press on behalf of the Public Management Research Association. *Journal of Public Administration Research and Theory*, Inc., Oxford University Press, Public Management Research Association are collaborating with JSTOR to digitize, preserve and extend access to *Journal of Public Administration Research and Theory: J-PART*

**May, C, & Finch, T .(2009)** "Implementing, Embedding, and Integrating Practices: An Outline of Normalization Process Theory". Published by: The Sage Publications Limited, <http://www.sagepublications.com>, Online version of this article can be found at : <http://soc.sagepub.com/cgi/content/abstract/43/3/535>.

**Marshall, M.N et.al. (1996)**. Sampling for qualitative research. Published by: Oxford University Press, Vol. 13, No. 6, Printed in Great Britain.

**Mazmanian, D and Sabatier, P. (1980)** "The Implementation of Public Policy: A Framework of Analysis." Published in *Policy Studies Journal* 8(4):538 - 560 · September 2005. Online : DOI: 10.1111/j.1541-0072.1980.tb01266.x.

**Meter, D. S. V. and Horn, C. E. V (1975)**. "The Policy Implementation Process: A Conceptual Framework". Published by: Sage Journal , First Published February 1, 1975, Research Article. Pages : 44, Volume : 6, Issue : 4 Published on : January 1, 1975.

**Mishra, S. P . (2016)**. "Focus Group Discussion in Qualitative Research. Published by: TechnoLearn An International Journal of Educational Technology. 6(1):1 , DOI: 10.5958/2249-5223.2016.00001.2.

**Mome, M. A. (2007)** "The potential of the Artisanal Hilsa fishery in Bangladesh: An Economically Efficient Fisheries Policy." Published in 2007 through "<https://www.grocentre.is/static/gro/publication/60/document/masud07prf.pdf>" 2007.

**Monir, M. I. et.al. (2016)** "Economic incentives for sustainabl hilsa fishing in Bangladesh: Analysis of the legal land institutional framework." Published by International Institute for Environment and Development (IIED),80-86 Gray's Inn Road,

London WC1X 8NH, United Kingdom, Accepted on 3 February 2016, Available online 19 February.

**Nath, AK, and Benarjee, B. (2012).** "Comparative evaluation of body composition of hilsa, *Tenualosa ilisha* (Hamilton, 1822) in different size groups with special reference to fatty acid, in Hooghly estuarine system, West Bengal, India". Published in April, 2012 in Indian Journal of Fisheries 59(2)141--146.

**Osman, FA. (2002).** "Public Policy Making: Theories and their implications in Developing Countries". Published on 01/01/2002, © 2008-2020 ResearchGate GmbH. All rights reserved.

**Pangloe, Parichat et.al (2015)** "Low Carbon City Policy Implementation in Muangklang Municipality, Thailand." Published by: International Journal of Applied Sociology 2015, 5(2): 99-105, DOI: 10.5923/j.ijas.20150502.0.

**Paudel, N. R. (2010)** "A Critical Account of Policy Implementation Theories: Status and Reconsideration." Published by: Semantic Scholar, Corpus ID: 17002903. Online: <https://www.semanticscholar.org/paper/A-Critical-Account-of-Policy-Implementation-%3A-and-Paudel>.

**Pressman, L and Wildavsky, J. (1973).** "Implementation: How Great Expectations in Washington Are Dashed in Oakland; Or, Why It's Amazing that Federal Programs Work at All". This Being a Saga . Morals on a Foundation (Oakland Project), Third Edition. Published by: University of California Press; Third Edition'.

**Pulzl, H. and Treib, O. (2007).** "Implementing Public policy. In F. Ficher et.al. (eds.) Handbook of Public Policy Analysis: Theory, Politics and Methods, Boca Raton, NW: Taylor & Francis Group.

**Razak, A. et.al. (2014)** "Stock assessment and management of hilsa shad (*Tenualosa ilisha*) in Iraqi Marine waters, Northeast Arabian Gulf". Published by: International Journal of fisheries and Aquatic Studies, 2014; 1(5): 01--07.

**Saetren, H. (2005).** "Implementing the third generation research paradigm in policy implementation research: An empirical assessment." Published by: Public Policy and administration, DOI: 10.1177/0952076713513487.

**Sarker, M . N. et.al. (2019)** "On the management of single Fish species of hilsa shad (Tenuialisa Ilisha) resources of Bangladesh". Published by: © 2018 Zoological Society of Bangladesh DOI: <https://doi.org/10.3329/bjz.v47i1.42055>.

**Siddique, A. (2013)** "Conservation and Protection of Fisheries Resources of Bangladesh: Let Abide by Rules and Regulations" The Author | Publication property: BdFISH |. , <http://en.bdfish.org/2013/10/conservation-protection-fisheries-resources-banglad>.

**Smith, T. B. (1973)**. The policy implementation process. An article *Published by: Springer Link* , *Published in June , 1973*. [Policy Sciences](#) volume 4, pages 197–209(1973)

**UNDP. (2002)**. "UNDP support to the implementation of the 2030 agenda for Sustainable development, UNDP policy and program brief."-Newyork: United Nations Development Programme,One United Nations Plaza, New York, NY, 10017 USA.

**Van, B. et.al. (2017)** "Reimagining large-scale open-water fisheries governance through adaptive coo-management in hilsa shad sanctuaries". Published here under license by the Resilience Alliance.Van Brakel, (2017) M.L,M Nahiduzzaman, A Mahfuzul Haque, M. Go;am Mustafa, M. Jalilur Rahma, and M. Abdul wahab, 2018: <https://doi.org/10.575/ES-09917-230126>.

**Vedung, Evert.** (, 1997). "Public Policy and Program Evaluation" Publisher: nTransaction Publisher, Published on: January, 1997. [Administrative Science Quarterly](#) 44(2) DOI: [10.2307/2667008](https://doi.org/10.2307/2667008)

**Yassin, E. et.al. (2013)** "Direct economic incentives For the Sustainable Fisheries Management " - The Case of Hilsa Conservation in Bangladesh." Published by: International Institute for Environment and Development (UK) in 2013 , ISBN: 978-1-84369-905-7.

**Yin, R. K. (2003)**. Case Study Research: Design and Methods, sage publications, 2003. Published by : The sage Publications Ltd.

**Yin, R. K. (2014)**. Case Study Research Design and Methods. Canadian Journal of Program evaluation , Published by : Sage Publication.

## **Annexure-I: Survey Questionnaire for the Designated Officers**

Challenges of Policy Implementation: A Case Study of Hilsa Protection in Bangladesh

(A questionnaire Guideline for the interview of designated officers.)

