CRIMES AND DISASTER: A SCENARIO OF THE COASTAL REGION OF BANGLADESH

A Dissertation submitted to The Faculty of Earth and Environmental Sciences, University of Dhaka in partial fulfillment of the requirement for the Degree of

DOCTOR OF PHILOSOPHY

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December 2021

Declaration

I hereby declare that this PhD thesis entitled "Crimes and Disaster: A Scenario of the Coastal Region of Bangladesh" is carried out by me for the degree of Doctor of Philosophy in Geography and Environment, University of Dhaka under the guidance and supervision of Professor Dr. Hafiza Khatun and Professor Dr. Nasreen Ahmad.

The work presented in this thesis is based on original work and has not previously been submitted for any other degree or qualification. The nature and extent of my work is carried out, or in conjunction with others, has been acknowledged by references.

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Ram Krishna Nath

Certificate

This is to certify that Ram Krishna Nath bearing Registration number 123/2011-2012, Re-registration number 67/2017-2018 has carried out the research work entitled "Crimes and Disaster: A Scenario of the Coastal Region of Bangladesh" for fulfillment of his PhD degree from the University of Dhaka, Bangladesh under our joint supervision in the department of Geography and Environment. This is his original work.

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Acknowledgements

In preparing this thesis, I have incurred debts to a number of persons and institutions of the country.

First and foremost, my deepest gratitude is extended to both of my mentors in the department of Geography and Environment, Dhaka university, Dhaka. I could never have completed this work without help from my supervisors Professor Dr. Hafiza Khatun and Professor Dr. Nasreen Ahmad who have stimulated my interest in the coastal areas of Bangladesh and guided me every step of the way. Their unhesitating support, careful reading and comments in the early drafts, advice and helpful criticism have been enable me to clarify my qualitative data, sharpen my ideas and develop the organization of this thesis. It was their guidance rendered so patiently that put me on tract and helped steer me to completion.

I express my gratitude to Professor Dr. ASM Maksud Kamal, *Pro Vice-Chancellor* (*Education*), Dhaka University, Dhaka for his valuable instruction and guidance that support me to completion this thesis. I also express my gratitude to Professor Dr. Alak Paul, department of Geography and Environmental Studies, University of Chittagong for his valuable guidance, sincere cooperation and advice involving with completion to this thesis.

I also express my gratitude to professor Dr. Amanat Ullah khan, professor Dr.Md. Maksudur Rahman and professor Dr. AQM Mahbub for their guidance, advice and instruction in completion to this thesis. I am grateful to Mr. Liaqat Ali, principal and all of my colleagues of Rajarbag Police Lines College, Dhaka for their sincerity and suggestions.

The field work was carried out under the supervision of Mr. Premanondo Debnath who also involved in preparing maps. I thank him and also Mr. Kazal Sharma, Mr. Nasir, Mr. Samir for carrying out sincerely the field survey in the coastal areas across

the country during 2012-2013. Here I also thank the people of the study area for their cooperation and patience while responding to the lengthy questionnaire.

I am thankful to Mr. Mohammad Saddam Hosen, Chief Executive, Center for Research and Development Studies (CRDS) for the processing the data and making documents. I also express my thanks to Mr. Jamil, department of Statistics, University of Dhaka for the support on SPSS techniques, Ms. Sharmin Islam and Anika Nower Aishee of Chittagong University for providing me with the logistics in preparing this thesis.

I acknowledge the small grant of Social Science Research Council, Ministry of Planning, Dhaka and CDMP of Relief and Disaster Management Bureau, Dhaka.

I extend my indebtedness to my all family members including my mother, all brothers and sisters and along with extended relatives who always gave me inspiration as well as blessings. My deepest thanks should go to my elder brother and my wife, Shephali Chakraborty whose dedication, on behalf, gave me moral support and made it possible to carry out this research work to complete.

Finally, I bow my head down to the most Gracious and the most Merciful God for giving me the all opportunities, trials and strength that have been showered on me to finish writing the thesis.

Abstract

Bangladesh is a land of natural hazards. One of such natural calamities that strikes Bangladesh frequently is severe storm and cyclone often accompanied by storm surge. Due to frequent cyclones, life in the coastal zone is unsettled, disturbed. Land and property are destroyed. The occurrence of crime linkage with the natural calamities that play havoc with lives and properties of people in the coastal regions of the country. Till now no separate research has been done on the crimes committed as a result of the disaster in the coastal zones of Bangladesh. So, this research would be important as it will shed light on an aspect that has hither to been ignored for the coastal regions of Bangladesh. The main aim of this research is to explore the relationship between crimes and disaster in the cyclone-prone coastal region of Bangladesh. Variation of crimes in terms space and time induced by disaster is also associated with the objectives of the study. The coastal districts where various types of crimes are committed and criminal activities carried on and it is for these reasons that this coastal area (exclusive coastal area) has been selected for study. To meet the objectives of the study detailed field level investigations have been conducted in the study area. Extensive use of secondary material has also be made. Primary data was collected through a questionnaire survey among the people of the coastal area. The secondary data was also collected from the various organizations dealing with crime like Police departments, Print media, Electronic media and so on. On the other hand, disaster like cyclone related data were collected from the department of Weather under the ministry of Defense. Different statistical methods to analyze data and GIS techniques for mapping have been used to study the prevailing situation and to suggest probable mitigating measures. From the qualitative and quantitative approach used in the questionnaire survey, some natural disasters like cyclone, tidal surge, flood, salinity intrusion, river bank erosion, earthquake and water logging etc. are also known as common hazards from the perception of respondents in the survey that induce crimes like theft, murder, burglary, robbery, rape, kidnapping, human trafficking, smuggling corruption in relief goods, tendering, dacoity, riot, molestation

etc. in the coastal area of Bangladesh. So, there is a positive relation between crimes and disaster that was determined by the correlation analysis. As the coastal area of Bangladesh is not free from crimes and disaster, mitigation of disaster as well as control of crimes is a burning issue of the coastal area of Bangladesh. For future planning and better development in the coastal areas of Bangladesh, more advanced and further research in the micro level would be more significant.

Keywords

Disaster, Coastal, Crime, Cyclone

Content

Chapter Three: Literature Review

Chapter Four: Types, Distribution, Causes and Hotspot of Crimes in Coastal Area of Bangladesh

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List of Abbreviation

BBS	Bangladesh Bureau of Statistics
CCA	Climate Change Adaptation
CEGIS	Centre for environmental and Geographic Information Service
DRR	Disaster risk reduction
FGD	Focus Group Discussion
GBM	Ganges Brahmaputra Meghna
GDP	Gross Domestic Product
GIS	Geographic Information System
ICPF	Indonesian Crime Prevention foundation
KII	Key Informant Interview
NWRD	National Water Resource Database
PPCR	Pilot Program for Climate Resilience
SAARC	South Asian Association for Regional Cooperation
SAPS	South African Police Service
SD	Standard Deviation
SDC	Swiss Agency for Development and Cooperation
SPSS	Statistical Package for the Social Sciences
ST	Scheduled Tribes
VAW	Violence Against Women
WARPO	Water Resource Planning Organization

Chapter One: Introduction

1.1 Introduction

Bangladesh currently has one of the highest rates of population growth in the world. The country now has more than 168.2 million people and 20.5 percent of its population live in poverty (Bangladesh Economic Samikshma, 2021). The population growth has created pressure on arable land and there is lack of employment in the agricultural sector. Direct and disguised unemployment have become a problem in villages (Shafi, 2010). Frequency of crimes as well as types of crimes in Bangladesh keep increasing due to large population with unemployment problem. Bangladesh is also a disaster-prone country where the coastal regions are more prone to different disasters. Apart from the other parts of country disaster induced criminal activities are also common in the coastal areas of Bangladesh.

Crime is a social phenomenon in the human society. Generally, crime means any activity for which law prescribes punishment, such as monetary fine or a term of imprisonment (Kader and Hussain, 2010). Black's law dictionary defines that crime as a positive or negative act in violation of the penal law, an offence against the state. According to (Adler, Mueller, & Laufer, 2004), "A crime is any human behaviour that violates a criminal law and is subjected to punishment" A criminal is a person who has committed any crime and who has been find out as a guilty by a competent court after trial (Kader and Hussain, 2010).

Bangladesh is going to be a developed country by 2041 according to the present government vision. GDP/Capita and per capita income dramatically increases in Bangladesh. GDP/Capita and Per capita income of Bangladesh are US$1538 and US$1602 respectively in the year of 2016-2017 (Bangladesh Economic Samikshma, 2017). At the same time, number of occurrences of crime increased in Bangladesh from the fact that it was 179,880 in 2015 where as it was 127,616 in 2002 (Comparative Crime Statistics: 2002-2015; www.police.gov.bd). Crime is a common phenomenon of the society across the country as well as in the coastal areas of Bangladesh. Based on reported crime in the police station, dacoity, robbery, murder, riot, molestation, child abuse, police assault, arms act, explosive act, burglary, theft,

narcotics, smuggling drug and arms, kidnapping etc. are the principal types of committed crimes in the whole country of Bangladesh. But the occurrence of rate and types of crimes vary in terms of time and space.

The socio-economic reality of urban areas is totally different from rural areas and hence types of crimes are different. Hijacking, murder, kidnapping and abduction, burglary, pick pocketing, rape, smuggling and drug addiction, physical abuse of domestic servants, acid throwing on women, fraud and deceit and white collar crimes are the common types of crimes in urban areas (Shafi, 2010). So, the types and rate of occurrence of crimes is somewhat different in nature in different areas of the country due to physical, social, economic, biological and environmental factors. Various kinds of crimes like theft, burglary, robbery, dacoity, molestation, murder, riot, rape, kidnapping and abduction, human trafficking, smuggling drugs and arms etc. are the prevailing in the coastal areas of Bangladesh.

Though small in terms of total area, Bangladesh is fortunate to have a long coastline, estimated to be 710 km (Choudhury, 2009). The coast geomorphology of Bangladesh is characterized by its funnel shaped, vast networks of rivers, strong tidal and wind action, and enormous river discharges laden with bed and suspended sediments. The country has been subjected to frequent natural disasters in many forms, particularly cyclonic storm, storm surges, flood, salinity and so on. Disasters are popularly understood as aberrations in the course of nature which are presumed to be out of the domain of human control (Sahni and Ariyabandu, 2012). A disaster may be defined as the realization of a hazard that severely impacts things of human value (Smith, 1996). Cyclonic storm, flood, tidal surge, salinity, river bank/coastal erosion etc. are mostly common in the coastal areas of Bangladesh. Hence the study also reveals the impact of disasters on the criminal activities in the coastal areas of Bangladesh.

Sometimes disasters creates devastating situation in the coastal area and some naughty as well as opportunist people often take the chance of the adverse situation to commit a crime. Hence some criminal activities are found in the disaster period. Due to severe disasters like cyclone, flood, salinity intrusion and riverbank erosion etc. people become victim ofdisplacement, migration, loss of access to education and health, unemployment, poverty, damages of the communication, loss of agricultural

land and crop production. This disastrous situation triggers to; increase of landless people, increase salinity of the land, attract less investment, hinder of capital formation, division of joint family, increase of crime. The poor people of the coastal area of Bangladesh are the most victims of multifarious types of disasters.

During and post disaster period, usually there is a flow of resources in the disaster affected regions and some unethical activities like intentionally offering less amount of relief goods and distributing less amount money than that of allocation takes place to the disaster affected people. In some cases, victim people are not offered relief goods/money and instead of needy people, non-needy people receive benefits of relief facilities due to local unfair politics and weakness of local government. In this context it is important to evaluate the types of crimes takes place mostly in the period of adverse situation of disasters in the coastal region of Bangladesh. This chapter deals with the significance, research questions of the thesis, along with the aims and objectives come next, and the chapter then concludes with the ethical considerations of the research.

1.2 Background of the study

The coastal region of Bangladesh is part of the delta of the extended Himalayan drainage ecosystem and forms the lowest landmass. The Ganges–Brahmaputra–Meghna Delta, covering most of Bangladesh, is also one of the largest and youngest deltas in the world, and is still very active. Sixty two percent of the land of the coastal region has an altitude of up to three metres and eighty six percent up to five metres (Islam et al., 2006). According to Dictionary of Geography (Rao, 2008), "That part of the land which borders the sea or other extensive tract of water and so comes under the direct influence of the waves is defined as Coast". Coastal zone is in constant state of transition between land and ocean. This region with low-lying topography coupled with high density of human settlement along the coastal region exposes about 32% area of Bangladesh (46,000km^2) and contains 28% of 160 million population ofthe country (Khalequzzaman, 2016).

Coast is the region of interaction between land and sea where both land and oceanic processes works. Officially, the coastal zone covers 153 upazillas of 19 coastal districts and accounts for 32 percent of the area and 28 percent population of the

country. From the viewpoint of exposure to the sea, the coastal zone can be divided into two parts, namely the exposed coastal zone and non-exposed coastal zone. The exposed coast comprises 12 of the 19 districts (51 of 153 upazillas). These are area that closer to the seashore and face multiple risks, including that of cyclone, salinity and tidal flow above critical levels. While the coastal region as a whole lies within 37 to 195 km from the seashore, the exposed coast, lies within 37 to 75 km from the shore (Islam, 2016).

The population of the coastal zone of Bangladesh was 36.8 million in 2011 (only 8.1 million a century earlier). Small farmers, agricultural labourers, fisher folk and the urban poor make up 71 percent of the 6.85 million households (Ahmad, 2004). Official poverty indicators show a slightly larger percentage of the population living below the absolute poverty line in the coastal zone compared to the country as a whole, while the GDP per capita and the annual GDP growth rates in the coastal area are more or less similar to the national averages.

The coastal region of Bangladesh is prone to natural threats such as cyclones, storm surges and floods, as well as earthquakes, tsunamis, and so on. The government has identified the region as an "agro-ecologically disadvantaged region" (GoB, 2005). Shortage of drinking water, land erosion, the high groundwater arsenic content, waterlogging, salinity and various forms of pollution have slowed down social and economic developments (Islam and Ahmad, 2004). During the last 250 years, six tsunamis, at most, have been reported to have affected the coast of Bangladesh. Sadhuram (2005) predicted that a tsunami of one metre could severely damage coastal Bangladesh due to low elevation. It is estimated that at least 4.8 million people are at high risk from tsunamis (Islam et al., 2006).

Bangladesh is well-known for its severe cyclones and storm surges. Geographical location and its tropical monsoon climate make the country more vulnerable to cyclones (Ali,1999; Paul, 2009). The Bay of Bengal experiences about 6-10% of the world's tropical cyclones and at least one powerful cyclone strikes Bangladesh every year (Gray, 1985; Paul, 2009). Tropical cyclones and accompanying storm surges cause heavy human death tolls and huge damages to the coastal infrastructure, wealth, livelihood, fisheries, agriculture, etc. They also cause a big dent on the economy of

the country. Approximately 500,000, 138,000 and 3,363 people died in 1970, 1991 and 2007 cyclones respectively (Ali, 1980; Choudhury,1989; Haider et al.,1991; Chowdhury,1995; GoB, 2008). Globally, tropical cyclone can be considered as the killer of the sea (Ali and Choudhury, 2014).

Moreover, no such studies are available which depict the crimes and disasters in the coastal belt from the spatio-temporal viewpoint. The present research is an endeavor to fill these gaps. The combination of qualitative and quantitative data will demonstrate the dimension of criminal activities with disasters and this dissertation seeks a better understanding of crimes and disasters in the coastal belt using the spatio-temporal concept and will consequently support in the coastal policy planning.

1.3 Research Questions

The research questions are framed to achieve the goals of the research. The questions also help to indicate how to set the arguments within the wider layout of the theoretical framework (Sanyal, 2006). Interest in a particular topic usually begins the research process, but it is the familiarity with the subject that helps to define a relevant research question for a study (Haynes, 2006). According to Perneger and Hudelson (2004), the key attributes of research questions are: (i) specificity; (ii) originality or novelty; and (iii) general relevance to a broad scientific community. The research question should be precise and not only identify a general area of inquiry. In this research, few questions have arisen in researcher's mind. These questions were tried to make more specific for the convenience of study. In this study, the answers to following questions were tried to explore:

a) What are the criminal activities that are faced by the coastal people? This question covers the types of crimes which are common in the coastal areas and challenges that they face in their area.
b) How the effects of the sensitive areas of crimes on coastal people? This question will explore the hot spot of crimes. In addition, the question will also unfold the causes of crimes in the study area.
c) Do the spatio-temporal variations of crimes that affect the people in the coastal zone? This question allows the exploration of variation of crimes in terms of space and time. It will also reveal the seasonal variation in the coastal areas.

d) How do disasters induce the crimes in the coastal area? The question will unfold the understanding of people about crimes that are induced in the period of adverse situation of disasters. Furthermore, this question deals with the perception about the impact of disaster. This question also covers the answer relating to the people's response about the frequent of disasters over the time.

e) What types of measures will be required to reduce the adverse effects of disasters? This question will identify the probable steps that could be taken to address the sufferings and problems of people during and post disaster period in the coastal area. The perceptions of both affected and non- affected persons will be emphasized for the reduction of the odd situations during disaster period.

1.4 Aim and Objectives of the study

This research seeks to determine the types of crimes and disasters as well as their relationship in the coastal Bangladesh. The specific objectives of the study are:

- To identify the types of crimes that occur in the study area.
- To determine the hotspot of crimes in the study area.
- To find out the relationship between crimes and disaster.

1.5 The Rationale and Importance

The disaster is one of the major issues in the coastal areas of Bangladesh. It is gaining attention within coastal disaster research for several reasons.

- Firstly, twenty eight percent people of Bangladesh live in the coastal regions.
- Secondly, the coast of Bangladesh is threatening with disasters particularly sea level rise and climate change.
- Thirdly, the alarming trend of the increasing impact of disasters is evident from the fact of the World Disaster Report.
- Fourthly, of all the cyclones that hit Bangladesh the most catastrophic one in terms of casualties was that of 12 November, 1970 which caused indescribable human misery and officially the death figure was 500,000 the highest so far due to a cyclone (Choudhury, 2009).
- Fifthly, occurrence of coastal crimes largely depends on the local government, coastal environment especially river border between the countries, poverty, unemployment, political unrest, spreading muscle power and disasters etc. Determination the linkage and the relationship between

crime and disaster is the principal aim of the study. Changes of frequency and types of crimes have been observed over a span of time and technological changes across the world.