### **Survey Questionnaire**

The answers to this questionnaire will be used to conduct the above-mentioned research as an essential part of the Master in Public Policy and Governance (MPPG) Program of North South University, Dhaka, Bangladesh. Privacy and anonymity of the respondents will be maintained strictly. Your answers, comments and suggestions will be used for academic purposes only. Your sincere cooperation will add a lot of value to the research. Please put a tick mark against the chosen answer/write the answer precisely.

Regards

Mohammad Mofizul Islam

Student and Researcher

North South University, Dhaka.

Mobile: 01828916692,

E-mail: [mofiz6692@gmail.com](mailto:mofiz6692@gmail.com)

### **General information about respondents**

Name of Organization :

Designation :

Working Experience :

Tenure in service :

### **Part A(SC)**



**1 (a) To what extent are you satisfied with the present status of implementing mother Hilsa fish protection policies and the action plan of government?**

1. Very satisfied;
2. Satisfied;
3. Neither satisfied nor dissatisfied;
4. Dissatisfied;
5. Very dissatisfied;
6. Don't know.

**1 (b) Please mention below the estimated production of Hilsa in this Upazila/District:**

Fiscal year	Production (kg or MT)
2017-2018	
2018-2019	
2019-2020	

**1 (c) What are your recommendations to increase more production of Hilsa resources?**

**2(a). Do you think that the present challenges of policy implementation regarding Hilsa protection in Bangladesh are due to the**

1. lack of resources (financial, human and material)?
2. lack of inter-organizational-cooperation and commitment?
3. lack of incentives?
4. lack of logistic support?
5. lack of alternative income-generating activities for fishermen?
6. poverty of fishermen?
7. non-compliance of ban period or lack of compliance?
8. natural and man-made disasters?
9. water pollution, construction of water structure, siltation of rivers?
10. change in migration routes of Hilsa?
11. use of current nets, gill nets, and fishing gears?
12. Overfishing activities?
13. all of the above?
14. Others (if any)? .....

**2 (b). What are your suggestions to overcome the challenges of policy implementation regarding Hilsa Protection in Bangladesh?**

**Part B**®

**3(a).To what extent are you satisfied with the “Financial Resources” allocated from the government for the effective implementation of mother *Hilsa* and *Jatka* ban period?**

1. Very satisfied;            2. Satisfied;            3. Neither neither satisfied nor dissatisfied;  
4. Dissatisfied;            5. Very dissatisfied;    6. Don't know.

**3(b).To what extent are you satisfied with the “Human and Material resource” (Manpower and Logistic support) that have at the field-level offices for effective implementation of mother *Hilsa* and *Jatka* banned period of government?**

1. Very satisfied;            2. Satisfied;            3. Neither neither satisfied nor dissatisfied;  
4. Dissatisfied;            5. Very dissatisfied;    6. Don't know.

**3(c).To what extent do you agree that the implementation of any policy can be seriously undermined due to the lack of sufficient resources?**

1. Strongly disagree;      2. Disagree;            3. Neither agree nor disagree;    4. Agree;  
5. Strongly agree;            6. Don't Know.

**3(d). What are your recommendations regarding resource allocation for effective implementation of mother *Hilsa* and *Jatka* protection banned period?**

**Part C (I)**

**4. To what extent do you agree that the implementation of any policy can be seriously undermined due to the lack of incentives?**

1. Strongly disagree;      2. Disagree;            3. Neither agree nor disagree;    4. Agree;  
5. Strongly agree;            6. Don't Know.

**5. How would you assess the perception of the fishermen regarding the amount of incentives they received for compliance with the mother *Hilsa* and *Jatka* protection ban period?**

1. Very satisfied;                      2. Satisfied;                      3. Neither satisfied nor dissatisfied;  
 4. Dissatisfied;  
 5. Very dissatisfied;    6. Don't know.

**6. To what extent do you agree that the socio-economic condition of the fishermen has been improving due to Hilsa fishing?**

1. Strongly disagree;                      2. Disagree;                      3. Neither agree nor disagree;                      4. Agree;  
 5. Strongly agree;                      6. Don't Know.

**7. Please put your comment in the Table regarding the selection and distribution of incentives to the fishermen based on the following statement**

Statement	Completely disagree(1)	Disagree (2)	Partially agree(3)	Agree (4)	Strongly agree(5)
All Hilsa Fishermen are included in the incentive distribution list.					
The size of family members should be considered while selecting the fishermen for giving incentives.					

**8 (a) How would you assess the amount of incentives received by the fishermen from the government for implementing mother *Hilsa* and *Jatka* protection policies and action plans?**

1. Very much Sufficient;    2. Sufficient;                      3. Neither neither sufficient nor insufficient;  
 4. Insufficient;                      5. Very insufficient;    6. Don't know.

**8 (b) To what extent do you agree that by giving more incentives to the fishermen, mother *Hilsa* and *Jatka* protection banned period can be implemented more effectively?**

1. Strongly disagree;                      2. Disagree;                      3. Neither agree nor disagree;                      4. Agree;  
 5. Strongly agree;                      6. Don't Know.

**8(c) What is your suggestion regarding the present amount of incentives for the fishermen for effective implementation of mother *Hilsa* and *Jatka* protection banned period?**

**Part D (CLO)**

**9. To what extent do you agree that implementation of any policy can be seriously undermined due to the lack of administrative capacity of the field level implementers?**

1. Strongly disagree;      2. Disagree;      3. Neither agree nor disagree;      4. Agree;  
5. Strongly agree;      6. Don't Know.

10 (a). **To what extent do you agree that implementation of any policy can be seriously undermined due to the absence of administrative willingness of the bureaucrats?**

1. Strongly disagree;      2. Disagree;      3. Neither agree nor disagree;      4. Agree;  
5. Strongly agree;      6. Don't Know.

10 (b) **To what extent other officers of the Hilsa protection team are administratively capable and willing to implement the banned period of government?**

1. Far below standards;      2. Below standards;      3. Meets standards;      4. Above standards;  
5. Far above standards;      6. Don't know.

11. **How would you assess the participation and willingness of field level officials to fulfill their commitment to implement mother *Hilsa* and *Jatka* banned period?**

12. **Please put your comment based on the statement in the Table below (put tick)**

Statement	Completely disagree(1)	Disagree (2)	Partially agree (3)	Agree (4)	Strongly agree (5)
The more the administrative capacity, the more the success in implementing government policies.					
The more you are willing to implement policies, the more you are able to attain the policy goals.					
The more the political participation in the Hilsa protection activities of government, the more successful implementation of government policies					
The more the fulfillment of political commitment to implement policies, the more you are able to attain the policy goals.					
There is always political influence in the policy implementation process.					

**Part E (PD)**

13 **.To what extent do you agree that the implementation of any policy can be seriously undermined due to the lack of political commitment and participation?**

1. Strongly disagree;      2. Disagree;      3. Neither agree nor disagree;      4. Agree;

5. Strongly agree;                    6. Don't Know

P14 (a) **Positive political participation is very important for successful policy implementation. On the other hand, lack of political participation is one of the causes of policy failure. To what extent do you agree with this statement?**

1. Strongly disagree;            2. Disagree;            3. Neither agree nor disagree;    4. Agree;  
5. Strongly agree;                6. Don't Know.

14 (b) **How would you assess the local political influence regarding mother Hilsa and Jatka protection policy implementation in field administration?**

1. No influence;    2. Very mild;    3. Mild;    4. Moderate;    5. Severe;    6. Don't know.

C 15(a) **How would you assess participation and fulfillment of the commitment of the public representatives regarding mother Hilsa and Jatka protection policy implementation?**

1. Very poor;    2. Poor;    3. Fair;    4. Good;    5. Excellent;    6. Don't know.

15 (b) **Do you think that commitment, capacity, and willingness of local level bureaucrats to implement any policy may be undermined by the negative political influence?**

#### **Part F (HP)**

BP 16(a) **To what extent are you satisfied with the mother Hilsa and Jatka protection ban periods implementation?**

1. Very satisfied;                2. Satisfied;                3. Neither satisfied nor dissatisfied;    4.  
Dissatisfied;    5. Very dissatisfied;    6. Don't know.

16(b). **To what extent do fishermen follow the rule of specific mesh size of *current Jal* and gillnets during the ban period of catching mother Hilsa and Jatka?**

1. Never;            2. Rarely;            3. Some times;            4. Often;            5. Always.

IP 17. **To what extent do you agree that Hilsa production is increasing due to government interventions?**

1. Strongly disagree;            2. Disagree;            3. Neither agree nor disagree;    4. Agree;  
5. Strongly agree;                6. Don't Know.

**18. Although fishermen are given incentives but some are seen to violate the banned period. What are the causes behind it?**

**19. What are your suggestions for effective implementation of banned period to increase Hilsa Production?**

**20. Please mention your overall suggestion (if any)**

.....

.....

Signature of the respondent: (Optional)

Thank you for your kind cooperation

## **Annexure-II: Survey Questionnaire for the Public Representatives**

Challenges of Policy Implementation: A Case Study of Hilsa Protection in Bangladesh

(A questionnaire Guideline for the interview of Public Representatives)

### Survey Questionnaire

The answers to this questionnaire will be used to conduct the above-mentioned research as an essential part of the Master in Public Policy and Governance (MPPG) Program of North South University, Dhaka, Bangladesh. Privacy and anonymity of the respondents will be maintained strictly. Your answers, comments and suggestions will be used for academic purposes only. Your sincere cooperation will add a lot of value to the research. Please put a tick mark against the chosen answer/write the answer precisely.

Regards

Mohammad Mofizul Islam

Student and Researcher

North South University, Dhaka.

Mobile: 01828916692,

E-mail: [mofiz6692@gmail.com](mailto:mofiz6692@gmail.com)

### **General information about the respondents**

1. Name of respondent (Optional):

Designation:

Working Experience:

Education:

2. Address:

Village:

Union:

Upazila:

District:

### **Part A (SC)**

S 1(a) **To what extent are you satisfied with the present status of implementing mother Hilsa fish protection policies and action plan of government?**

- 1. Very satisfied;                      2. Satisfied;                      3. Neither neither satisfied nor dissatisfied;
- 4. Dissatisfied;    5. Very dissatisfied;                      6. Don't know.

1(b) **Please mention below the estimated production of Hilsa in this Upazila/District:**

Fiscal year	Production (kg or MT)
2017-2018	
2018-2019	
2019-2020	

1 (c) **What are your recommendations to increase more production of *Hilsa* resources?**

2(a). **Do you think that the present challenges of policy implementation regarding *Hilsa* protection in Bangladesh are due to the**

- 1. lack of resources (financial, human and material)?
- 2. lack of inter-organizational-cooperation and commitment?
- 3. lack of incentives?
- 4. lack of logistic support?
- 5. lack of alternative income-generating activities for fishermen?
- 6. poverty of fishermen?
- 7. non-compliance of ban period or lack of compliance?
- 8. natural and man-made disasters?
- 9. water pollution, construction of water structure, siltation of rivers?
- 10. change in migration routes of Hilsa?
- 11. use of current nets, gill nets, and fishing gears?
- 12. Overfishing activities?
- 13. all of the above?
- 14. Others (if any)? .....

2 (b). **What are your suggestions to overcome the challenges of policy implementation regarding *Hilsa* Protection in Bangladesh?**

**Part B: (R)**



**FR 3(a). To what extent are you satisfied with the “Financial Resources” allocated to local administration from the government for the effective implementation of the Hilsa and Jatka ban period?**

1. Very satisfied;
2. Satisfied;
3. Neither satisfied nor dissatisfied;
4. Dissatisfied;
5. Very dissatisfied;
6. Don't know

**HM 3(b). To what extent are you satisfied with the “Human and material resource” (Manpower and logistic support) that have at the field-level offices for the effective implementation of the Hilsa and Jatka banned period of government?**

1. Very satisfied;
2. Satisfied;
3. Neither satisfied nor dissatisfied;
4. Dissatisfied;
5. Very dissatisfied;
6. Don't know.

**3(c). To what extent do you agree that the implementation of any policy can be seriously undermined due to the lack of sufficient resources?**

1. Strongly disagree;
2. Disagree;
3. Neither agree nor disagree;
4. Agree;
5. Strongly agree;
6. Don't Know.

### **Part C (I)**

**4(a). To what extent do you agree that the implementation of any policy can be seriously undermined due to the lack of incentives?**

1. Strongly disagree;
2. Disagree;
3. Neither agree nor disagree;
4. Agree;
5. Strongly agree;
6. Don't Know.

**I 4(b). How would you assess the amount of incentives received by the fishermen from the government for implementing *Hilsa* and *Jatka* protection policies and action plans?**

1. Very much Sufficient;
2. Sufficient;
3. Neither sufficient nor insufficient;
4. Insufficient;
5. Very insufficient;
6. Don't know.