There is no significant research work on social crime in the coastal area. Urban crime and violence in Dhaka city have already been studied by Siddiqui et al. (1989) as well as Salma Shafi (2010). Bangladesh is a disaster-prone country where coastal regions are more vulnerable because of frequent cyclonic storm, river bank erosion, tidal flood, sea-level rise, salinity intrusion and drought etc. So, the coastal regions are the home for the crimes due to these disasters, poverty, unemployment problem and weak local government with political conflicts among the favorable and against the political parties. This is the pioneer study which has identified the types of coastal crimes and disasters with their relationship. This study also determines the hotspot of crime zones in the coastal areas. The local government as well as the policy makers can be benefitted through the study of this research work.

1.6 Ethical Approach of the Research

Ethical approach relates to moral standards that should be considered by the researcher in all research methods in all stages of the research design. 'Ethical research is generally understood to be research that 'does no harm', which gains informed consent from, and respects the right of the individuals being studied' (Madge, 1997). So, some key issues should be considered at the beginning, including informed consent, right to privacy, protection from harm and informed consent (Denzin and Lincoln, 2000; Green and Thorogood, 2004; Paul, 2009). In this research ethics have been tried to maintain in all the perspectives. As the researcher has worked to know about the sufferings of people there were some issues that were incorporated to ethical matters. In most cases respondents gave the answer spontaneously. However, all of the respondents had been given the surety of keeping the identity as undisclosed.

1.7 Limitations of the Study

Though the research aims to end up with a fruitful consequence, it has some limitations mentioned below-

- Time continence
- Data Inconsistency

- Inadequate data and information
- Data access etc.

The study area is extreme remote with poor accessibility due to weak communication. Questionnaire survey was also time consuming because of receiving the information from the respondents. Perception, views, thinking, evaluation and consciousness about the topic related to research etc. are difficult to understand by the respondents as victim of the disaster due to the remoteness of the area and socio-demographic characteristics of the respondents.Crime related information was not simply found. Besides, due to technological advancement, satellite culture and weak social bondage etc. data may be varied in terms of space and time. To survey the whole study area is very difficult due to financial cost and high time consuming. Disaster related information is really insufficient because of not preserving perfectly in the local level of the concern organizations. On the other hand, causes of disaster and crime related information from the perception of respondents are not same in terms of space and experience. In conducting FGDs, organizing people was one of the toughest tasks. In some FGDs, some individuals tried to dominate the whole discussion. Therefore, some participants couldn't respond well who are a bit introvert. On the other hand, village women are very conservative, and they feel shy to come in front of a stranger, so, it was very difficult and challenging to get women respondents for both questionnaire interview and FGDs. In our country where some data specially from secondary sources are not easy access able for research due to weak mentality of information provider. Some cases, data are not perfectly stored for long time for the future research planning. In some cases, data are available with connection of financial cost or assistance of big boss or powerful officer.

1.8 Organization of the Thesis

This dissertation has been organized into seven chapters, begins with the acknowledgement, abstract, list of tables, list of maps, list of photographs, the chapters in the middle and ends with the appendix and references.

Chapter One depicts the statement of research problem, background, its significance, aims and objectives of the study, ethical considerations and the limitations.

Chapter Two describes the research design and pros and cons of methodological framework that have been implemented throughout the research work.

Chapter Three elaborates the literatures that are incorporated to crimes, disasters and underlying causes, and spatio-temporal concept.

Chapter Four demonstrates the crime scenario and the notable types as well as causes of crime with hot spot of crimes have been narrated in this chapter.

Chapter Five is devoted to the explanation of different types of disasters with severity index. Here the major types of disasters have been depicted along with their temporal variations.

Chapter Six assesses the relationship between crime and disaster. In addition, the chapter gives an idea regarding the coastal crimes induced by cyclone.

Chapter Seven provides some recommendations based on the outcomes of current research. This chapter can create a sense of taking steps against the existing problems.

1.9 Concluding Remarks

Crime as well as disaster in the coastal belt of Bangladesh has been a crucial problem. In the exclusive coastal area of Bangladesh, the problem is becoming severe because of having the highest density of population with severe disaster among the numerous coastal districts. The current research tries to focus solely to the unrevealed facts of human hardship not only from disaster but also from the crimes takes place at the devastating time of disaster. This chapter has depicted the background, importance, aims and objectives of the research based on which the whole study had been conducted. The next chapter describes the methodologies that have been implemented to answer the research questions in this study.

Chapter Two: Methodology

2.1 Introduction

A standard and justifiable methodology of a research could bring the results of real findings (Kothari, 1985). This chapter deals with the methodological aspects of the current research. It demonstrates the methods and techniques that have been implemented throughout the study period to accomplish the research work. This research focuses on the crimes and disaster scenario in the coastal belt of Bangladesh. The study has been conducted using both qualitative and quantitative methods. The qualitative methods helped to perceive the status of disaster thoroughly. However, the quantitative techniques were helpful to ascertain the spatio-temporal variation of crimes and disaster. The mix type questionnaire has been designed in a flexible way to gather both qualitative and quantitative information. Even though, the study was mainly based on the primary data, concise secondary data, available relevant reports and studies were reviewed to form realistic basis for the present research including the use of available pertinent data and parameters. The primary data were analyzed and grounded theory methods (qualitative data) as well as through statistical analysis (quantitative data) including SPSS and MS excel. The correlation between disaster and crimes, severity of disasters of the coastal regions in Bangladesh based on present situation and key parameters such as hazard, crimes, exposure elements at risk etc. have been explained. All the tasks have run through an organized method.

2.2 Research Approach and Design

The research approach that was followed for the purposes of this research was the inductive one. According to this approach, researchers start with specific observation, which are used to produce rationalized theories and endings drawn from the research. Basic research aims to contribute to fundamental knowledge and theory (Patton, 1990) but developing theory is a complex activity (Strauss and Corbin, 1998). Theories are derived from the field work process, are refined and tested during field work and are gradually detailed into higher levels of abstraction towards the conclusion of the data collection phase (Bryman, 1996). A research design is the plan and structure specifying the methods and procedures for collecting and analyzing data with an utmost goal of answering research questions and meeting the objectives of the study (Islam, 2014). A research design provides a framework for the collection and

analysis of data (Bryman, 2004) and a coherent argument for answering the research question (Green and Thorogood, 2004). The basic design of this study has been demonstrated in the diagram (Figure 2.1) and depicted subsequently.

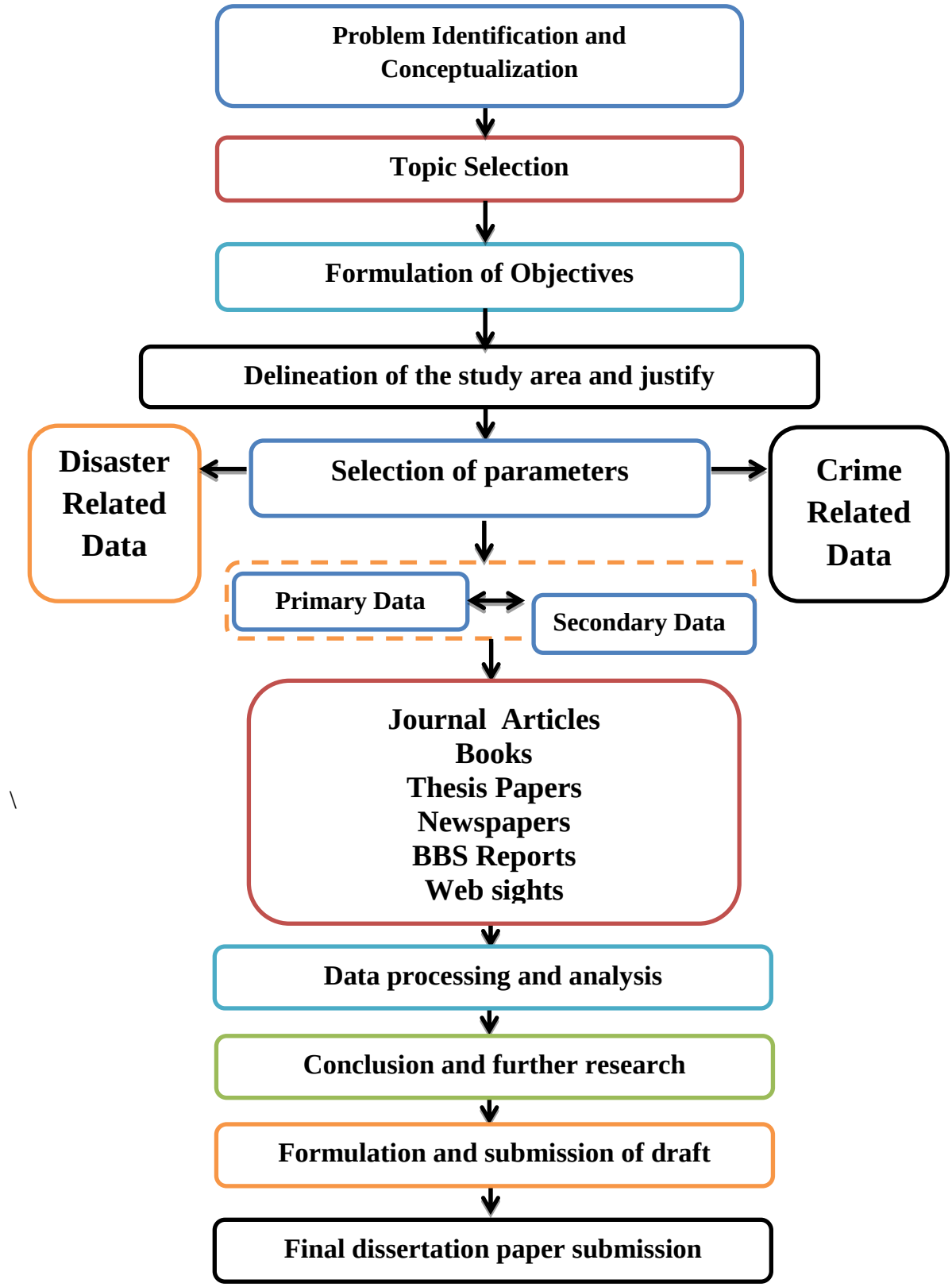

Figure 2.1: Schematic Presentation of the Design of Current Research

2.3 Overall Approach and Methodology

The overall approach and methodology of the study has been explained in a sequential way to achieve the objective of the research work. To figure out the successful result there have been used various tools and techniques. Whenever a research work is begun, we have to consider some sequential steps, such as preliminary thinking about the research, define the problem, setting the goal and objectives etc. The approach and methodology of the study in detail are presented in the subsequent sections.

Literature review and brain storming: With the initial fanciful development an extensive literature review has carried out during the study based on disasters like flood, cyclone, storm surge, salinity, erosion etc. and crime approaches. The review has been conducted through the country as well as the outside of the country context. This study helps a lot to conceptualize the study related to crimes and disaster of the coastal regions of Bangladesh.

Problem Identification and Conceptualization: The coastal zone is marked by an ever-dynamic network of river and estuary system, interaction of huge quantities of fresh water that are discharged by the river systems and a saline waterfront penetrating inland from the sea. The study area covers by the estuary, delta and coastal deposit. The estuaries zone has ample bio-diversity, large vegetated land and above all, an agriculture dependent massive population. The frequent effects of extreme events surrounding the study area are cyclone, storm-surge, tidal flood, erosion and salinity etc. During the study it is identified that a large number of people is highly affected to these frequent hazards in the research area. It is important to know the principal issues and causes of coastal hazard to mitigate frequent natural disaster for better future. The theme of the study has been conceptualized through integrating some key concepts from reviewing literature.

Topic Selection: It is important and difficult task to select a rational topic which must reflect the whole research work. The study topic has been selected which directly or near about directly reflect the study concept titled as “Crimes and Disaster: A Scenario of the coastal Region of Bangladesh” by studying and reviewing an

extensive amount of literature review from several sources like books, journals, articles, dissertations and internet sources.

Formulation of objectives: After being conceptualized and selection of the title, the mission of the study was defined clearly. The principal aim of this study is to explore to assess the relationship between disaster and crimes in the coastal regions of Bangladesh in an integrated way. This research objective also set up on facts in a simple scientific perspective to understand the reality of the natural phenomenon and challenges face by the coastal community people.

2.4 Selection of Study Area

The study area which is highly vulnerable to climate change and an extreme disaster-prone area, the coastal regions of Bangladesh has been selected. Being a citizen of one of coastal districts in Bangladesh, the coastal area has been selected as a study area by considering the following criterion-

- Frequent occurrence natural disasters i.e. cyclone, storm surge, flood, erosion etc. is common in the study area.
- Tidal forest and sea route of the study area are the house for committed crimes in Bangladesh.
- Having a different salient feature, the study area is occupied by a large number of populations of Bangladesh.
- Study outcomes can be applied for future planning in Bangladesh.

Study Area Profile: Bangladesh is a country of South Asia in the world. It lies between $20^0 34'$ to $26^0 38'$ North latitude and $88^0 01'$ to $92^0 41'$ East longitude. Its climate is tropic and humid. Bangladesh has mainly four seasons, e.g. Pre-monsoon (March to May), Monsoon (June to September), Post Monsoon (October to November), Dry (December to February). Eighty percent (80%) rainfall occurs during the monsoon from June to September, when the tidal water level reached at the peak (Hossain, et al, 2014). A major portion of Bangladesh is occupied by the coastal area comprising 153 upazilas of 19 coastal districts. The coastal zone has been classified from different viewpoints. From the viewpoint of exposure to the sea, it can be divided into two parts, namely the Exposed Coast and the Non-exposed Coastal Zone. The Exposed Coastal zone comprises 12 of the 19 districts and 51 of the 153 upazilas (Islam, 2016).

So, based on the direct connection with the Bay of Bengal and more vulnerable to disaster, 12 exclusive coastal districts with 39 exclusives coastal upazilas have been selected as a study area (Figure 2.2). The coastal zone covers an area from the shore of 37 to 195 km whereas the exposed coast is limited to a distance of 37 to 57 km (Islam et al, 2006). The significant demographic features of the study area include area and boundary, population distribution, income and occupation, literacy rates etc. The parameters that are directly linked with this study analysis have been explained in the subsequent sections.

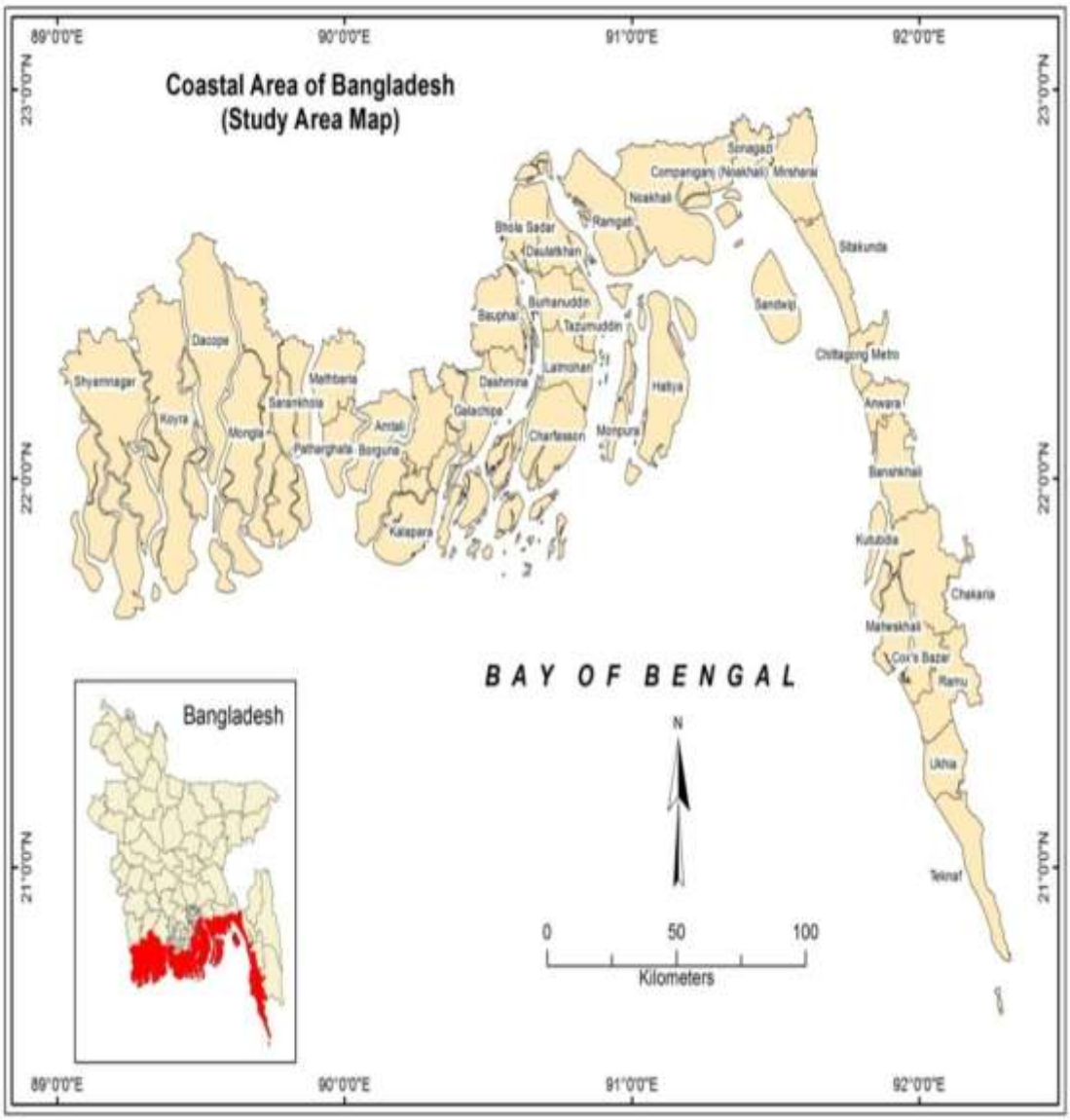

Figure 2.2: Map of Study Area (Adopted from BBS Administrative GIS Database, 2011)

Area and Boundary: The study area has been selected based on the exposure to the Bay of Bengal and vulnerability of hydrological disasters. The study area is covered around 55.4% of the exclusive coastal region of Bangladesh comprising 12 exclusive

coastal districts with 35,796.33 sq. km. The area coverage of the study zone is around 19,832.41 sq. km, excluded the water body along the coast line (BBS, 2015).