**I 4(c) To what extent do you agree that by giving more incentives to the fishermen, Hilsa and Jatka protection banned period can be implemented more effectively?**

1. Strongly disagree;
2. Disagree;
3. Neither agree nor disagree;
4. Agree;

5. Strongly agree; 6. Don't Know.

**P 5. How would you assess the perception of the fishermen regarding the amount of incentives they received for compliance of Hilsa and Jatka protection ban period?**

1. Very satisfied 2. Satisfied 3. Neither satisfied nor dissatisfied 4. Dissatisfied  
5. Very dissatisfied 6. Don't Know.

**E 6. To what extent do you agree that the socio-economic condition of the fishermen has been improving due to Hilsa fishing?**

1. Strongly disagree; 2. Disagree; 3. Neither agree nor disagree; 4. Agree;  
5. Strongly agree; 6. Don't Know.

**7. Please put your comment based on the statement in the Table below (Please tick):**

Statement	Completely disagree(1)	Disagree (2)	Partially agree(3)	Agree (4)	Strongly agree(5)
All Hilsa Fishermen are included in the incentive distribution list					
Size of family members should be considered while selecting the fishermen for giving incentives					

**8. What is your suggestion regarding the present amount of incentives for the fishermen for the effective implementation of Hilsa and Jatka protection banned period?**

#### **Part D**

**C 9. How would you assess the capacity of the local level administrative officials' to implement the Hilsa and Jatka protection policies and action plans of Government?**

1. Very satisfied; 2. Satisfied; 3. Neither satisfied nor dissatisfied; 4. Dissatisfied;  
5. Very dissatisfied; 6. Don't know.

**W 10. How would you assess the willingness of the local level administrative officials' to implement the *Hilsa* and *Jatka* protection policies and action plans of Government?**

1. Very satisfied; 2. Satisfied; 3. Neither satisfied nor dissatisfied; 4. Dissatisfied;  
5. Very dissatisfied; 6. Don't know.

#### **Part E (PD)**

**P 11. To what extent do you agree that your positive attitude and active participation can play a very important role in mother Hilsa & Jatka protection operation of government?**

1. Strongly disagree; 2. Disagree; 3. Neither agree nor disagree; 4. Agree;  
5. Strongly agree; 6. Don't Know..

**C 12(a). How do you feel committed to participate in implementing government policies and action plans during mother *Hilsa* and *Jatka* banned period?**

1. Not at all; 2. Slightly; 3. Moderately; 4. Very much; 5. Completely; 6. Don't Know.

**12 (b). To what extent are you satisfied with your participation and willingness regarding the implementation of mother Hilsa and Jatka ban period of Government?**

1. Not at all satisfied; 2. Slightly satisfied; 3. Moderately satisfied; 4. Very satisfied;  
5. Completely satisfied. 6. Don't Know

**13. Please put your comment based on the statement mentioned in the Table below (put tick):**

Statement	Completely disagree(1)	Disagree (2)	Partially agree(3)	Agree (4)	Strongly agree(5)
The more the administrative capacity, the more the success in implementing government policies.					
The more you are willing to implement policies, the more you are able to attain the policy goals.					
The more the political participation in the Hilsa protection activities of government, the more successful implementation of government policies					
The more the fulfillment of political commitment to implement policies, the more you are able to attain the policy goals.					
There is always political influence in the policy implementation process.					

**Part F (HP)**

**14. To what extent do you agree that Hilsa production is increasing due to government interventions?**

1. Strongly disagree; 2. Disagree; 3. Neither agree nor disagree; 4. Agree;  
5. Strongly agree; 6. Don't Know.

**BP 15. To what extent are you satisfied with the mother *Hilsa* and *Jatka* protection banned period implementation?**

1. Very satisfied; 2. Satisfied; 3. Neither satisfied nor dissatisfied; 4. Dissatisfied;  
5. Very dissatisfied; 6. Don't know

**16. Although fishermen are given incentives, but some are seen to violate the banned period of mother *Hilsa* and *Jatka*. Why do they violate the banned period?**

**17. To what extent do you agree that if the ban period could be implemented effectively, more *Hilsa* could be protected for ensuring more production?**

1. Strongly disagree; 2. Disagree; 3. Neither agree nor disagree; 4. Agree;  
5. Strongly agree; 6. Don't Know.

**18. To what extent the fishermen follow the Government rule of mesh sizes of current nets and gillnets during the banned period of catching *Hilsa*?**

1. Never; 2. Rarely; 3. Sometimes; 4. Often; 5. Always.

19. Please mention your overall comments (if any) .....

Signature of the respondent : (Optional)

Thank you for your time and cooperation.

### **Annexure-III: Survey Questionnaire for the Fishermen**

Challenges of Policy Implementation: A Case Study of Hilsa Protection in Bangladesh

(A questionnaire Guideline for the interview of Fishermen)

#### Survey Questionnaire

The answers to this questionnaire will be used to conduct the above-mentioned research as an essential part of the Master in Public Policy and Governance (MPPG) Program of North South University, Dhaka, Bangladesh. Privacy and anonymity of the respondents will be maintained strictly. Your answers, comments and suggestions will be used for academic purposes only. Your sincere cooperation will add a lot of value to the research. Please put a tick mark against the chosen answer/write the answer precisely.

Regards

Mohammad Mofizul Islam

Student and Researcher

North South University, Dhaka.

Mobile: 01828916692,

E-mail: [mofiz6692@gmail.com](mailto:mofiz6692@gmail.com)

#### **General information about the respondent**

- |             |            |              |            |
|-------------|------------|--------------|------------|
| a) Name     | b) Village | c) Union     | d) Upazila |
| e) District | f) Age:    | g) Religion: |            |

#### **Part A (SC)**

**S 1. To what extent are you satisfied with the present status of implementing the mother Hilsa fish protection policies and the action plans of government?**

1. Very satisfied;
2. Satisfied;
3. Neither satisfied nor dissatisfied;
4. Dissatisfied;
5. Very dissatisfied;
6. Don't know

**C 2(a). Do you think that the present challenges of policy implementation regarding Hilsa protection in Bangladesh are due to the**

1. lack of resource (financial, human and material)?
2. lack of inter-organizational – cooperation and commitment?
3. lack of incentives?
4. lack of logistic support?
5. lack of alternative income generating activities for fishermen?
6. poverty of fishermen?
7. non-compliance of ban period or lack of compliance?
8. natural and man-made disasters?
9. water pollution, construction of water structure, siltation of rivers?
10. change in migration routes of Hilsa?
11. use of current nets, gill nets and fishing gears
12. Overfishing activities
13. all of the above?
14. Others (if any)? ...