Relief of the study Area: Bangladesh comprises hill, terrace and floodplain areas. The northern and eastern hills occupy about 12 percent of the country, the so-called terrace area (the Madhipur and Barind Tracts, and the Akhaurra Terrace) about 8 percent and floodplains the remaining 80 percent (Brammar,2000).

The study area falls in the following agro ecological regions with associated physiographic units (Brammer, 2000):

1. Ganges Tidal Floodplain (zone-13)
2. Lower Meghna River Floodplain (zone-17)
3. Old Meghna Esturies Floodplain (zone-19)
4. Chattogram Coastal Plains (zone-23)
5. St. Martin's Coral Island (zone-24)
6. Eastern Hills (zone-29)

The study area also falls into the following sub-regions with units on the basis of physical features and drainage pattern out of twenty-four sub-regions with fifty-four units (Rashid, 1991):

1. Immature Delta (zone –XXI)

2. Mature Delta:
   i. Non-saline tidal floodplain (zone –XXIIc)
   ii. Saline tidal floodplain (zone –XXIId

3. Active Delta:
   i. Mehendiganj islands (zone-XXIIIb)
   ii. Meghna estuary islands and chars (zone-XXIIIc)
   iii. Meghna estuarine floodplain (zone-XXIIId)

4. Chattogram sub-region:
   i. Northern coastal plains (zone-XXIVa)
   ii. Matamori delta and coastal islands (zone-XXIVc)
   iii. Middle Karnafuli system valleys (XXIVe)

iv. Bakkhali river valley (zone-XXIVf)

v. Southern beach plain (zone-XXIVg)

vi. Nhila –Teknaf plains (zone-XXIVh)

Land Use: The study area is mostly low lying with varied land use pattern. Around 29.86 percent land area is covered by agricultural activity, 7.96 percent is aquaculture and intertidal area is 2.10 percent (Figure 2.3). Also, a large extent of areas (38.14 percent) is covered with Mangrove vegetation (13.22%), Forest land (5.5%) and water body such as rivers, lakes and seasonal water logging (19.22%). On the other hand, 21.32 percent land area is covered by rural settlement and urban area is 0.82 percent.

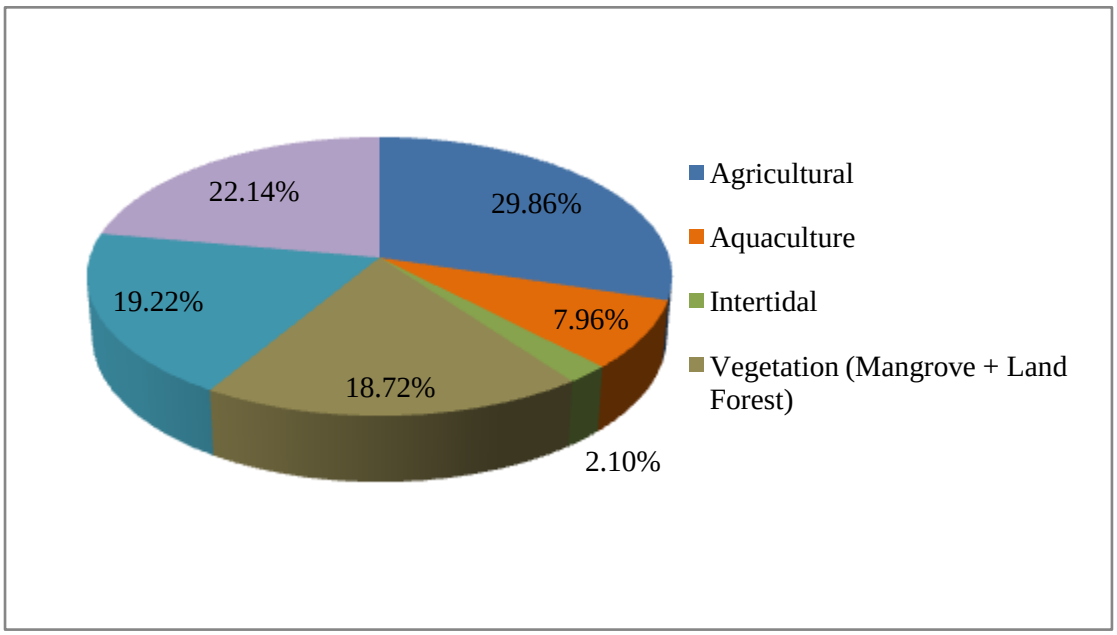

Figure 2.3: Percentage of area based on land use categorySource: WorldView 2 Satellite Image Landuse Classification (2015).

Demographic Status of the Study Area: According to the BBS (2015) the total population of the study area is about 8.6 million and among them 6.9 million live in rural areas whereas urban population of the study area is 1.7 million. The total households of the study area are 21 lac and 63 thousand. Male population of the study area is 49.80% where female population is 50.20%. The young population or children whose age is below 18 years is 44,80% of the total population whereas the old people who are above 60 years old is 6.07% of the total population. On the other hand, aged and disabled population of the study area is 33.57%. They are highly vulnerable

during the disaster period in the study area. The average rate of literacy of the study area is 45.59%. The occupation of 78.68% of the population of the study area is agriculture and fishing (BBS, 2015). The life expectancy of the people for each sex is 69 years whereas for the male is 67.9 years and for the female is 70.3 years. The per capita income is US$ 1602 in the year of 2016-2017 (Bangladesh Economic Samikha, 2017).

2.5 Sampling Strategy

One of the most important problems in the planning a sample survey is that of determining a sample size for the estimates to be reliable enough to meet the objectives of the survey (Islam, 2014). A representative sample produces outcome which can be used to formulate generalizations. The sampling strategy should be relevant to the conceptual framework and the research questions addressed by the research (Punch, 1998).

The method of purposive sampling was used to develop the sample of the research under discussion. The main objective of purposive sampling is to focus on particular characteristics of a population that are of interest, which could enable to best answer the research questions. The main aim of the study is to determine the relationship between crime and disaster in the exclusive coastal area of Bangladesh. But there is no idea of regarding crime that is induced by disaster. So, in this case, p is difficult to assume and hence it is taken to be 0.50. Therefore, the sample size is estimated by the following ways:

$$n_o = \frac{z2pq}{d2}$$

Where:

no=desired sample size

z = standard normal deviate usually set at 1.96, which corresponds to the 95% confidence level,

p = assumed the portion in the target population estimated to have a particular characteristic,

q = proportion no having the attribute, such that p+q=1

d = allowable maximum error in estimating proportion (0.05).

Thus

$$n_o = \frac{z2pq}{d2} = \frac{(1.96)2(.5).5)}{(0.05)2} = 385$$

Considering the study area being large and deviation the outcome from the respondents, the sample size is estimated as five hundred and fifty (550) for the receiving absolute outcomes from the survey. People for the Case studies were also selected following the purposive sampling method. The people who had been affected by disaster were identified for case study. While conducting the questionnaire survey many respondents were found as the extreme sufferer, later case studies had been conducted on those people. As opposed to, some suitable groups based on purposive sampling had been identified from the pilot survey. During the main research many previously identified group were considered for FGDs.

2.6 Data Collection

Data collection is the most important and time consuming part of the research. It is also important to ensure accuracy of data to get consistent output. Data and information were collected from some reliable organizations as well as primary sources for this research. The study to meet the objectives involved with the collection of primary data by undertaking field survey. Discussions with key informants, observations and mapping were also employed as methods to gather and analyze data. The main body of data was obtained through a questionnaire survey of households.

Primary Data Collection: In order to satisfy the objectives of this dissertation, both qualitative and quantitative research was held. Qualitative approach can be used to explore substantive areas about which little is known like people's lives, experiences, behaviours, emotions and feelings. As qualitative technique is the most suitable for micro-geographic study, in this research this technique has been helpful to find out the dimension of crimes. Moreover, qualitative technique reveals pros and cons of a problem to a greater extent. Considering these advantages of qualitative approach, this method was mainly applied in this research. Conversely, few quantitative techniques have also been implemented for the better understanding of spatial and temporal influence on crimes. Quantitative research is generally taken to be exemplified by social surveys and by experimental investigations (Bryman, 1996). Primary data collection techniques which were used in this research shown in the Table 2.1. Primary data were collected through questionnaire survey. A semi-structure

questionnaire survey was conducted to the respondents who were randomly selected. Respondents were chosen as household head and in absence of household head, second person of the household was chosen. Farmer and fisherman who are directly affected by the coastal disaster were mainly chosen as respondent. Besides, intellectual, businessman, social worker as well as government employees and so on were chosen as respondents. Five hundred and fifty respondents were randomly chosen for conducting in the questionnaire survey for the study area. A large number of FGD (Focus Group Discussion) was also conducted in the questionnaire survey.

Table 2.1: Types of Primary Data Collection

Methods	**Respondents/Samples**	**Quantity**	**Types of Primary Data**
Case Study	Aged and experienced person of the family	6	Qualitative
Focus Group Discussion	Very low income groups, fishermen, farmers, petty businessmen	12	Qualitative
Questionnaire Survey	Head of the family, Senior family members(both male and female)	550	Qualitative and Quantitative

Questionnaire Survey: The questionnaire on which the final enumeration was carried out was pretested under the presence of the researcher. Pre-testing took place in the Munshiganj, Gavura and Ramjanagar union in Shymnagar Upazila under Satkhira District. Certain modification in case of types of disaster and occurrence of crimes with its causes was made. The final questionnaire on the basis of which enumeration was carried out was so designed that it could obtain information on demographic, socio economic and environmental characteristics of the respondents the actual reasons behind crimes and disaster in the study area. Perceptions of key informants were also recorded as these regarded as important information relating to the nature, trends and reasons behind coastal crimes and disaster. Enumeration was carried out from June 2012 to May 2013. The enumeration was undertaken in each upazila/thana by a team of four enumerators- two of them being post graduate students of the Department of Geography and Environment, University of Dhaka and

rest of two being both graduate and local students. Completed questionnaires were checked on the daily basis. It may be mentioned that for the enumerators/researcher, the first exercise in the field was to gain confidence of the respondents as household, as evidently households/ respondents were not very comfortable and at times resent being confronted with crimes related questions. Enumeration therefore had to be done after spending some time with the respondent often approaching him/her through the local elite/older. There was no fixed time as regards filling up the questionnaires as it was conducted according to the respondent's preferred time and place, however questionnaires were completed mostly during day time while discussions with key informants took place in their schedule time.

Secondary Source: The data and information for this study were collected from some reliable organization. Lion's share of the data collected from the several secondary sources such as-

- Bangladesh Police Head Quarter-Crime data
- Water Resource Planning Organization (WARPO)- National Water Resource Database (NWRD), Dhaka Bangladesh
- Centre for environmental and Geographic Information Service (CEGIS), Dhaka, Bangladesh- Land use information
- Bangladesh Bureau of Statistics (BBS) - Population Census, 2011
- Weather Department, Dhaka, Bangladesh- Cyclonic information

2.7 Research tools and techniques

To conduct the research work properly some statistical like frequency distribution, mean, standard deviation, correlation, regression, time series, graphs, charts etc. and spatial analysis like Arc GIS and techniques like SPSS, Excel etc. were used for major analysis.

2.8 Data Processing

After collecting data from different secondary and primary sources these data have been processed and complied with the application of different software. Data were processed by the using of software such as Excel and SPSS. In the processing of quantitative data Statistical Package for Social Sciences (SPSS) 20.0 has been used for the frequency analysis. Along with SPSS, Microsoft Excel 2013 has also been used to demonstrate the analyzed data through charts, graphs and diagrams. Likewise,

Microsoft Word 2013 has been indispensable in writing the whole dissertation. GIS technique has also been used for presenting data on maps. Some statistical techniques such as Correlation, Regression, Time Series, Test of Hypothesis, graphs/chart/Bar diagraph etc. were used for producing result.

2.9 Severity Index

Disaster severity is measured in terms of degree of devastation with property as well as causalities and duration of occurrence. In the study, each disaster severity is measured by the perception and experience of the respondents through the questionnaire survey in the study area. In the field survey where the respondents were asked to indicate the rank from 1 to 5 for individual disaster and rank 1 indicates the very severe, 2for severe, 3 for moderate, 4 for low and 5 for very low severe. From obtaining the rank position for each disaster, severity of individual disaster is calculated from the average score for individual coastal upazila/thana (Annexure 02). The severity of individual disaster on the average score of individual disaster that indicates from 1 to 5 for the range of severity from very severe to very low severe and red colour to green colour indicates very severe to very low severe. Then the severity of individual disaster for coastal region has been shown on map by using GIS technique. Similarly, average disaster severity is calculated from the average of combined scores for all prevailing coastal disasters and is also shown on map.

2.10 Correlation Analysis

Correlation analysis is the statistical tool we use to describe the degree to which one variable is related to another. To find how strong the relationship between two variables without making any distinction between dependent and independent variables is the purpose of correlation analysis (Islam, 2014). The relationship between crimes and disaster in the study area can be explained and portrayed more precisely by the correlation analysis. One such measure of this relationship is the correlation coefficient and is usually denoted by ‘r’. To permit computation of r, both variables are to be measured on a numerical scale. A useful interpretation of r is that its square (r^2) measures the proportion of the variability in y (crime) accounted for the linear relationship with variable x (disaster).

2.11 Results and Discussion

Final outcomes have been presented in the form of maps, reports, graphs, tables related to disasters and crimes of the study area. So, the final outputs, conclusions and recommendations with references have been discussed in details in the next chapters (Four, Five, Six and Seven).

2.12 Directions for further research

On the basis of the analysis and output, some management strategies for future management action plan of coastal areas to mitigate vulnerability could be provided to ensure a sustainable living environment and breathing place for people. In future this finding could be applied to other part of the countries with limited data and information.

2.13 Concluding Remarks

This chapter described the methodology that was implemented to accomplish the research work. The purpose of the research design was achieved by using appropriate research techniques. The qualitative and quantitative approaches were more emphasized to be used in the research work. The best suitable methods and processes were tried to be implemented in this research work. Considering the principles of beneficence, human dignity and justice ensured that the respondents were morally and ethically protected. The next chapter reviews the relevant literatures and depicts a theoretical framework of the present study.

Chapter Three: Literature Review

3.1 Literature Review on Crime

Crime is a social phenomenon and is as old as human society. Crime is a legal concept and has a sanction of law. According to Legal definition of crime," Crime is a behaviour which is prohibited by the criminal law" (Kader and Hussain,2010). In twentieth century, modern industrialization, urbanization etc. can be responsible for creating crimes in the society or in state. At the recent high-tech world, the level of cybercrimes and other crimes has dramatically increased due to computer networks (Hossain, 2010).

The existence of crime in the economy can be demonstrated by the economic theory of crime (Becker, 1968; Ehrlich, 1973), which argues that an individual indulges in criminal activities if the net marginal return from illegal activities exceeds the net marginal benefit from legal activities. Sociologists offer alternate explanations for the presence of crime in the society. They argue that people indulge in criminal activities when unsuccessful individuals feel frustrated at their situation relative to those who are successful (Merton's strain theory) or when mechanisms of social control are weakened and the community fails to control the activities of some of its members (Shaw and McKay's social disorganization theory). The literature on crime is vast. Hence, results from a handful of papers that are closely related to my analysis. In the context of India, Dreze and Khera (2000) was one of the first papers to explain the cross-sectional variation in crime rates. Using district level data on homicides, the paper explains that districts with higher literacy levels have lower incidences of crime rates.

On the other hand, crime rates are sharper in districts which have a higher proportion of Scheduled Tribes population, and those with a lower level of female to male ratio. The authors argue that the relationship between ST (Scheduled Tribes) proportion and crime rates is driven partly by the economic motive and partly by the fact that conviction rates are higher for poor people who do not have resources to defend themselves in the court of law (Roy,2010). Prasad (2009) demonstrates that the benefits of IMF induced economic liberalization program were not confined to the

economic sphere. The paper utilizes the time variation in the spread of gold price between London Stock Exchange and Bombay Stock Exchange to show that economic liberalization, which reduced the profitability of smuggling, also reduced the incidences of murders related to the maintenance of turf ground. Iyer et al. (2009) explores whether crimes against women decline with a greater political representation of women at the local and the state level. The paper finds that crimes against women decline under a female Chief minister but increase with the share of local female leaders. The results suggest that a greater representation of women at the local level improves the reporting of crime and this plausibly accounts for the counter-intuitive positive sign.

3.1.1 Distribution and pattern of crime

Distribution of crimes in terms of space and various types of crimes have been discussed in this section as follows.

Crime in Bangladesh: Bangladesh has now become a middle-income country. Yet 24.3% of population living under national poverty line cited in (Islam and Khatun, 2019). The rate of unemployment is 4.2% and the proportion of employed population below $ 1.90 purchasing power parity a day is 9.2% in 2019 (Asian Development Bank, 2020). Direct and disguised unemployment have become a problem in villages and because of unemployment and poverty thousands of people from villages come to urban areas all the time (Shafi, 2010). But the country's cities cannot provide accommodation to them properly. As a result, frequency of crimes in Bangladesh keeps increasing. New types of crimes take place and people become victims of new types of crimes with the changes of development in technology across the country as well as the world. Law enforcers have been encountering increasingly tougher challenges in controlling and preventing crimes.

Crimes in urban areas: The socio-economic reality of urban areas is totally different from that in rural areas and hence the types of crimes committed here are different. All banks, shopping centers and government offices are located in the cities. People often carry hard currency, females at times wear valuable ornaments, and huge amount of money is transacted for business purposes regularly. All these realities create huge opportunities for criminals to commit different types of crimes. In megacities like Dhaka and Chattogram, professional criminal gangs commit various

types of organized crimes, sometimes involving large amount of money (Shafi, 2010). Criminal gangs are alleged to be patronized by police and politicians. People of urban areas, therefore, always are likely to fall victims to many types of crimes. Crimes committed in urban areas include hijacking, pick-pocketing, murder, kidnapping and abduction, prostitution, burglary, rape, smuggling and consumption of drugs, physical abuse of domestic servants, acid throwing on women, fraud and deceit, and white-collar crimes.