**2(b) What are your suggestions to overcome the challenges of policy implementation regarding Hilsa protection in Bangladesh?**

### **Part B ( P )**

**I 3. How would you assess the amount of incentives that you received from the government to maintain your family during the banned period of mother Hilsa and Jatka catching operation?**

1. Very much sufficient;
2. Sufficient;
3. Neither sufficient nor insufficient;
4. Insufficient;
5. Very insufficient;
6. Don't know

**4. To what extent do you agree that the socio-economic condition of the fishermen has been improving due to Hilsa fishing?**

1. Strongly disagree;            2. Disagree;            3. Neither agree nor disagree; 4. Agree;  
 5. Strongly agree;            6. Don't Know.

**SD 5. Please put your comment in the Table regarding the selection and distribution of incentives to the fishermen based on the following statement**

Statement	Completely disagree (1)	Disagree (2)	Partially agree(3)	Agree (4)	Strongly agree (5)
All Hilsa Fishermen are included in the incentive distribution list.					
The size of family members should be considered while selecting the fishermen for giving incentives.					

**Part C (AC)**

**6. Please put your comment according to the statement in the Table below (please tick):**

Statement	Completely disagree(1)	Disagree (2)	Partially agree(3)	Agree (4)	Strongly agree(5)
The more the administrative capacity, the more the success in implementing government policies.					
The more you willing to implement policies, the more you are able to attain the policy goals.					
The more the political participation in the Hilsa protection activities of government, the more successful implementation of government policies					
The more the fulfillment of political commitment to implement policies, the more you are able to attain the policy goals.					
There is always political influence in the policy implementation process.					

**Part D (PD)**

**P7. Positive political participation is very important for successful policy implementation. On the other hand, lack of political participation is one of the causes of policy failure. To what extent do you agree with this statement?**

1. Strongly disagree;            2. Disagree;            3. Neither agree nor disagree;    4. Agree;  
 5. Strongly agree;            6. Don't Know.

**8. How would you assess the local political influence regarding mother Hilsa and Jatka protection policy implementation in field administration?**

1. No influence; 2. Very mild; 3. Mild; 4. Moderate; 5. Severe; 6. Don't know.

**C 9. How would you assess the participation and fulfillment of commitment of the public representatives regarding mother Hilsa and Jatka protection policy implementation?**

1. Very poor; 2. Poor; 3. Fair; 4. Good; 5. Excellent; 6. Don't know.

**Part E (HP)**

**BP 10. To what extent are you satisfied with the mother *Hilsa* and *Jatka* protection banned period implementation?**

1. Very satisfied; 2. Satisfied; 3. Neither satisfied nor dissatisfied; 4. Dissatisfied; 5. Very dissatisfied; 6. Don't know.

**IP 11. To what extent do you agree that *Hilsa* production is increasing due to government interventions?**

1. Strongly disagree; 2. Disagree; 3. Neither agree nor disagree; 4. Agree; 5. Strongly agree; 6. Don't Know.

**BP 12. To what extent are you following ban periods of mother Hilsa and Jatka in your area?**

1. Never; 2. Rarely; 3. Sometimes; 4. Often; 5. Always

**13. Why do some fishermen violate the government banned period of mother Hilsa and Jatka catching although they are given incentives?**

1. Poverty of the Fishermen 2. Loan burden of money lenders 3. Most of the fishermen do not have their nets and boats; 4. Lack of incentives for the fishermen; 5. Lack of alternative income during banned period; 6. Lack of surveillance of the implementers; 7. Lack of punishment or little punishment; 8. Greed of Fishermen, 9. Political shelter, 10. All of the above; 11. None of the above; 12. Others (if any).....

Signature of the respondent : (Optional)

Thank you for your time and co-operation.