Crimes in coastal areas: Crime is the situation and functional phenomenon that changes from place to place on basis of environment, efficiency of law-and-order agencies and the socio-demographic characteristics of native people. Due to the urbanization and globalization influenced by the economic factors the modulus of operandi and extent of crime become adaptable. Urbanization, unemployment, poverty, growing material needs, and substance abuse were among the factors cited by De Kock as contributing socially determined crimes (SAPS Annual Report, 2007). Besides, geographical elements can create poverty and poverty can produce crimes (Khan and Kader, 2010).. Theft, burglary, murder, kidnapping, human trafficking, smuggling etc. are common in both of the coastal zone and other zone of Bangladesh. Different types of disasters like cyclone, waterlogging, flood, river bank erosion etc. create occurred situations to commit crime in the coastal belt of Bangladesh.

3.2 Literature Review on Disaster

In the 30 years between 1974 and 2003, more than two million people were killed globally in over 6,350 severe natural disasters (Smith and Petley, 2008). In addition, a cumulative total of 5.1 billion individuals were directly affected by these events, including 182 million people who were left homeless. These disasters also caused a total of about US dollars 1.4 trillion worth of damage (Smith and Petley, 2008). The vast majority of the recorded fatalities were caused by just four hazard types – earthquakes, tropical cyclones, floods and droughts and 24 out of 35 disasters from 1931 to 1985 occurred in Asia (Smith and Petley, 2008). Natural and human induced hazards such as floods, cyclones, droughts, tidal surges, tornadoes, earthquakes, river erosion, fire, high arsenic contents of ground water, water logging, water and soil salinity, epidemic etc. Bangladesh extends between 20º34′ and 26º38′ North latitude and 88º01′ and 92º41′ East longitude. The Bay of Bengal is in the south side of the country. The total area is 147,570sq km and size of population is around 168.2 million

with Per capita income is around US$ 2227 (Bangladesh Economic Samikha, 2021)). Most people live in rural areas and the literacy rate is low. The country faces grave poverty conditions, which are accentuated by natural calamities like cyclone, flood, storm surge etc. Bangladesh experienced 157(recorded) cyclones and cyclone induced storm surges which caused about two million deaths during 1584-2009 (Hossain, 2012). These indicate that Bangladesh is prone to frequent destructive tropical cyclones associated with storm surge, particularly in pre-monsoon months of April-May and post-monsoon months of October-November. The low-lying coastal areas are especially vulnerable, thus placing these population, infrastructure, agriculture, livestock and economic development in a high-risk situation. Cyclone disaster mitigation is a main concern in Bangladesh.

The geographical location, land characteristics, multiplicity of rivers and the monsoon climate render Bangladesh highly vulnerable to natural hazards. The coastal morphology of Bangladesh influences the impact of natural hazards on the area shown in figure 3.5. Especially in the south western area, natural hazards increase the vulnerability of the coastal dwellers and slow down the process of social and economic development. Significant country features include:

- A vast network of rivers and channels
- An enormous discharge of water heavily laden with sediments
- A large number of islands in between the channels
- A shallow northern Bay of Bengal and funneling to the coastal areas of Bangladesh
- Strong tidal and wind action

3.3 Relationship between Crimes and Disaster

Natural disasters cause multifaceted damages to affected communities, including the persistent effects on health status and education. Increases in crimes such as theft and rape are also serious issues (Frailing and Harper. 2007). Crime has some direct or indirect relationship with disaster. Especially in the coastal areas, the tendency of crime among the lower-class people during the time of disaster and before and after the disaster is seen to increase most of the time. As a result, the people of these areas suffer more. However, in disaster prone areas of Bangladesh, especially in coastal areas, studies are rarely seen on the classification of crime according to the disaster,

the level of crime and how the crime can be related to the disaster. The main aim of the study is to explore a relationship between disasters and crimes in coastal Bangladesh.

Relationship between disaster emergency and crime: When a disaster occurs in a place, there is a kind of chaos among the people in which various kinds of criminal acts are noticeable. The study of the impact of disasters focused on a range of economic, social, and psychological effects, including considerations of how disasters affected levels of crime (specific types or in general) and disorder (Varano et al., 2010). Therefore, there is a correlation between natural disasters and crime incidence just as there is a correlation between other human activities which increases the vulnerability of communities to hazards such as flood, heat waves and other shocks and stresses (Kwanga et al., 2017). Early disaster researchers recognized the importance of documenting patterns of crime after disaster events (Prince 1920), and contemporary researchers continue to request systematic investigations of crime and disaster (Frailing and Harper, 2007). A large number of studies have investigated the relationship between the occurrence of natural disasters and crime. The results across this broad swathe of literature covering numerous disasters are mixed with some studies finding an increase in crime post disaster (Gray and Wilson, 1984; Leitner and Helbich, 2010; Siman, 1977; Zhou, 1997), whilst others indicate an associated decrease. Depending on the nature of a disaster, crime rates may initially decrease as citizens (even "career" offenders) seek shelter and must "dig out" of the damaged area; personal shelter and survival needs may trump criminal motivations (Cromwell et al., 1995). The type of offending may also change as time progresses after an incident; opportunistic property crimes might give way to fraud, scams, and price gouging of a vulnerable population (Cromwell et al., 1995). 2016 research brief from the Scholars Strategy Network that examines the types of crime that occurs in areas hit by disasters such as earthquakes, significant fires or hurricanes.

Disasters are, by their very nature, an unanticipated shock that can destabilize the social and demographic profile of a community. Thus, there are two potential avenues through which disasters may indirectly influence neighbourhood crime. Firstly, disasters may influence crime by changing the aggregate behavioural patterns of residents. Disasters alter the routine movements of residents, which can impact both citywide and localized opportunities for crime by upsetting the balance between offenders, targets, and guardians (Cohen and Felson, 1979). The physical massacre

resulting from disasters may limit or enhance target availability. In neighbourhoods where property is completely destroyed, target availability will be low following a disaster. In other neighborhoods where property damage is limited but homes are evacuated, targets will be more accessible as a result of reduced guardianship in these areas (Cromwell et al, 1995; Zahran et al, 2009). Secondly, disasters can affect neighborhood crime by influencing community capacity. For example, disasters can exacerbate preexisting vulnerabilities to crime by eroding social ties and impairing a community's ability to respond to crime (Erikson, 1976; Frankenberg et al, 2014). Increases in inequality and social conflict after a disaster may generate criminal activity (Prelog, 2015; Weil et al, 2019; Zahran et al., 2009; Zahnow et al, 2017).

Generally, the probability of crime detection declines in the affected areas. These incentives to commit crime aggravate crime incidences in both developed and developing countries. For example, in the month after Hurricane Katrina, the burglary rate increased by 402.9% compared to the month before the disaster event (Frailing and Harper, 2010). Miguel (2005) finds that disasters increase homicide of unproductive household members in Tanzania. Siegel et al. (1999) and Zahran et al. (2009) examine the disaster impact on crimes and find mixed results. Zahran et al. (2009) found a positive relationship between domestic violence and the frequency of hurricanes in Florida between 1992 and 2005; a finding supported by a number of single incidence studies (Enarson, 1999; Fothergill, 1996; Morrow, 1999). According to Zahran et al., (2009), flood disaster and other natural disasters weaken agencies of formal and informal social order, giving rise to criminal opportunities and behaviours (Shabu and Embanengen, 2018). Disruptions to local communities resulting from a disaster such as Hurricane Katrina may result in short-term increases in crime (Frailing and Harper, 2016; Weil et al., 2019; Varano et al, 2010). In fact, Mahmud and Prowse (2012) find that the allocation of relief programs suffered from corruption during Cyclone Aila in Bangladesh. If this is the case, the households which are severely affected by the disaster but cannot receive the relief are likely to experience transient poverty. This potentially tempts them to commit crime to smooth consumption (Fafchamps and Minten, 2006; Cameron and Shah, 2014).

Media depictions of disasters often highlight anecdotes about increased crime in the aftermath of disasters (Brezina and Kaufman 2008; Rodriguez & Aguirre, 2006), but research suggests disaster survivors were more likely to pull together in cooperative efforts during the recovery period than to descend into a crime-ridden state of nature

(Barton 1969; Fritz, 1996; Quarantelli and Dynes 1977; Solnit 2009). Subsequent research has expressed skepticism of this harmonious vision and argued certain types of crime may escalate after a disaster (Frailing and Harper 2010; Spencer 2017; Varano et al., 2010) or may not substantively change at all (Leitner et al., 2011; Zahnow et al., 2017). Since the post-disaster crimes cause the delay of post-disaster rehabilitation (Aldrich, 2012), it is important for policymakers to understand under which situations disasters trigger the crimes. And, social cohesion might facilitate disaster recovery and discourage crime (Doucet and Lee 2015; Prelog 2015; Weil et al., 2019; Zahran et al., 2009). However, it is also claimed that disasters may give rise to altruism, and norms of reciprocity that reduce or stabilize crimes (Quarantelli, 1994).

Global distribution of disaster-induced crime: Variations in crime rates were not witnessed after the Northridge (California) earthquake in 1995 (Siegel et al., 1999), the Quebec ice storm of 1998 (Lemieux, 2014), the New York City blackout of 1965 (Sparrow et al., 1965), or the Detroit blackout of 2003 (Hansen, 2003). In contrast, higher crime rates were found in the aftermath of the New York City blackouts of 1977 (Genevie et al., 1987) and 2003 ("Wasn't So Calm," 2003), Hurricanes Andrew (Cromwell et al., 1995) and Hugo (LeBeau, 2002), and other disasters. In terms of property crime, Zhou (1997) found the annual property crime rate in Tangshan, China to increase in the year following the Tangshan Earthquake of 1976. In Charlotte, North Carolina, LeBeau (2002) noted an expansion in the number of police callouts relating to suspected burglaries after Hurricane Hugo in 1989 whilst flooding in Wilkes-Barre, Pennsylvania, resulting from Hurricane Agnes in 1972 was also found to be associated with a rise in reported property crime (Gray and Wilson, 1984; Siman, 1977). Other studies, incorporating a spatial component, have also found increases in property crime post-disaster. For example, Leitner and Helbich (2010) noted a tripling of burglary offences in Houston, Texas following the week of Hurricane Rita's landfall as well as an increase in hotspots of burglary. These hotspots were also found to be in locations away from their 'usual' locations. An escalation in clusters of property crime in non-typical locations were also found following Hurricane Wilma, in Miami (for burglary and larceny-theft) (Walker et al., 2014), and Hurricane Ivan in Mobile, Alabama (for burglary, larceny-theft and auto theft) (Walker et al., 2014). Some studies have however found declining property crime

rates following a disaster. Barsky et al. (2006) noted a decrease in burglary and theft offences in New Orleans following Hurricane Katrina whilst Leitner et al. (2011) also observed falling property crime rates across 11 counties of Louisiana after the same event. Other studies noting a decrease in property crime post disaster include Cromwell et al. (1995). Reasons for the mixed outcomes on the impact of natural disasters on property crime are myriad and are seen to be related to the underlying socio-economic conditions of each geographic locale (Frailing and Harper, 2007), inter- and intra-migration patterns (Varano, et al., 2010), as well as the severity of the disaster itself (Prelog, 2015).

According to Indonesian Crime Prevention foundation (ICPF) survey, there have been anecdotal links to more frequent instances of crime in provinces such as Aceh, which was hit hard by the tsunami. The most frequent crimes reported from these results were theft and looting (Indonesian Crime Prevention Foundation, 2015). Most of the criminals were noted as young people and nonresidents of the area. People even noted that criminals included uniformed officials. Most of the goods were taken from houses, shops, house yards, cars and even from corpses. Researchers have been found out some results between disasters and crimes by the study named 'Do Natural Disasters Induce More Crime?'. According to their study, "The mean of total crime in Aceh in 2003 was 392.15 (SD = 466.20); in 2005, the mean was 167.61 (SD = 150.24). The average number of crimes declined sharply in the post period. Non-Aceh areas serve as a comparison group in their analysis. The mean for total crime in this area in 2003 was 145.95 (SD of 121.43); and in 2005, the mean was 131.89 (SD of 110.51). Crime data from both Aceh and the comparison areas suggest an overall decrease in crime in Indonesia in the post-disaster period.

There are both anecdotal and scholarly reports of antisocial behaviour occurring in the wake of Katrina. In Houston, the large numbers of citizens displaced by Hurricane Katrina raised questions of whether and how crime rates changed in communities receiving those displaced residents. Even with the influx of additional government personnel to provide for displaced residents, Houston experienced an increase in targets suitable for some offenses, an influx of persons who might have become motivated to offend, and a relative decline in the presence of informal capable guardianship (Decker et al., 2007). Moreover, Katrina resulted in notable changes to the murder rate in New Orleans that lasted far beyond the immediate impact of the storm (Frailing et al., 2015). A frequently cited report by the Department of Justice

did not focus specifically on the effects of Hurricane Katrina but did document crime trends in New Orleans before and after the storm (Wellford et al., 2011). The consequence indicated most forms of crime, including aggregate property crime and violent crime, were not markedly above national rates, but homicide was substantially higher than in most American cities. Noting an apparent divergence between levels and trends of homicide in New Orleans compared with other forms of violent crime, some press reports questioned whether New Orleans Police Department and other authorities suppressed reports of violent crime. LeBeau (2002) found short-term increases in domestic violence, burglary, and "man with a gun" calls in Charlotte, North Carolina, after Hurricane Hugo, though these increases were relatively short in duration.

There is a plentiful evidence of crime during all phases of Hurricane Katrina. Thornton et al. (2012) detail the variety of crimes by phase and note that looting is observed in the impact and emergency phases, rape and sexual assault are observed in all phases, and fraud is observed in the recovery phase. Taking a cue from Quarantelli (1989), who contends that a complex set of circumstances facilitate looting after disasters, Frailing and Harper (2012) identify some of those circumstances in New Orleans. A protracted socioeconomic slide, including population loss, increasing percentage of female-headed households, as well as low-wages, high-unemployment, and high-poverty rates among the majority Black population characterized New Orleans when Katrina struck, setting the stage for the high rates of post storm looting. Using burglary as a proxy for looting in order to make comparisons over time and to better measure the theft of non-survival items, Frailing and Harper (2012) found a nearly 200% increase in burglary the month after Katrina as compared with the month before; this expansion is notably higher than that after the unnamed storm of 1947 and after Hurricane Betsy in 1965, when the city was socioeconomically much stronger. Thornton and Voigt (2007) reported that women residing in shelters in New Orleans after Hurricane Katrina were at increased risk of sexual assault due to limited guardianship. Frailing and colleagues (Frailing et al., 2015; Frailing and Harper, 2010; Frailing and Harper, 2017) note that disruptions to the New Orleans Police Department, such as damaged communications technology, desertions, and officer malfeasance correlated with increased levels of burglary and homicides in post-Katrina New Orleans. Furthermore, disasters may create areas of high crime because recovery may not be distributed evenly, resulting in the higher prevalence of physical

structures able to conceal illegal activities (Curtis and Mills, 2011) or because neighborhood differences in property damage may affect the availability of suitable targets (Zahnow et al., 2017). Research on post-Katrina New Orleans, for example, found that crime was higher in areas such as the Lower Ninth Ward that featured higher concentrations of disadvantaged residents or more blight and abandonment.

Following Hurricane Katrina, scholars noted significant increases in New Orleans' burglary rates (Frailing and Harper, 2007), and in the U.S. Virgin Island of St. Croix, higher levels of property crime were recorded in the aftermath of Hurricane Hugo (Quarantelli, 1989). Following the ice storms and associated long-term blackouts in Monteregie, Canada, there was only a slight inflation in property crime, and all other crimes decreased (Lemieux, 2014). There was also an immediate decrease in all crime including property crime in the consequences of all-natural disasters occurring in Florida between 1991 and 2005 (Zahran et al., 2009; Tucker, 2001). Disaster scholars suggest that this decline in crime may be a result of altruism arising from the experience of shared trauma (Quarantelli, 1986). In contrast, a study of neighborhood crime trends pre and post Hurricane Katrina revealed that with the exception of the week immediately following the storm, neighborhood crime patterns post-Katrina were not significantly different from pre-Katrina trends (Leitner et al., 2011). Self-reported exposure to criminal victimization before and after the 1994 Northridge, California, earthquake also indicated that crime was relatively stable despite the disaster (Siegel et al., 1999).

Crime statistics 2012 to 2013 has showed information on reported cases of crime incidence in flood affected areas of Benue state for 'before' 'during' and 'after' situations. All the selected offences increased during the flood incidence of 2012 except robbery and house breaking. Apart from number of deaths observed during 2012 flood disaster, murder cases increased from 126 in 2011 to 239 in 2012 with percentage increase of 89.7%. During the flood incidence, grievous harm and wounding increase by 70% from 2011 (before situation) to 2012 during the flood incidence. Offence against liquor (50%), store breaking (49.2), rape (33.3%), unlawful possession (26.9%), assaults (24.3%) and false pretense and cheating (21.9%) all increased during the flood disaster (Table 3.1). This can be attributed to chaos created and break down in social order leading to more people involving themselves in crime related activities in the area.

The Canterbury Earthquakes struck the Canterbury region of the South Island of New Zealand between September 2010 and February 2011. The Earthquakes resulted in common structural damage to Christchurch, the main city of the region, and greatly

impacted other aspects of society including crime. In the study named 'The impact of the Canterbury Earthquakes on the temporal and spatial patterning of crime in Christchurch, New Zealand' researches adopt an exploratory approach to investigate the impact that these earthquakes have had on the spatio-temporal patterning of four types of crime in Christchurch: assault, domestic, burglary, violence, and arson. Overall crime has decreased in post-quake Christchurch with the notable exception of domestic violence. They found remarkably similar temporal signatures of crime for all crime types occurring across both the pre and post-earthquake periods. Spatially, crime has increased in the majority of neighbourhoods in Christchurch post-quake despite overall crime levels being down.

Table 3.1: Descriptive statistics for crime rates (per 10,000 population) across the study period

	Count	Minimum	Mean	Maximum	SD
Assault					
Pre-disaster	6303	4.5	54.3	4126.1	383
Post disaster	5508	5	47.5	1121.2	118.6
Domestic Violence					
Pre-disaster	446	0	3.8	87	9.4
Post disaster	649	0	5.6	75.8	10.1
Burglary					
Pre-disaster	11,971	41.18	103.2	1321.74	149.60
Post disaster	9833	23.42	84.8	1143.94	136.37
Arson					
Pre-disaster	1703	0	14.7	250	37.4
Post disaster	674	0	5.8	98.5	13

Source: Breetzke et al., 2016

Disaster-borne crime in India: To explore whether natural disasters affect crime rates, they plot crime rates (murder rate and armed robbery rate) against the occurrences of big disasters in (Figures 3.1 and 3.2). They use an indicator variable, which takes a value of 1 if the number of annual disaster related deaths exceed 5 or more per 100,000 population. This captures the set of major calamities (such as the 1999 Super Cyclone and the 2004 Tsunami). The target is to see whether there is a big spurt or dip in the crime rates in the disaster year or in the year following the disaster. The first two graphs (focussed on Kendrapara and Puri district) trace the movement of crime rates before and after the Super Cyclone of 1999, which hit the Orissa coast on October 29th. This was the deadliest storm that hit India since 1971. The figures suggest that property crime surged higher in the disaster year or in the year following that. The homicide rate surged in Kendrapara but declined in Puri district. The next two graphs in each of the figures, illustrate the impact of the Tsunami of 2004. It hit the state of Tamil Nadu on December 24 and claimed the lives of hundreds of people. Armed robbery rate increases slightly in Kanniyakumari but remained unchanged in Cuddalore. Homicide rates do not seem to have been influenced by the event. Finally, the last two graphs focus on a major landslide event (Nilgiri district of Tamil Nadu) and a severe flood (affecting Lucknow district of Uttar Pradesh). There is clear evidence of an increase in both homicide and armed robbery rates in the Nilgiris district following the landslide. Murder rates rose in Lucknow following the flood but not armed robbery.

Overall, the figures illustrate that periods influenced by disasters experience a change in the movement of crime rates.

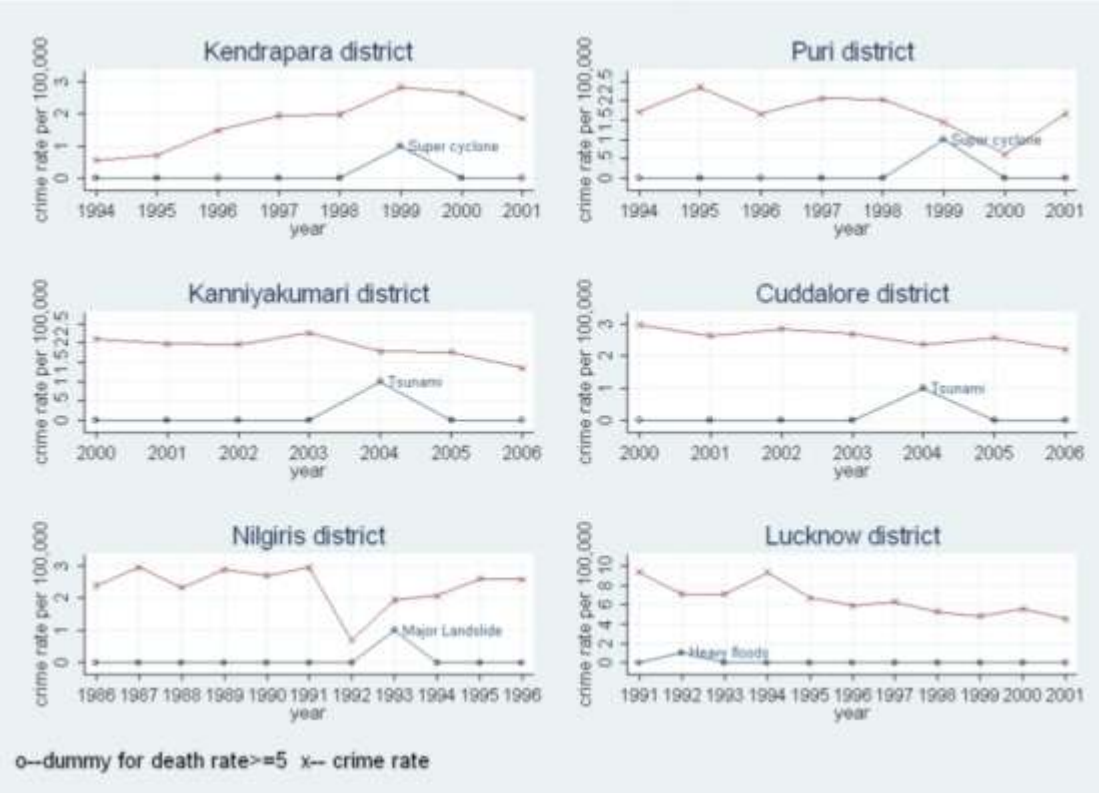

Figure 3.1: Murder rates and natural disasters (death toll per 100,000) Source: Roy, 2010

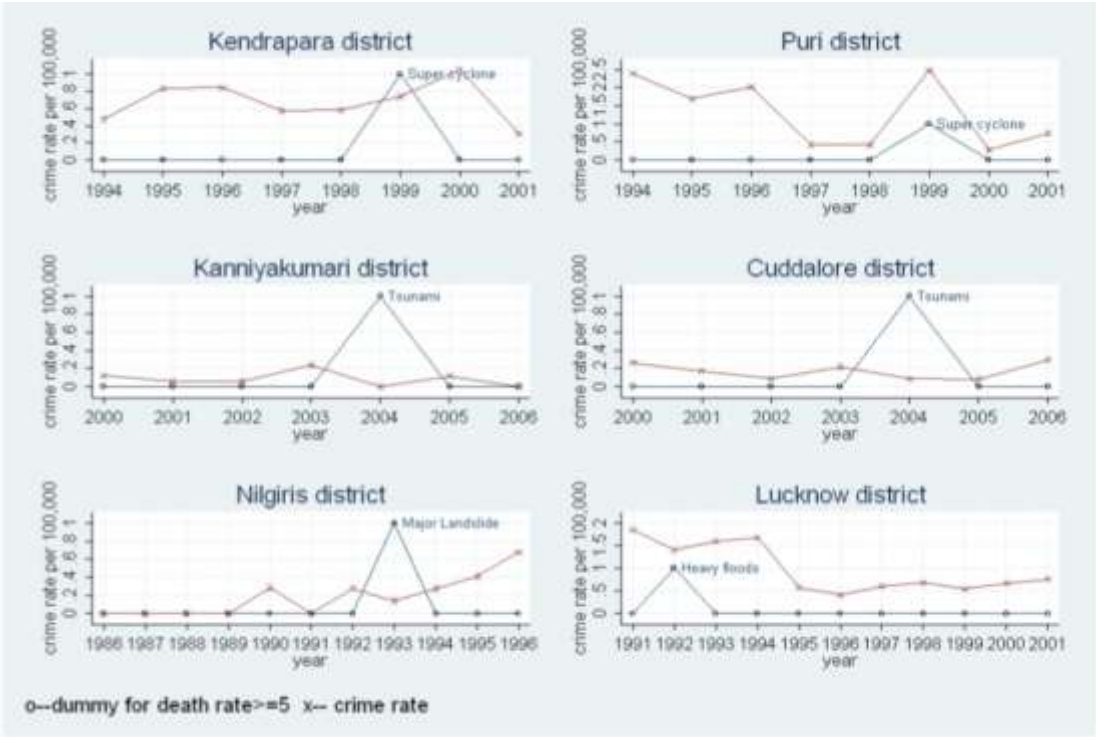

Figure 3.2: Armed robbery rates and natural disasters (death toll per 100,000) Source: Roy, 2010

Disaster-borne crime in Bangladesh: The coastal ecology of Bangladesh is high vulnerable to climate change and to disasters. The qualitative data from the study named "Post Disasters Social Pathology in Bangladesh: A Case Study on AILA Affected Areas" revealed that there had several forms of crimes in the coastal regions of Bangladesh during and post Aila period. Trafficking, theft, stealing brick from the road, child trafficking, begging, robbery (very limited extent) etc. were included in the forms of crime. Gambling and drug addiction were principal crimes detected in which the young generation was more involved because of unavailability of job opportunities. Smuggling was also an important form of crimes found in the study area. For example, the coastal regions particularly Satkhira district have a border line with India. Some people are doing business and smuggling from India. They buy cloths, drug heroine, phensidile, yaba, etc.) from Indian market and sell it in Bangladeshi local market with help of border guards of Bangladesh. The coastal people were facing food problems because of destroying crops after Aila. Thus, they were using their child labor at sweetshop in the local market and their children also worked as street vendors. One FGD was conducted in Satkhira district where the FGD participants identified the following causes of crimes in the coastal Bangladesh: (i) prevalence of saline water due to Aila, (ii) poverty, (iii) lack of proper education, (iv) weak law and order situation, (v) lack of awareness, (vi) less job opportunities(vii) losses of economic productivity and (viii) food crisis. Satkhira District is located in a river-delta plain, it is vulnerable to floods and cyclones. In particular, this district was severely affected by cyclone Aila on 25 May 2009. There was an increase in robberies and violence after the cyclone (Azad and Khan 2015, Saha, 2015). According to the field interview by the author, the stolen items mainly include small assets such as poultry and household utensils. As described in Section 4 with summary statistics, around 40% and 20% of the survey households experienced victimization of property and violent crimes after the cyclone, respectively.

3.4. Research Gap

Though researchers have examined the disaster-crime nexus for a number of decades, consequences have not been conclusive (Varano et al., 2010). Despite a growing interest in the effects of disasters, few studies examine trends in crime before and after a disaster (Frailing and Harper, 2007; Leitner et al., 2011). Limited research identifies the real causal effects of natural disasters on subsequent crime levels. The

majority of research studying the disaster-crime relationship failed to consider the possible influence a disaster might have had outside of the affected zone (Fradkin, 2005). Previous research on disasters and crime suffered from several notable limitations. First, these studies relied on proxy measures of community where research on community and crime emphasized measures of individual interaction such as social cohesion or trust (Hipp 2016; Sampson, 2012). Second, analysis of county-level variation in community characteristics and crime potentially masked finer-grained dynamics highlighted in neighborhood-level research (Prelog 2015; Zahran et al., 2009). Third, previous research either analyzed variation in aggregate crime rates (Prelog 2015; Weil et al., 2019; Zahnow et al., 2017; Zahran et al., 2009) single crime type (Doucet and Lee, 2015). Analyzing aggregate crime rates decisively concealed variation in the relationship of community factors with different forms of crime, while analysis of homicide limited our knowledge to a serious, but less frequent criminal act (Frailing and Harper, 2010; Varano et al., 2010). So far, Bangladesh has faced various disasters. Although researchers have published a number of research papers on disaster related damages, studies on crime-related disasters are very limited. Therefore, it is very important to study the relationship between crime and disaster in the coastal region of Bangladesh.

3.5 Concluding Remarks

This chapter deals with reviewing the literature on crimes and disaster for the study area. Various types of crimes and disaster with their causes have been explained here. Distribution of crimes induced by disaster to the global context has also been explained in this chapter. Disaster is not only a loss of life and property for a country. On the contrary, with the disaster, the level of various crimes is also seen to increase gradually. According to the study, by establishing a link between crime and disaster in the coastal areas of Bangladesh, the level of crime in these areas can be greatly reduced by taking various steps during and before the disaster. Besides, people of these areas can be made aware about disaster related crimes. The next chapter describes the findings that have been implemented to answer the research questions in this study.

Chapter Four: Types, Distribution, Causes and Hotspot of Crimes in Coastal Area of Bangladesh

4.1 Introduction

According to the literature review discussed in the previous chapter, there are various types of crimes. But here in the study area certain type of crimes gain importance than others. Depending in location and in time of the year, crimes have been found to be many. This variation occurs on time and in types. Variation of crimes, causes, pattern, distribution and hot crime spots are explained in this chapter. Based on both primary and secondary sources of crime data have been discussed in this section.

4.2 Types of crimes

Types and rate of crimes are of variance in terms of geographical and temporal space. Crimes are of different types that are recorded at the Police stations including Police headquarters as follows. The main types of criminal activities are: Dacoity, Banditry, Murder, Law violence, Riot, Molestation, Child Kidnapping, Plunder, Police Attack, Burglary and Theft etc. Besides, Cyber-crimes, property crimes, human trafficking, corruption of reliefs, narcotics, smuggling etc. are also found in the study area.

The occurrence of above types of crimes depends on geographical location, weather/climatic conditions, territorial boundary and technological advancements etc. Primary data obtaining from the field survey revealed that theft, robbery, hijacking, murder, political violence, drug addiction, rape, smuggling, fighting and corruption of relief goods etc. are common scene in the study area shown in figure 4.1. According to Shafi (2010), Snatching, burglary, theft, rioting, hijacking, dacoity, kidnapping, forgery, cheating, murder, rape, manufacture and sale of illegal arms and ammunition, food and drug adulteration, smuggling, gambling, pick-pocketing, crime against women, including acid throwing, teasing of girls, bank and postal frauds, misappropriation and trafficking in drugs etc. are listed as crimes in Dhaka city.

Theft is generally common criminal activity in almost every coastal thana/Upazilla in Bangladesh due to poverty, unemployment, and joblessness. This is happened in the whole year round but occurred in large extent during rainy and winter season with

adverse situation. Robbery occurs largely in Koyra, Hatiya, Charfasson, Sarankhola, Shyamnagar, Moheskhali and Sonagazi because of available and cheap able of firearms, critical accessibility due to presence of some char areas, lack of proper education, political conflicts, unemployment and weak law-enforcement situation etc. Similarly, rate of murder is high in Dacope, Koyra, Mirersharai, Sandwip, and Moheskhali.

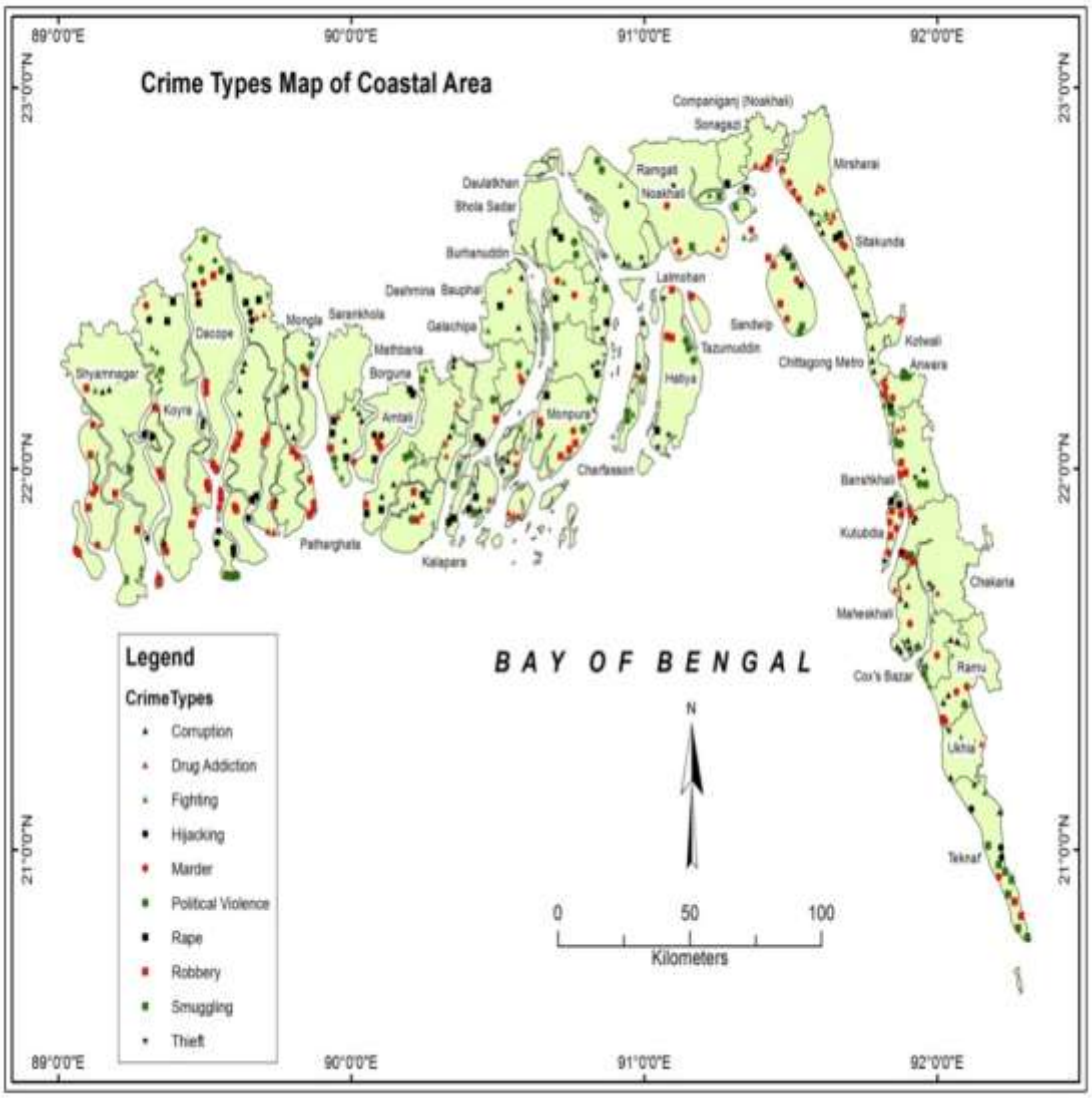

Figure 4.1: Types of Crimes in the Study Area (Source: Field Survey, 2012-2013)

Activity of rape is occurred highly in Galachipa, Barguna Sadar, Monpura, Patharghata and Sonagazi due to drug addiction, lack of proper education, decay of social values, one-side love, low rate of female literacy and prevalence of religious fundamentalism etc. Smuggling is occurred mostly in Mongla, Teknaf, Sandwip, Companiganj due to presence of nearest country border, sea-route, collaboration of

some political leader with connection of some local law-enforce mental employees. Again, these thanas/Upazillas are also well known for human trafficking because of the presence of sea-route for entering into South East Asian countries, highly encouragement with false expectation of high paid salary in abroad, unemployment problem, poverty and attachment of some naughty local political leaders etc. Corruption of relief goods is also happened specially in disaster period in Amtali, Cox's bazar Sadar, Moheskhali, Mongla and Sarankhola in large extent due to weakness of local government representatives with connection of some political leaders. But this is happened almost in every coastal thana/Upazilla in less or more ratio scale. Political violence is common phenomenon in everywhere in the study area but occurred largely in Banskhali, Charfasson, Galachipa, Monpura, Dacope, Hatiya due to conflicts among political leaders, lack of patriotism, tenders, expansion of favouritism and prevalence etc. However, fighting, kidnapping, frauds, drug addiction and molestation etc. are also seen in the coastal areas of Bangladesh in different level with magnitude.