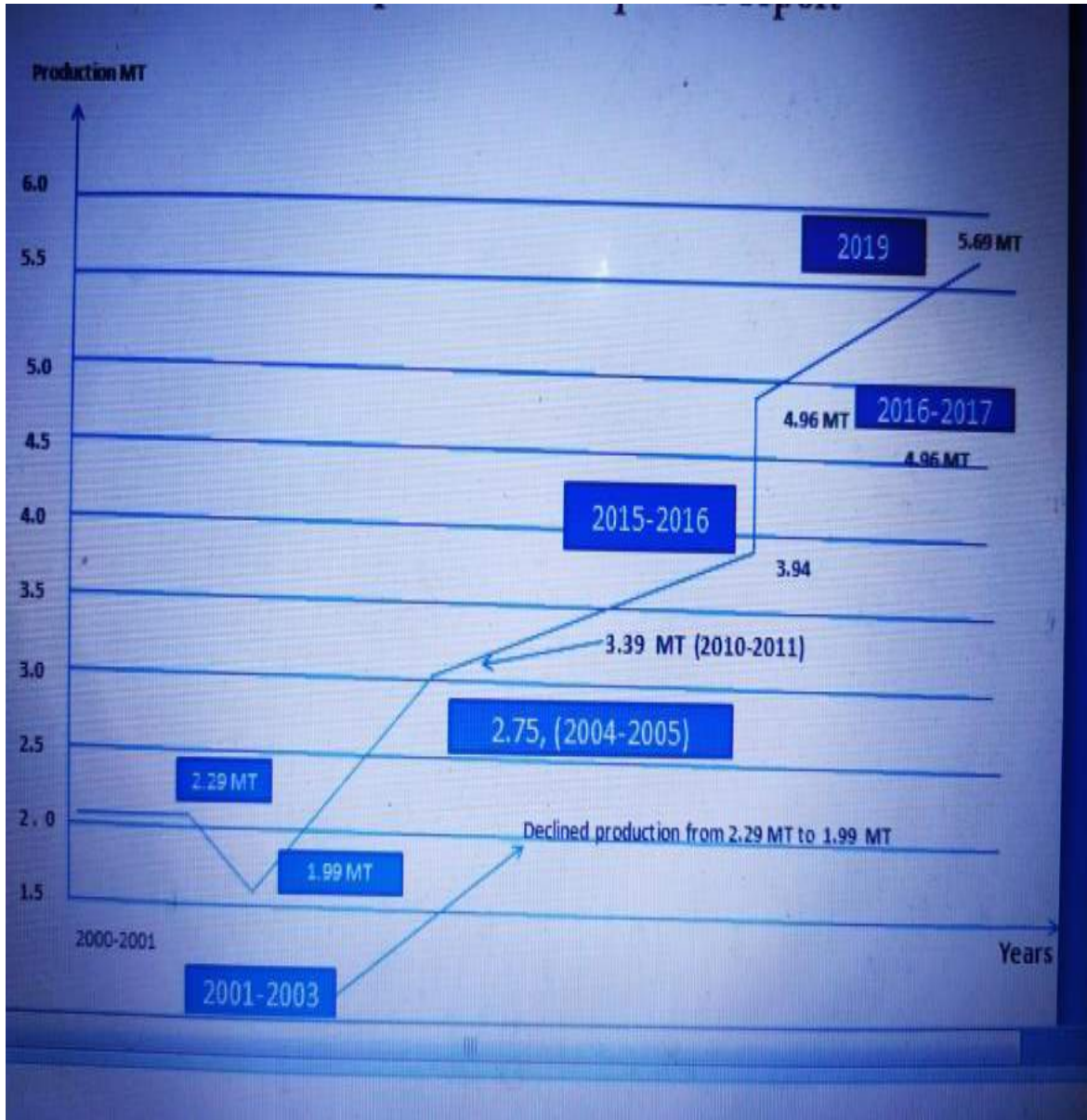


**Annexure-IV: Hilsa Production Figures in Bangladesh in the last 20 years**

Fiscal Year	Production (MT)	Fiscal Year	Production (MT)
1999-2000	219532	2009—2010	313342
2000-2001	<b>229714</b>	2010—2011	339845
2001-2002	<b>220593</b>	2011—2012	346512
2002---2003	<b>199032</b>	2012—2013	351223
2003—2004	255839	2013—2014	385140
2004—2005	275862	2014—2015	387211
2005—2006	277123	<b>2015—2016</b>	<b>394951</b>
2006—2007	279189	<b>2016—2017</b>	<b>496417</b>
2007—2008	290000	2017—2018	517198
2008—2009	298921	2018--2019	568750

(Source: Ministry of Fisheries and Livestock, 2019)

**Annexure-V Graphical Representation of increase and Decrease of *Hilsa* Production in the last 20 years in Bangladesh**

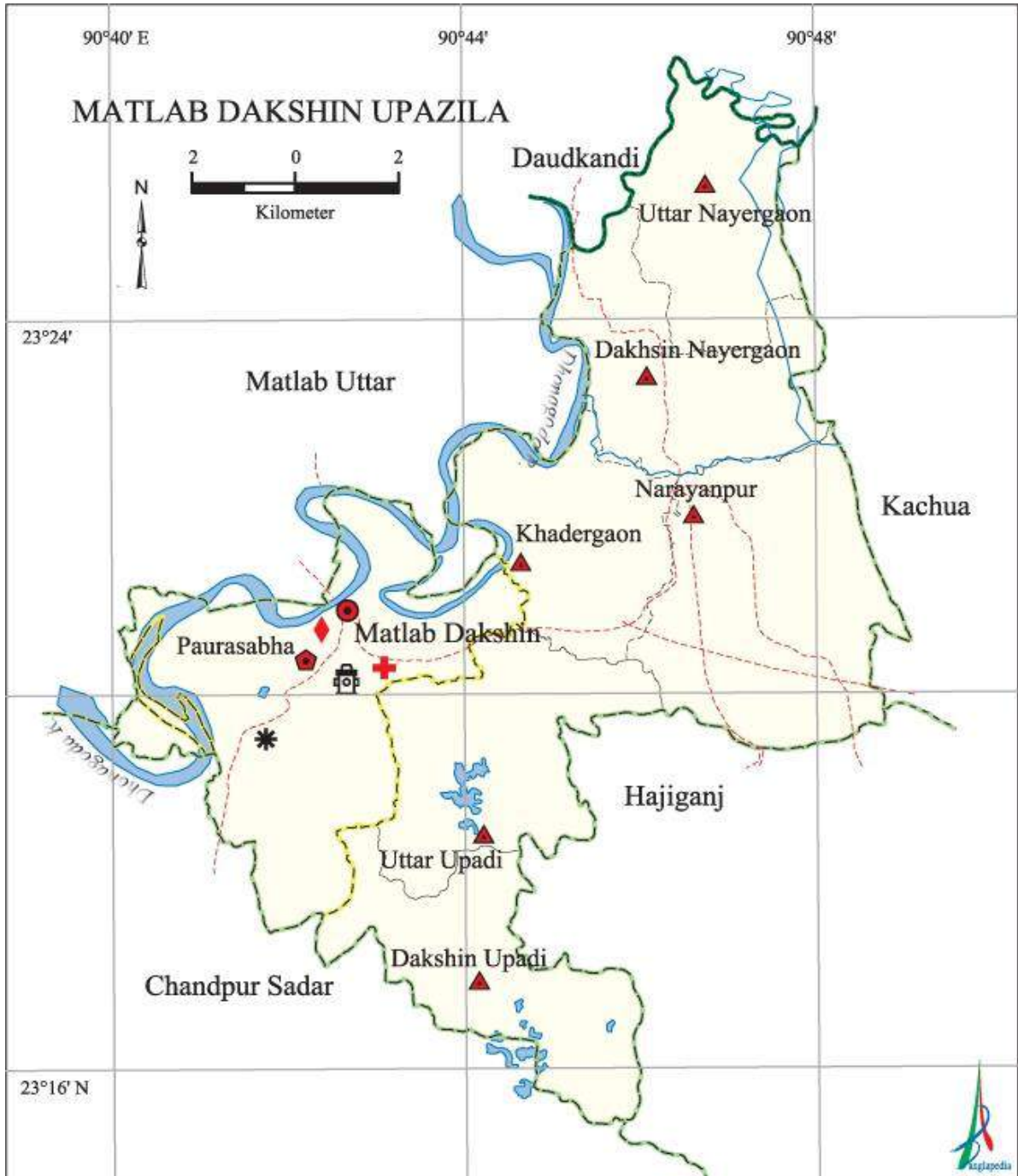


Annexure-VI: Administrative Areas of Chandpur District



(Source: Online / Google Map)