4.3 Distribution of Types of crimes

Crime data for coastal districts are available in the Police Headquarters, Dhaka. So, types of crimes are explained in term of coastal districts as follows:

Dacoity

Dacoit is one of the major types of crimes that are reported in the police head quarter from the district level of police offices. This type of criminal activity is seen in both rural and urban areas from the very beginning of the civilization. Dacoity occupies 2.96% of the total crimes that are reported from 2007 to 2011 in the coastal zones of Bangladesh. From the Table (4.2), it is clear that the month of May is the highest peak of dacoity and April takes the lowest rank of dacoity. There is no specific trend of occurrence of dacoity in the whole year round. It takes the highest rank in Chattogram in 2007 due to mountainous location associated with Bay of Bengal, political conflicts among intra and inter-political parties, available of firearms etc.

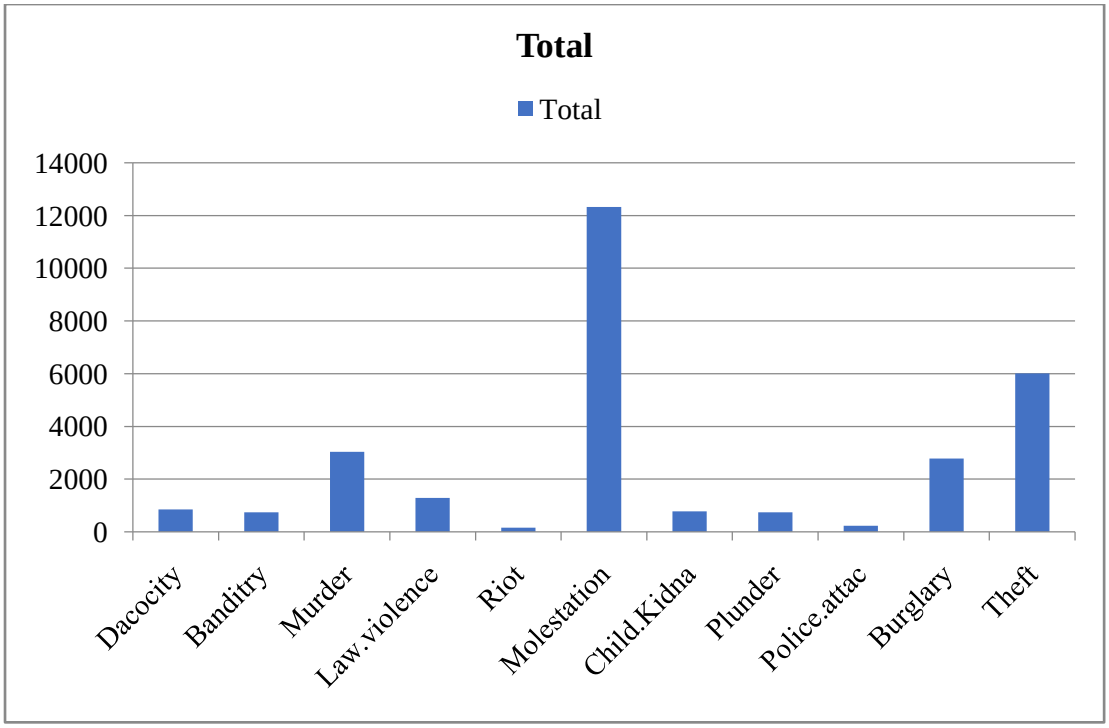

Figure 4.2: Distribution of Crime Types in the Study Area (Source: Police Headquarters Dhaka, 2012)

Banditry

Banditry is a common type of crime that is speculated in the coastal zones as well as in the whole country. The highest and the lowest figure of banditry take in September and November respectively. There is no extreme range of occurrence of banditry from January to December during the reported period (2007 to 2011) in the coastal regions. It occupies 2.57% of the total occurrence of crimes in the coastal zones. The highest figure of occurrence of Banditry takes place in Cox's bazar in 2008 and the lowest occurrence of Banditry takes place in Noakhali and Patuakhali in 2011 and 2010 respectively.

Murder

Murder is a major type of crime that occurs in the coastal zones as well as in the whole country. It takes 10.47% of total crimes in the coastal zones from 2007 to 2011.It takes the highest and lowest rank in August and December. There is no vast variation from January to December. It is clear from the Table (4.2) that it increases from January to May and gradually decreases from August to December. The highest figure of occurrence of murder take place in Chattogram in 2010 due to available of

local firearms, political conflicts, tendering and expansion of prevalence and the lowest in Lakshmipur in 2010 respectively because of less unemployment, comparatively high rate of education and less political conflicts etc.

Law-Violence

Law-violence is the fifth major type of crime in the coastal zones. It occupies 4.44% of total occurrence of crimes in the exclusive coastal zones of Bangladesh. It takes the highest place in June and lowest place in February. There is a trend of increasing the occurrence of Law-violence from January to June and decreasing from July to December in the coastal regions. It takes the top rank in Barguna district in 2011 whereas it takes the lowest rank in Bhola district specially in 2008 and 2010.

Riot

Riot is a type of crime. It is seen in every district but in terms of a little figure of occurrence. It occupies very negligible percentage of total occurrence of crimes in the coastal regions. It takes the highest and lowest rank in January and December respectively. It takes the top rank in Chattogram in 2009 and lowest in Bhola. There is no specific trend of occurring of riot indicating the undulating curve of occurrence of riot.

Molestation

Molestation is the most occurring crime in the coastal zones in Bangladesh. It occupies 42.57% of total occurrence of crimes reported from 2007 to2011 in the coastal zones. It takes the highest and the lowest rank in October and January. It takes the highest place among the various types of crimes in every district and every year in the exclusive coastal zones in Bangladesh. There is a speculator trend of occurrence of Molestation that increases in number from February to October except August and then decreases from November to January. It takes the top rank in Noakhali in 2011 due to presence of religious fundamentalism, less female literacy rate, property conflicts, political harassment and polygamy with early marriage, drug addiction etc. and lowest in Patuakhali in 2008 because of presence of Caretaker Government with strong law and enforcement, low political harassment and less availability of drug with gambling etc.

Case 1

Ferdousi Akter about 40 years is involving as a Sub-Inspector in victim support centre at Tejgaon Thana complex, Dhaka. She stated that molestation takes highly in the age group from 18 to 40 years. According to her statement, dowry, conflict between husband-wife, mental disorder, torture, environmental aspect like slum, political harassment, property conflicts, drug addiction, gambling, love affair etc. are connected with the occurrence of molestation. She also said that the both illiterate and literate female are victims. She again said that lower, middle and high social status holder are not safe from molestation and rate of molestation is somewhat alarming in lower and higher-class society but form of molestation may vary in terms of social status. She uttered that it is being happened in every corner of Bangladesh. This is very high in coastal area as a whole, even higher in remote areas. So, she concluded that only and only public awareness can make the modern society free from molestation.

Violence against women (VAW) is a worldwide phenomenon in both developed and developing countries. Many women suffer from controlling behaviours, physical, economic, emotional and sexual violence, causing physical and mental harm (BBS, 2016). According to the report on violence against women (VAW) survey 2015, rate of women violence is 72.6% and the types of women violence are as follows:

Physical violence	- 49.6%
Sexual violence	- 27.3%
Emotional violence	- 28.7%
Economic violence	- 11.4%
Controlling behaviour	- 55.4%
Physical or Sexual violence	- 54.2%

Among the physical violence (49.6%), women violence in rural is more than fifty percent (51.8%) whereas women violence in urban is less than fifty percent (42.2%) and in city corporation is more than one quarter (29.4%). More than three quarter (76.4%) of ever-married women by age group from 15 to 29 years experienced physical violence by partner (Report on VAW, 2015). 27.7% illiterate and 29.6% primary educated women become victim lifetime for physical violence respectively. 31.9% poor women become victim highly due to physical violence.

Child- Kidnapping

Child- Kidnapping is a major crime type that occurs vigorously both in rural and urban areas as well as coastal zones in Bangladesh. The highest and lowest occurrence of child-kidnapping take place in May and January respectively. The rate and frequency of occurrence of Child-kidnapping takes highest rank in Patuakhali and Cox's bazar and lowest in Bagerhat district. There is a trend of increasing of occurring of it from January to May. It fluctuates in every month. Border districts like Cox's bazar, Satkhira etc. are the main routes for human trafficking including child-kidnapping. Besides, sea route is also other important ways for human trafficking including child kidnapping. Demanding money, poverty, lack of proper education, conflicts with neighbors, lack of work, zealousness etc. are associated with child–kidnapping.

Plunder

Plunder is a crime type that is seen in the coastal zones of Bangladesh. The highest and lowest occurrence of plunder take place in April and January respectively. There is a trend of occurrence of plunder that increases and decreases in every alternate month. It takes the highest rank in Khulna in the year of 2009 due to political conflicts, spread of dominance, conflict of power, social collision and crisis in critical situation or disaster etc. and lowest rank in Noakhaliin 2007 (Source: Police Headquarters, Dhaka, 2012).

Police-Attack

Police attack is a minor crime in coastal zones in Bangladesh. Sometimes, due to unavoidable situation like strike, political conflicts or intra political conflicts, police-attack is speculated in the coastal areas as well as in the whole country. It takes the highest and lowest in July and August respectively. It takes the highest and the lowest rank in Cox's bazar and Khulna respectively. There is a trend of increasing and decreasing of occurrence of Police-attack that happens in every alternate months of the year.

Burglary

Burglary is the fourth major crime type in the coastal zones of Bangladesh. It occupies 9.60% of total occurrence of crimes that are reported from 2007 to 2011. It

takes the highest and the lowest rank in July and January respectively. There is no specific trend of fluctuating of occurrence of burglary in the coastal districts. It takes the highest occurrence in Satkhira in 2011 and the lowest in Bhola in 2011. Rainy season is the suitable time for the occurrence of burglary.

Theft

Theft is the second major type of crime in the coastal areas comprising 20.77% of total crimes reported from 2007 to 2011. The highest and lowest occurrence of Theft take place in August and December. It increases from May to August and from January to March. It decreases from the month of September to December. The trend of occurrence of theft somewhat fluctuates in every month. It takes the top and lowest rank in Chattogram in 2007 and Bhola in 2011 respectively. Moreover, it takes the second highest occurrence of crimes in every district in the coastal zones that has been explained in the section of crime distribution in district wise. It is linked with unemployment, poverty, joblessness during disaster period, landlessness, illiteracy etc.

Human Trafficking

Women and children from the poverty stricken countries are sold to the rich countries as sex workers and slaves." The rise in trafficking has been phenomenal with movements of women from Asia to Europe, America and Africa, from Latin America to Europe and United States restated by Steele (2013). Trafficking of women and children has become an alarming phenomenon in Bangladesh. Pakistan is reported to have received over 200000 Bangladeshi women for prostitution and slave trade. Every day over 50 women and children are reported to be taken out of the country. The geographical situation and the economic background thus play an important role in trafficking. For women and children trafficking out of Bangladesh, India is both a transit and destination country (Steele, 2013). The most advantageous route used by traffickers is the land route followed by air and waterways. The traffickers are also using a new route for trafficking. Of late Galachipa situated in the southern coastal region in the district of Patuakhali has become a safe route district point in the Bay of Bengal for international trafficking (Steele, 2013).

There are numerous causes that make the way of traffickers to conduct their business. some causes of trafficking include:

- Poverty
- Perceived higher standards of life elsewhere
- Lack of employment opportunities
- Organized crime and presence of organized criminal gangs
- Regional imbalances
- Economic disparities
- Social discrimination
- Corruption in government
- Political instability
- Armed conflict
- Insufficient penalties against traffickers.

Bangladesh is a transit and source country for men, women and children for the purposes of sexual exploitation, involuntary domestic servitude, child camel jockeying and debt bondage. Bangladesh is identified as a source country from where about 10000 to 20000 women and girls are trafficked yearly to India, Pakistan, Bahrain, Kuwait and the UAE for the purposes of sexual exploitation, involuntary domestic servitude and debt bondage (Kader and Hussain,2010). A combination of maps of river erosion, population density and landlessness along with the origin of the victims identify the poverty-stricken areas vulnerable to trafficking. Besides, rate and types of juvenile have been increased due to decreased of tolerance, maintenance of group's predominance, imbalance between demand and achievement, video games, lack of playground, decay of family values, impact of satellite culture, murderous scene shown in media, gaps in information technology etc. published in the daily "Ittefaq" on February 10, 2017.

4.4 Causes of Crimes

By the twenty-first century criminologists looked to a wide range of factors to explain why a person would commit crimes. There are certain factors in our societies, cultures (family values), system (educational, political, law-enforcement...), economy, and so on that endorse the potential of criminal activities of an individual. Particularly, a combination of these factors is behind a person who commits a crime. Reasons for

committing a crime include greed, anger, jealously, revenge, or pride. Some people decide to commit a crime and carefully plan everything in advance to increase gain and decrease risk. These people are making choices about their behaviour; some even consider a life of crime better than a regular job believing crime brings in greater rewards, admiration, and excitement at least until they are caught. Others commit crimes on impulse, out of rage or fear. There are various causes behind the occurrence of crimes. Geographical location with social disorder and economic conditions are the major factors that are responsible for committing crimes. The causes, rate and types of crimes vary from space to space and time to time. The real causes which are identified by the respondents in the study are explained as follows:

Poverty

Poverty is an economic cause that creates an option to commit a crime. Poverty is one of the major causes of occurrence of crimes. It is unanimously admitted in all ages that the needy people are engaged in criminal activities as alternative way to survive in life. Greek philosopher Aristotle thought that it is poverty which is responsible for revolution and other crimes (cited in Khan and Kader, 2010). In 1894 Italian researcher Eltore Fornasari Diverse cited in his research that 60% people of Italy was poor in that period and 85% to 90% of crimes was committed by the poor people (Khan and Kader, 2010). Similarly, Dutch Criminologist Bonger pointed out that about 79% criminals came from poor class and they are generally involved in criminal activities like theft, dacoity etc. (Khan and Kader, 2010). 2.86% of respondents admitted that poverty causes crimes. Poor people commit crimes like theft, dacoity, carrier of smuggling goods etc. for the study area.

Smuggling

Smuggling is a criminal activity that is seen in the study area. Bordering district like Cox's bazar and Satkhira are the home for smuggling. In some cases, smuggling begets other crimes like murder, kidnapping, human trafficking etc. 0.8% of respondents in the field study passed their opinion that smuggling is a real cause of occurring crimes in the study. Sometimes predominance of smuggling route causes practices the other types of criminal activities. Some muscle power collaborated with some local administrator as well as some greedy law-enforcers do smuggle in this zone. Corrupted government machinery, weak institution, softer countries all these are

conditions for trans-border crime breeding ground. The most remarkable trans-border crimes are drug trafficking, arms smuggling, human trafficking, insurgency etc. Bangladesh has an approximate 331 kilometer unguarded border with the Myanmar and India in her South East. The borders are very porous and resource crunch does not allow Bangladesh to patrol the borders rigorously (Rahman, 2017).

Unemployment

Unemployment is a major cause of occurring crimes. Unemployment makes a person frustrated and some unemployed person become committed to crime. Tarde said that it is work which is enemy to crime (Khan and Kader, 2010). Bonger also mentioned that unemployment life insists to drink wine (Khan and Kader, 2010). In Bengali proverb, the idle brain is the home of demons/devils. 13% of respondents admit that unemployment is one of the root causes of occurrence of crimes in the coastal zones. Workless people sometimes intend to be addicted and commit crimes.

Lack of proper education

Education is a birth right of a child. Education enhances the person's consciousness. Writer Promoth Chowdhury said that good educated persons are only self-educated. Education enlightens human's thought and mentality. Due to proper education, social disorders gradually increase in the study area. 12.75% of respondents in the field study illustrated that rate and types of occurrence of crimes increase because of lack of proper education. But the present government plays a vital role in expansion of education and in some cases, the government with local institutions is successful. Rate of education has increased but quality of education has not increased as expected. A few numbers of students of different educational institutes involved in terrorism that was revealed in the attack by the terrorists in Holy Artisan Hotel in Gulshan, Dhaka in July, 2016 and in Solakia Mosque in Kishorganj in July, 2016 etc.

Political Conflicts

Political conflicts are very extreme cause that leads to commit a crime. Political conflicts among the political parties as well as intra political leaders are more or less common cause of expanding crimes in both coastal zones and whole country. From the field survey, 3.6% respondents illustrate that political conflict is a major cause for committing crimes in the study areas.

Spread of Predominance

Expansion of dominance is one of the major causes of committing crimes. Local leader and community's dominance sometime lead a conflict that creates a crime. 1.78% respondents uttered that predominance is responsible for the occurrence of crimes in some extent in the study areas. It sometimes keeps in force or creates a suitable environment for the occurrence of crimes in the coastal belt in Bangladesh.

Tendering

Style and level of degree of tendering have changed with changing of technological expansion. Gradually it increases in our society. Social weak bondage and weak law-enforcement institution are main cause of it. 2.44% respondents admitted it and uttered that it is a violent factor for committing crimes in the study zones. Besides, political predominance also plays a vital role in tender violence.

Satellite culture

The whole world is a global village due to merit of satellite invention. As a result, the Earth is in hand of human being and we can easily know the different events outside the country with short span of time. The satellite culture affects our social values and living style. About two third (66%) respondents feel that crimes are occurred due to influence of satellite culture. Everything has good and bad effect. Positive and negative impacts of anything depend on absorption capacity and human's perception.

Decay of Morality

Decay of social morality is a recent social disease in our society. Social decadence is a worldwide problem. Gradually social values /norms lessen in the modern economic and technological competent world. Civilized persons are victims of it. 2.58% of respondents illustrated that social decadence is responsible in some extent for the occurrence of crimes in the coastal zones of Bangladesh. Gillin said that Crimes and social recognition/consented conducts are both the result of human's interaction in the society (Khan and Kader, 2010).

Misuse of Drug

Narcoticsis a society wrecking matter. The whole country is somewhat concerned with drug. Its impact is violently harmful to the society as well as the country. The

young generation and students of different levels are the main customer of the drug that spoils the future nation of the country. Drug addicted persons are more prone to committing crimes. Our daily newspaper and electronic media regularly cover this type of message to us. Recently such type of example was covered in the both media in the 17th June, 2015 in which the addicted son of an MP who shot two people in the street was in custody under trial. Similarly, a couple of parents was killed by the addicted daughter named Oishee with collaboration of friend in Dhaka city (Chamelibagh/Shantinagar). 2.81% of respondents' opinion was that the misuse of drug committed to crimes in many ways in the coastal zones. Sea-route like Teknaf and Cox's bazar route is very popular for incoming drug in Bangladesh. In addition, some local leaders and some law enforcing agencies are also responsible for this type of cause of crime.

The 'Golden Triangle' and 'Golden Crescent' are very much within the South Asian Sphere. The geographical location, the incapacity of administration, endemic corruption complied with poverty make Bangladesh a breeding ground for drug proliferation (Rahman, 2017). Even drug production has been noticed in some parts of Bangladesh in last decade due to considerable domestic market demand. Particularly the abuse of drugs in Bangladesh are closely associated with social crimes such as theft, robbery, extortion, terrorism, etc. due to collect money for buying drugs. Under privileged women and children are commonly employed for carrying and peddling drugs.

Rising of price of necessary commodities

Sometime rising price of necessary commodities makes the poor people in complex situation to meet their real demand of necessary goods. In this situation, some people are to commit crime for earning more from illegal source. 6.05% of respondents in the field study passed their opinion that rising of necessary goods' price affects the occurrence of crimes.

Weak Administration

Weak administration is a cause of spreading of occurrence of crimes. Area of the weak administrative zone is the safety place for the criminals to commit crimes. 2.06% of respondents of the study area passed their opinion that weak administration is the home for criminal to do crimes. Some cases, assets are distributed between them

and some cases, administration intends to ignore them and keeps silent itself. More than fifty people/fishermen and ten fishing boats were kidnapped by the robbers from the shelters of fishermen and sea within three days after the withdrawing the RAB camp in the Dublar char (The Ittefaq, August 6, 2013).

Injustice

In speaking, where justice is delayed, justice is denied. Injustice sometimes offers the opportunity to commit crimes. When the victims do not receive their proper/right justice, they intend to take revenge and commit crimes. 4.97% of respondents in the field study passed their opinion that injustice is one of the major causes for the occurrence of crimes in the coastal zones of Bangladesh.

Lack of proper safety

Safety in the society indicates the lower level of occurrence of crimes. The society or region where lack of safety prevails is the home for the criminals. Lack of safety or improper safety leads the options to create the occurrence of crimes. 7.13% of respondents of the field study area pointed out that lack of safety is also responsible for the occurrence of crimes in the coastal regions in the country.

Illiteracy

Illiteracy is a curse of a country or a nation. It is similar to darkness. People who are deprived of the light of education are also generally burden to the nation/society/country. By ignoring good or bad, they do crimes without hesitation. 5.67% of respondents in the field study agreed that illiteracy is responsible for the occurrence of crimes in the coastal zones of the country.

Others

The rest percentage of the respondents in the study area indicated that the other factors like nepotism, religious superstition, community conflicts, scarcity of food, lack of consciousness and high population growth etc. are responsible for the occurrence of crimes in the coastal zones of the country.

4.5 Distribution of crimes

Distribution of crimes is discussed based on months, year and location. Crime data of coastal districts were collected from the Police Head Quarters, Dhaka. These data were recorded instantly in every thana/Upazilla to respective district and then forwarded to the police headquarters. The general diary or cases were filed in the concern thana/police station and the compiled data of crimes are recorded to the respective district and monthly reported to the police headquarters. Distribution of crimes is discussed in terms of year, month and districts as follows.

4.5.1 Yearly distribution of crimes

The data of crimes from 2007 to 2011 were collected from the secondary sources significantly Police Head Quarters, Dhaka. The amount and rate of crimes gradually increases from 2007 to 2011 except in 2008. The total occurrence of crimes reported in the coastal districts (Exclusive zone) is shown in the Table 4.1.

Table 4.1 Total occurrence of crimes in the coastal districts

Year	Total cases
2007	22956
2008	15097
2009	23839
2010	25176
2011	26769

Source: Police Head Quarters, Dhaka, 2012

In 2007, the occurrence of crimes in the exclusive coastal districts is 26956 which is 14.6% of the crimes of Bangladesh. Similarly, 9.55%, 15.17%, 15.45% and 15.77% are occurred in the exclusive coastal districts respectively in 2008, 2009, 2010 and 2011. Climate change, frequent disasters, poverty, unemployment and weak law and order situations etc. are responsible in many ways. From 2007 to 2011, the highest occurrence of reported crimes was in 2011 and the lowest occurrence of reported crimes was in 2008 shown in Figure 4.3. But to the context of overall situation in occurrence of crimes in Bangladesh, the occurred position of reported crimes in the coastal zones remains near about same in the rest of the years. The number of crimes gradually increases from 2007 to 2011 except in 2008 because of increasing population, unemployment, poverty, available of illegal arms, political conflicts,

misuse of drug, smuggling, weak law and order situation in some cases, lack of proper education, disparity in resource, frequent disasters and disaster-affected people etc. On the other hand, the year 2008 was in the period of Caretaker government ands mostly free from major disaster like cyclone, storm surge, earthquake etc. in the study area and consequence of it, the rate and number of occurrence of crimes somewhat reduced in the study area.

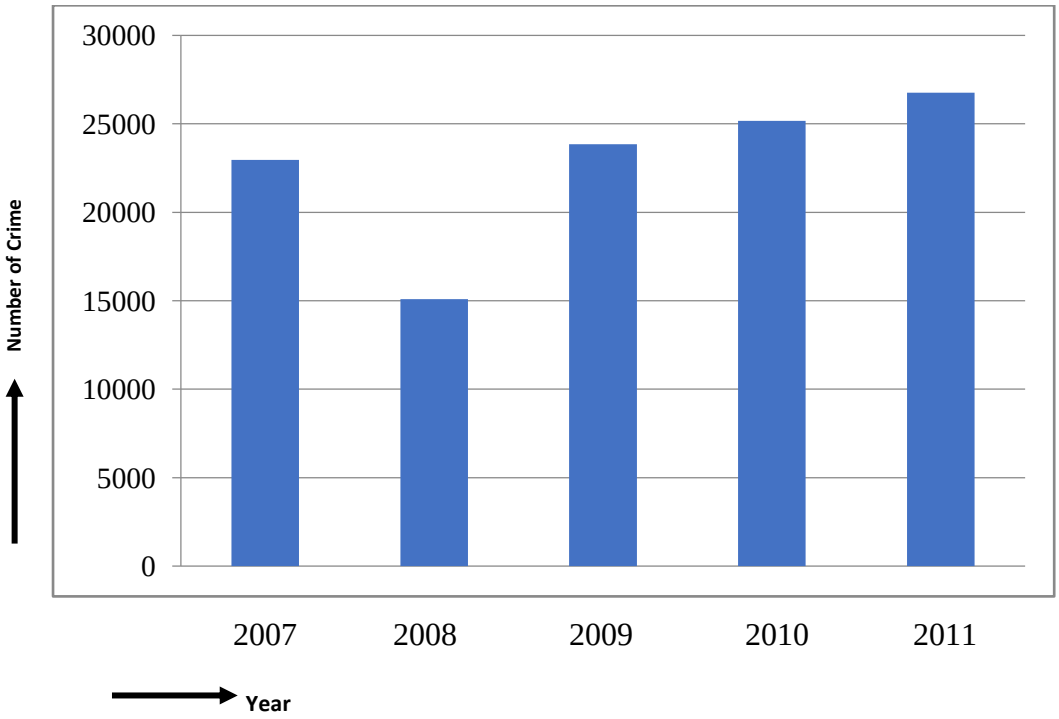

Figure 4.3: Total Occurrence of crimes from 2007 to 2011 (Source: Police Headquarters Dhaka, 2012).

4.5.2 Monthly Distribution of Crimes

Reported crimes from 2007 to 2011 of the exclusive coastal districts are described in the month basis. Variation of crimes with types in terms month is explained here. Both the Table 4.2 and Figure 4.4 shows a clear picture of variation of number and types of crimes of the exclusive coastal districts of Bangladesh. It also shows a trend of crime frequency with a variation of types of crimes.

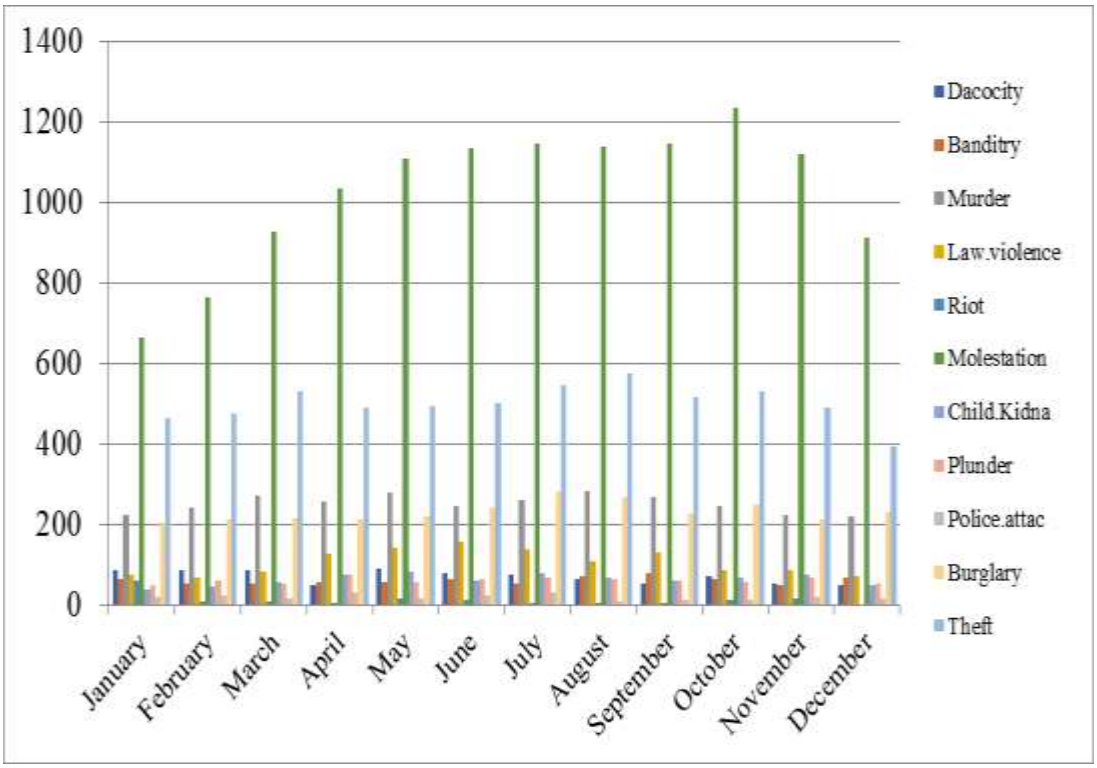

Figure 4.4 Monthly Crime Distribution of the Coastal Zones (Police Headquarters, Dhaka,2012)

Table 4.2 Monthly distribution of crimes with types in the coastal region of Bangladesh

Month	Dacoity	Banditry	Murder	Law. Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft
January	88	64	226	75	62	665	40	52	19	205	463
February	86	54	243	69	11	763	48	62	23	213	477
March	87	54	272	84	8	928	58	55	17	218	533
April	49	58	258	128	4	1036	77	77	30	212	491
May	90	59	279	142	16	1109	83	59	16	220	496
June	80	64	248	158	12	1133	63	66	25	242	501
July	76	54	263	140	6	1144	81	67	31	282	547
August	66	73	282	110	7	1137	67	65	11	269	576
September	55	79	269	130	6	1147	63	63	14	228	518
October	72	65	245	89	13	1235	70	57	12	250	530
November	55	51	224	89	17	1119	76	68	21	212	489
December	52	68	222	73	1	913	50	54	17	230	393
Total	856	743	3031	1287	163	12329	776	745	236	2781	6014

Source: Police Headquarters, Dhaka, 2012

January

In the month of January, the total reported crimes from 2007 to 2011 in the exclusive coastal districts of Bangladesh were 1956 which was the lowest record comprising 6.75% of total occurrence of the twelve months. In this month, highest occurrence of crimes was Molestation which was regarded as 34% of the all types of crimes and Police attack was recorded as lowest figure as 0.97% of the total crimes shown in Figure 4.5. But along the year calendar, riot takes the highest place in January. Theft, murder, burglary and dacoit were prevailing crimes that happened in January due to cold weather with long night duration which creates a suitable situation for occurrence of crime. To the context of coastal regions, January is about disaster free month that induces the lowest number of crimes.

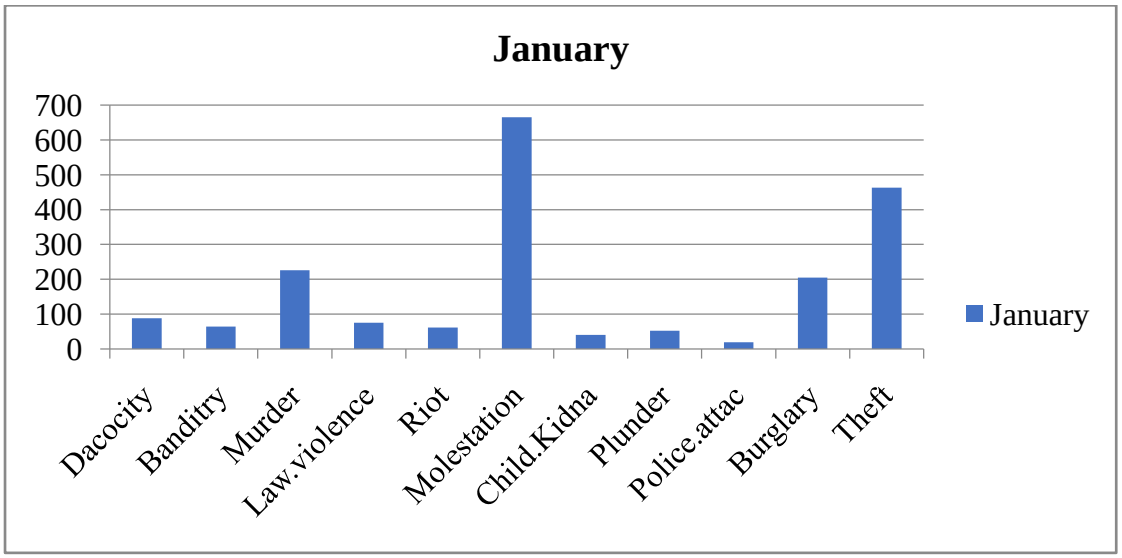

Figure 4.5: Average Crime Figure in the coastal districts of Bangladesh in January.

February

In the month of February, the total reported crimes from 2007 to 2011 in the coastal exclusive districts are 2049 which was 7.08% of the total crimes in the twelve months of the year. In this month, highest occurrence of crimes was Molestation which was 37.23% of the total reported crimes and lowest rank took place as riot shown in Figure 4.6. But theft and murder took place second and third position respectively in the month of February. Burglary, dacoity, plunder, banditry, police attack and law violence etc. were noticeable in this month.

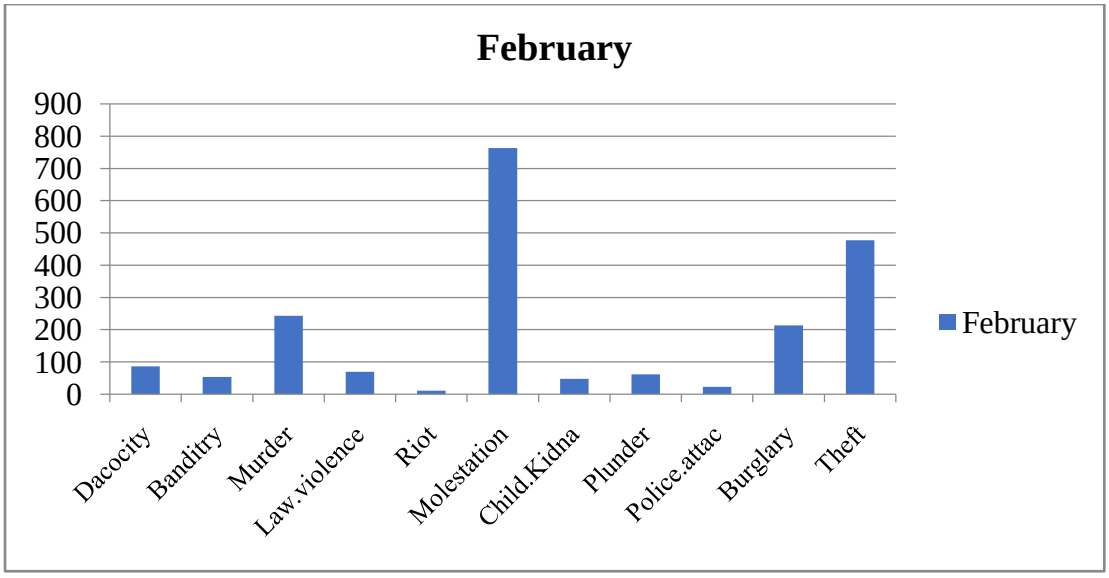

Figure 4.6: Average Crime Figure in the coastal districts of Bangladesh in February.

March

In the month of March, the total crimes from 2007 to 2011 in the exclusive coastal districts were 2314 which was 7.99% compared to the total crimes occurring in the twelve months. The rate of crimes gradually increased from the previous months. Molestation was the highest record in the month of March which occupied 40.1% of the total crimes occurred in this month. Theft and murder took place the second and third position respectively in March shown in Figure 4.7. But burglary also took place as noticeable degree and the lowest occurrence of crimes was riot which was very negligible recorded as o.oo3% of the total crimes that occurred in the month of March.