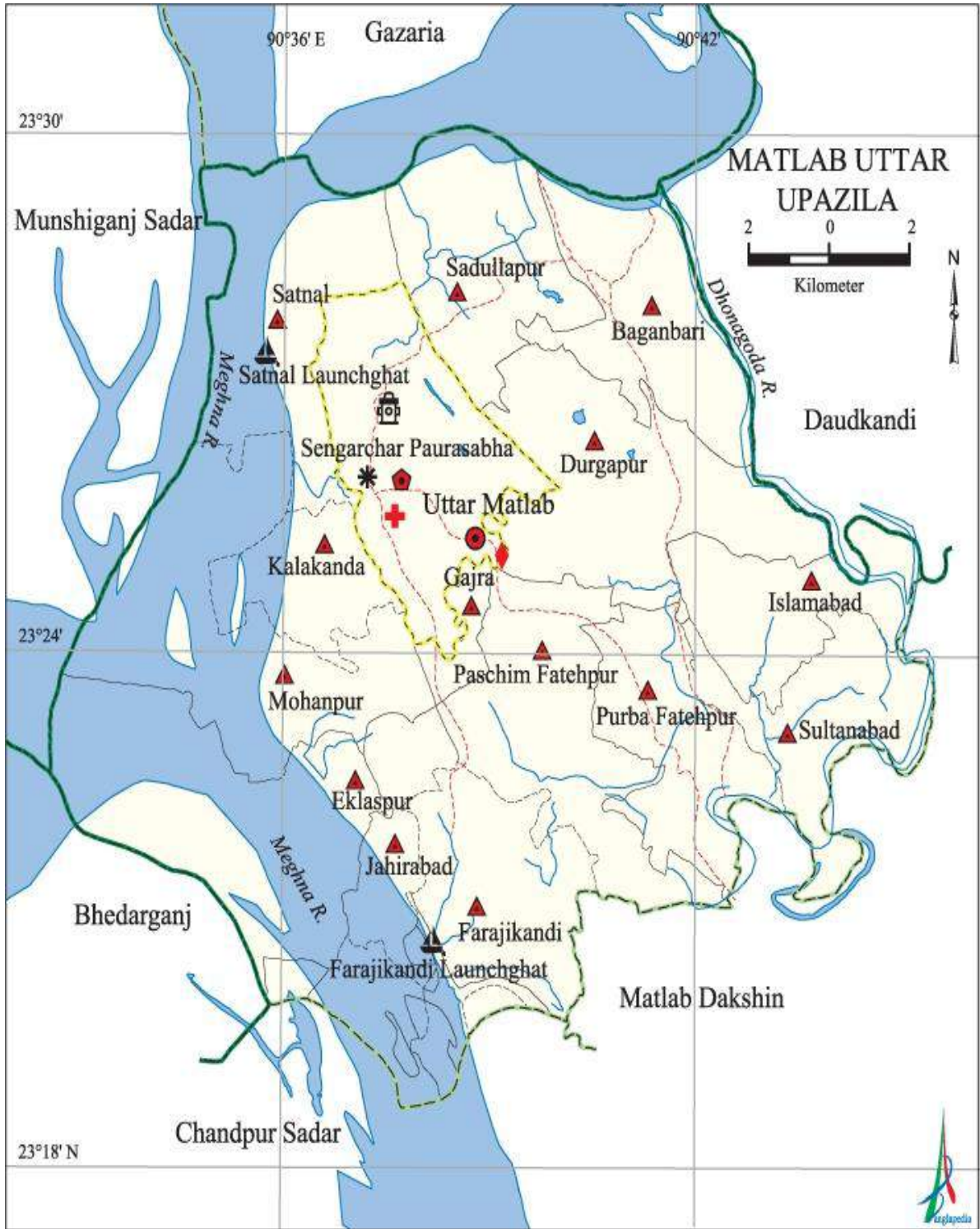
**Annexure-VII: Administrative Areas of Matlab South Upazila**



(Source: Online / Google Map)

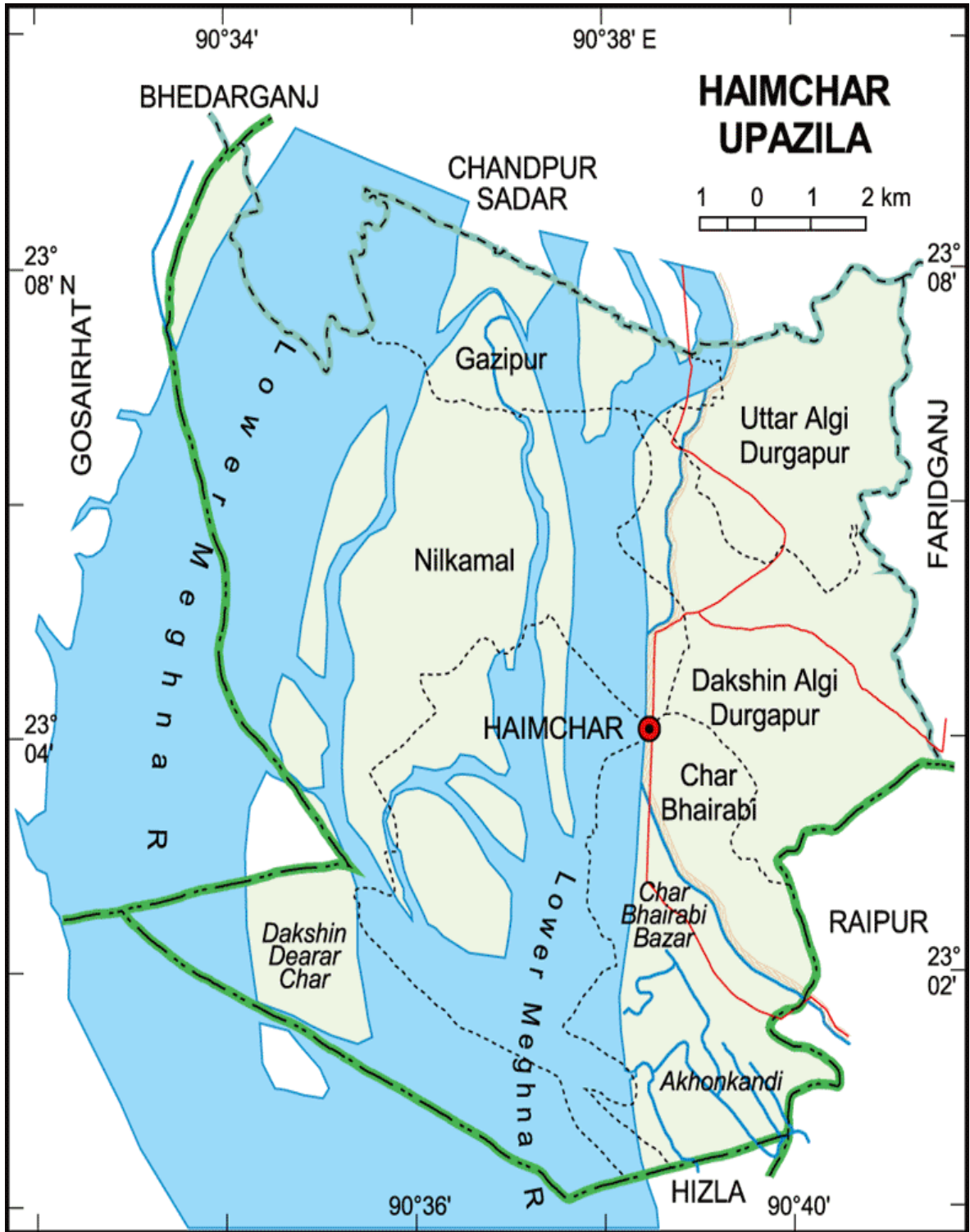


**Annexure-VIII: Administrative Areas of Matlab North Upazila**



(Source: Online / Google Map)

Annexure-IX: Administrative Areas of Haimchar Upazila



(Source: Online / Google Map)

**Annexure-X: An Overview of the Study Areas**

<b>Site/Location</b>	Chandpur district ( Matlab North, Matlab south, Chandpur sadar and Haimchar Upazila)
<b>Population</b>	1069334 (2001)
Male	536378
Female	532966
Household	244519
Literacy rate	48%
Urban	50.25%
Rural	41.62%
<b>Religion</b>	
Muslim	998116
Hindu	70664
Buddhist	154
Christain and others	559
<b>Municipality</b>	03
<b>Union</b>	40
Mouza	418
Village	523
<b>Main Rivers</b>	Padma, Meghna, Gomati, Dhonaguda
<b>Fishermen</b>	About 40000
Area	<b>889.80 sq km</b>

(References: Bangladesh Population Census 2001, Bangladesh Bureau of Statistics)

### Annexure-XI: Details of Respondents

#### List of the respondent (Public Officials)

Organization	Designation of Respondent	Number	Data collection method
District Administration, Chandpur	ADC, Executive Magistrate	02	Questionnaire
Department of Fisheries	Director, DoF, Dhaka	01	Questionnaire
District Fisheries office, Chandpur	District Fisheries Officer	01	Questionnaire
BFRI, Chandpur	Chief Scientific Officer	02	Questionnaire
Upazila administration	UNO ( 4), AC Land (3)	07	Questionnaire
Upazila Fisheries Office	Upazila Fisheries Officer (4)	04	Questionnaire
Coast Guard, Chandpur	Commander	01	Questionnaire
Bangladesh Police	Officer in Charge	01	Questionnaire
Naval Police	In Charge	01	Questionnaire
<b>Total</b>		<b>20</b>	

#### List of the respondent (Public Representative)

Organization	Designation of Respondent	Number	Data collection method
Local government	Up Chairman, Matlab North	01	Questionnaire
	Up Chairman, Matlab North	01	Questionnaire
	UP Chairman, Matlab North	01	Questionnaire
	UP Chairman, Matlab North	01	Questionnaire
	UP Chairman, Matlab North	01	Questionnaire
	UP Chairman, Matlab North	01	Questionnaire
	Up Chairman, Haimchar	01	Questionnaire
	Up Chairman, Haimchar	01	Questionnaire
<b>Total</b>		<b>08</b>	

#### List of the respondent (Fishermen community)

Organization	Designation of Respondent	Number	Data collection method
Fishermen Cooperative society	President, Secretary	02	Key informant Interview
Fishermen community	Fishermen	8	In-depth Interview
<b>Total</b>		<b>10</b>	





### Annexure – XIII: Upazila Task Force Committee and Terms of Reference

To ensure the development of national *Hilsa* fish, the Ministry of Fisheries and Livestock (MoFL) of the Bangladesh government circulated the following committee on 29/05/2017 through the memo. No: 33.00.0000.127.01.009.10—145.

**Table- Upazila Task Force Committee**

Sl. No	Name and Designation of officer	Position in Committee
01	Upazila Nirbahi officer	Chairperson
02	Assistant Commissioner (Land)	Co-chairperson
03	Representative, Naval force	Member
04	Representative, Coastguard	Member
05	Upazila agriculture officer	Member
06	Upazila livestock officer	Member
07	Officer in charge	Member
08	Upazila Rural Development Officer	Member
09	Upazila Youth Development Officer	Member
10	Upazila Education Officer	Member
11	Upazila social service officer	Member
12	Upazila Ansar VDP officer	Member
13	Upazila Cooperative Officer	Member
14	Project Implementation Officer	Member
15	Fisherman/Representative of the Upazila fisheries cooperative society.	Member
16	UP Chairman, concerned union	Member
17	Senior / Upazila Fisheries Officer	Member-secretary

#### Terms of reference of the Committee:

1. Prepare the final list of the Fisherman by scrutinizing the primary list sent by the union task force committee for distributing food assistance and materials for alternative employment during the banned time of *Jatka* and mother *Hilsa* protection program. This has to be done before starting the banned period of the mother *Hilsa* and *Jatka* catching.
2. The committee will prepare a yearly management strategy and work plan in the meeting before the banned time of *Hilsa* and *Jatka* extraction from the sanctuary.
3. The committee will coordinate distributing the food assistance and materials for alternative employment during the banned time of *Jatka* and the mother *Hilsa* protection program from the sanctuary and rivers.
4. To protect selling, purchasing, storing, preserving, etc by the miscreants, the mobile court will be conducted by the committee headed by the UNO.

5. For enhancing a social movement against the extraction of mother *Hilsa* and *Jatka* during the banned time, the committee members will ensure awareness and motivating programs at educational Institutions, Hut-bazaar and fisherman community.
6. During the peak breeding time, mobile court shall be conducted against carrying, transporting, catching, selling, purchasing, and storing of mother *Hilsa*.
7. Current jal (wire mesh), and other fish-catching nets production, transportation, marketing shall be stopped for protecting *Jatka* and mother *Hilsa* by imposing imprisonment and fines.
8. For protecting mother *Hilsa* and *Jatka* during the banned period, mobile court, special combined operation, and task force operation shall be conducted for restricting and taking stern action against the use, production, and marketing of all kinds of monofilament nets.
9. For the purpose of effective implementation of overall *Hilsa* fisheries resource development activities, the above-mentioned committee shall conduct meeting every month.
10. Committee may co-opt any member if they feel the necessity. **(Source: Circular of Ministry of Fisheries and livestock).**