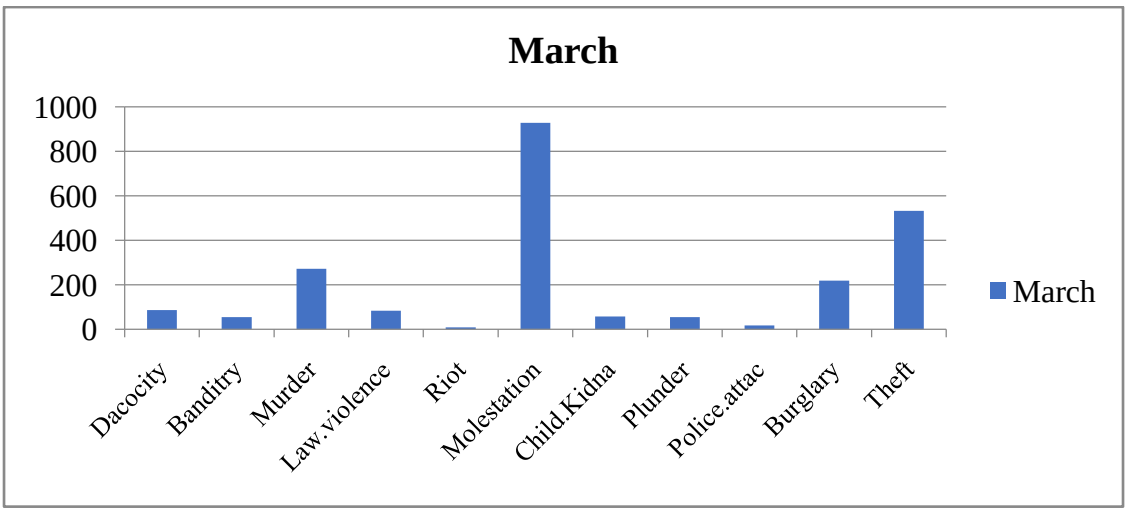

Figure 4.7: Average Crime Figure in the coastal districts of Bangladesh in March.

April

In the month of April, the total occurrence of crimes was 2393 regarded as 8.28% of the total crimes in the twelve months from 2007 to 2011 in the exclusive coastal districts of Bangladesh. In the month of April, the highest occurring type of crimes was Molestation reported as 43.29% and lowest type of crimes was riot regarded as o.oo17% which was very negligible. The highest second and third level of occurrence of crime types were theft and murder reported as 20.5% and 10.78% of the total crimes occurred in the month of April respectively shown in Figure 4.8. But burglary also took a noticeable place considered 8.86% of total crimes that occurred in the month of April. The types of Law violence, Child Kidnapping, Plunder and Police - attack gradually rose in this month compared to the previous months.

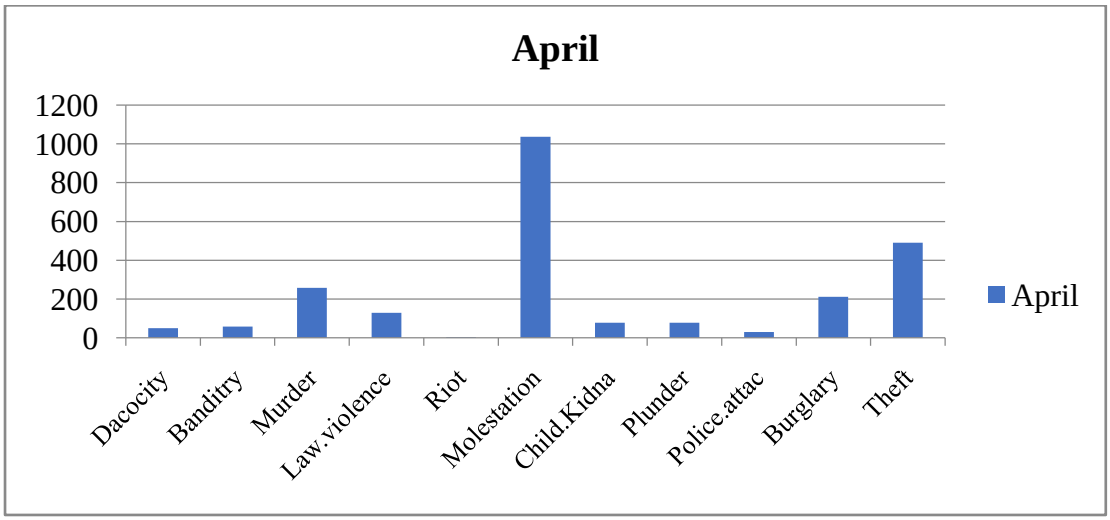

Figure 4.8: Average Crime Figure in the coastal districts of Bangladesh in April.

May

In the month of May, the total occurrence of crimes was 2569 comprising 8.87% of the total crimes in the twelve months from 2007 to 2011 in the twelve coastal districts. In the month of May, the highest recorded type of crimes was Molestation considered 43.17% of the total crimes. The lowest type of crime was both riot and police-attack as 0.62% of total crimes in the month of May. Theft and Murder took place in the second and third position considered 19.31% and 10.86% respectively of the total crimes in the month of May shown in Figure 4.9. Burglary, law- violence, dacoity, child- kidnapping, plunder and banditry type of crimes gradually increased in May. American Scholar Dexter found that crimes of violence were most numerous during the warm months of the year, during periods of low barometric pressure and during periods of low humidity (Ahuja,2014). Dacoity and child- kidnapping occurred in

May were recorded as the highest rank among the twelve months of year calendar from 2007 to 2011 due to high temperature and low barometric pressure.

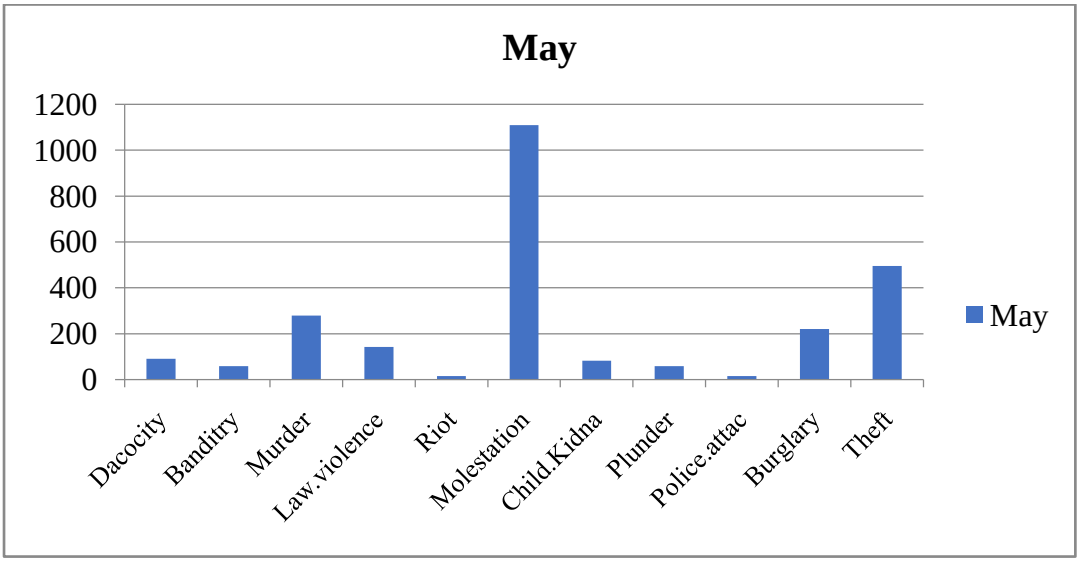

Figure 4.9: Average Crime Figure in the coastal districts of Bangladesh in May.

June

In the month of June, the total occurrence of crimes was 2592 considered 8.95% of the total crimes in the twelve months from 2007 to 2011 in the exclusive coastal districts. In the month of June, Molestation occupied the highest place as 43.71% among the different types of crimes and Riot took the lowest place as 0.46% of the total reported crimes. Theft and murder took the second and third place with 19.32% and 10.96% of total crimes respectively in June shown in Figure 4.10. Burglary, police –attack, plunder, and dacoity were also noticeable in terms frequency of occurrence of crimes in June. But the type of crimes like law-violence occupied the top rank among the twelve months and number of total crimes also frequently increased in June compared to the previous months because of high warmth, time for political movements for various political parties, ending month of fiscal year and appearance of southwest monsoon with high humidity etc.

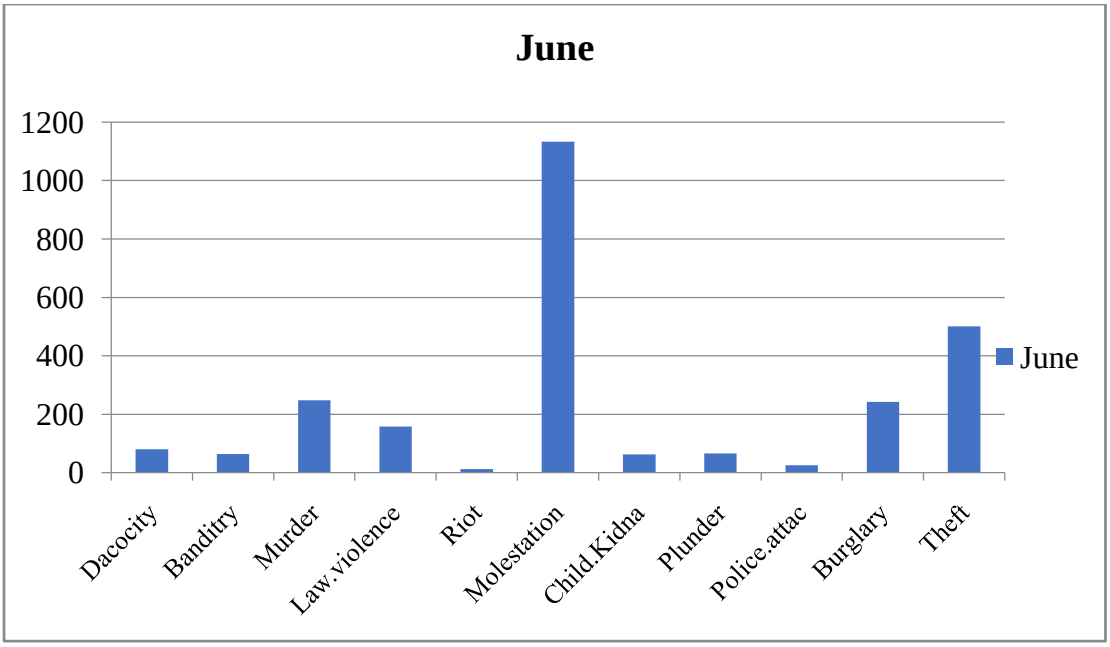

Figure 4.10: Average Crime Figure in the coastal districts of Bangladesh in June.

July

The occurrence of total crimes in July was 2691 considered as 9.29% of the total reported crimes in the twelve months. Molestation took the highest rank both in July and in the year round. Theft and Burglary were recorded as the second and third position regarded as 20.32% and 10.48% of total crimes in July. But the month of July was regarded the highest rank among the twelve months in terms of crime figure related Burglary type of crime. Dacoity, murder, child- kidnapping, law- violence and plunder were vigorously seen in the Figure 4.11. The type of police-attack crime in July took the top rank in the whole year round. In term of total figure of crimes, July was the hottest month in the year calendar due to warm month with high humidity which is cited in Ahuja (2014) where in 1904, the American scholar Dexter found that crime and geographical conditions like heat, humidity and barometric pressure etc. were highly related with one another.

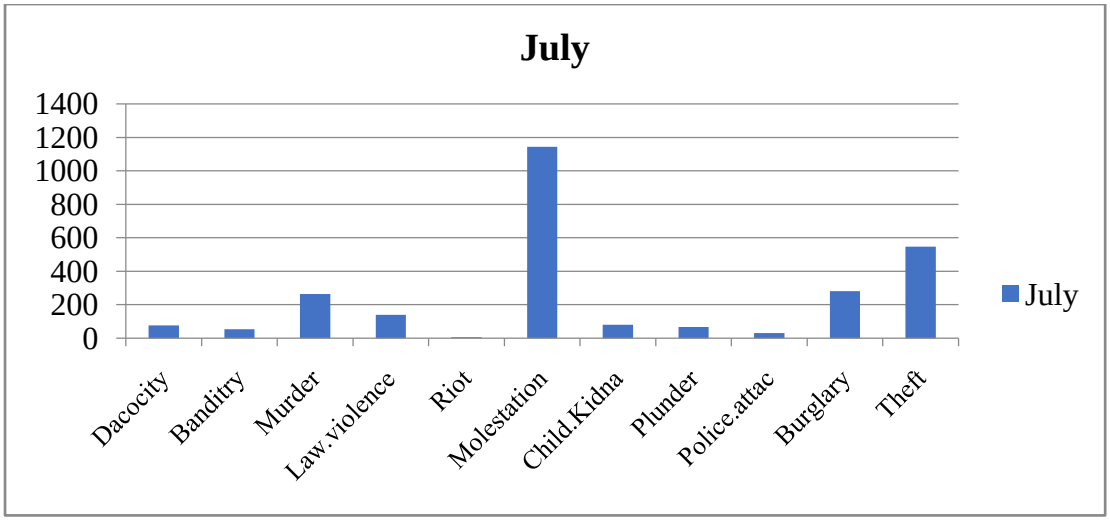

Figure 4.11: Average Crime Figure in the coastal districts of Bangladesh in July.

August

The occurrence of total crimes in August was 2663 that indicated the 9.20% of the total reported crimes from 2007 to 2011 in the twelve coastal districts. August was the second highest month of occurrence of crimes in the whole year round. Molestation and theft took place the first and second highest occurring types of crimes consisting 42.7% and 21.63% of total crimes respectively in the month of August shown in Figure 4.12. But the type of theft took the highest rank in August along the year round due to Rainy season with hardship of poor people. In this month, another type like murder took the peak position in the year calendar. The type of banditry also took the second highest record in the months of the year. Burglary, plunder, child-kidnapping, law -violence and dacoit etc. were prevailing types of occurrence of crimes.

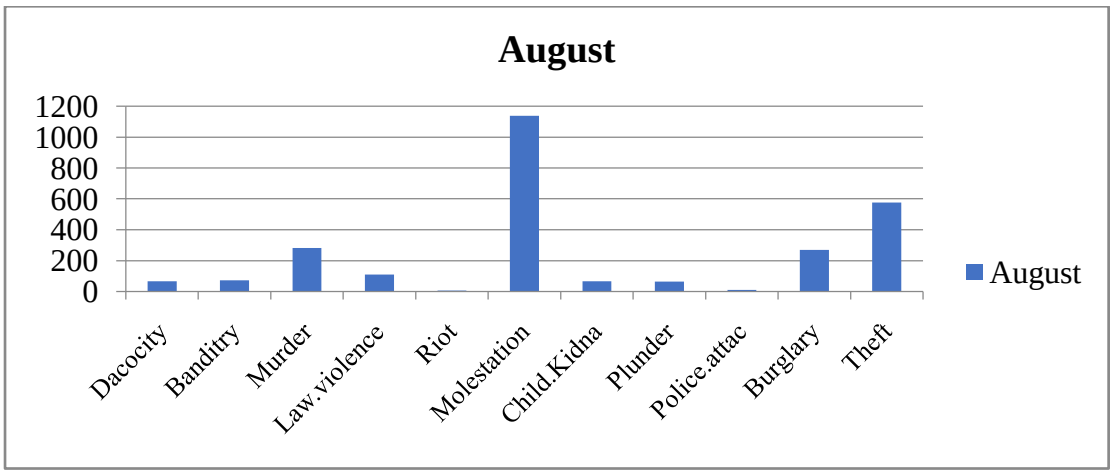

Figure 4.12: Average Crime Figure in the coastal districts of Bangladesh in August.

September

The occurrence of total crimes in September was 2572 that comprised 8.88% of the total crimes reported from 2007 to 2011 in the exclusive coastal districts. The highest occurrence crime type in September was Molestation comprising 44.60% of the total crimes. Theft and Murder took the second and third place of occurrence of crime type consisting 20.14% and 10.46% of total occurrence of crimes respectively in September shown in the Figure 4.13. But this month was reported as the highest occurrence of Banditry in the whole year. The total number of reported crimes was somewhat less than that of August and October. Burglary, police- attack, low-violence, child-kidnaping and plunder etc. were prevailing of crimes in September.

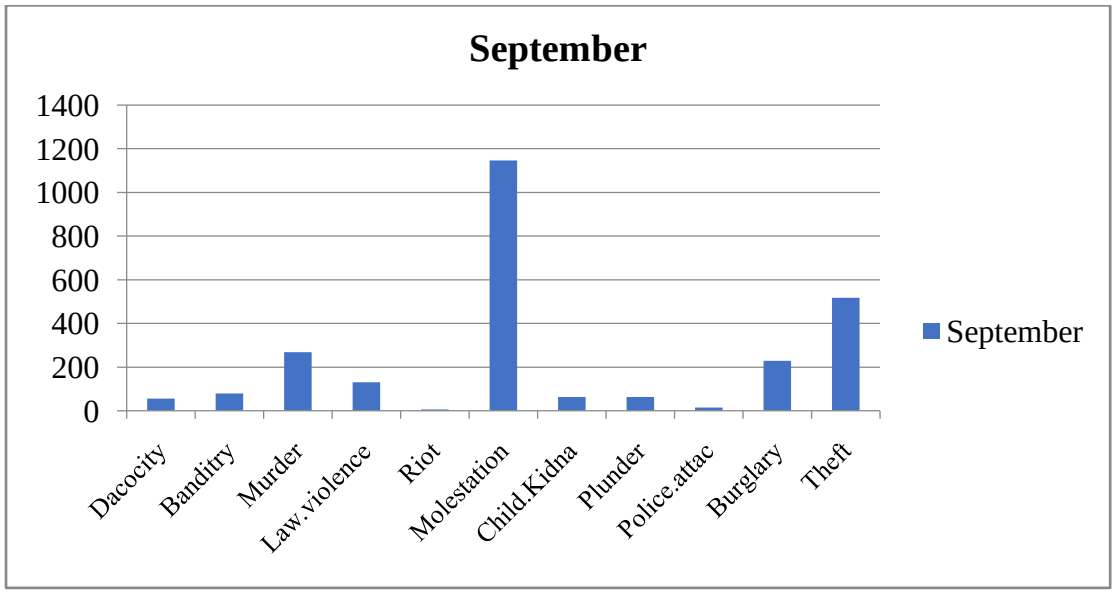

Figure 4.13: Average Crime Figure in the coastal districts of Bangladesh in September

October

The total number of reported crimes in October was 2638 comprising 9.11% of total occurrence of crimes from 2007 to 2011 in twelve coastal districts. Molestation took the peak position both in the month of October and the whole year comprising 46.82% of total crimes in October. Theft and burglary took the second and third highest place of occurrence of crime type consisting of 20.1% and 9.48% of total crimes respectively in October shown in the Figure 4.14. Murder, dacoity, law-violence and child- kidnaping etc. prevailed strongly in the month of October.

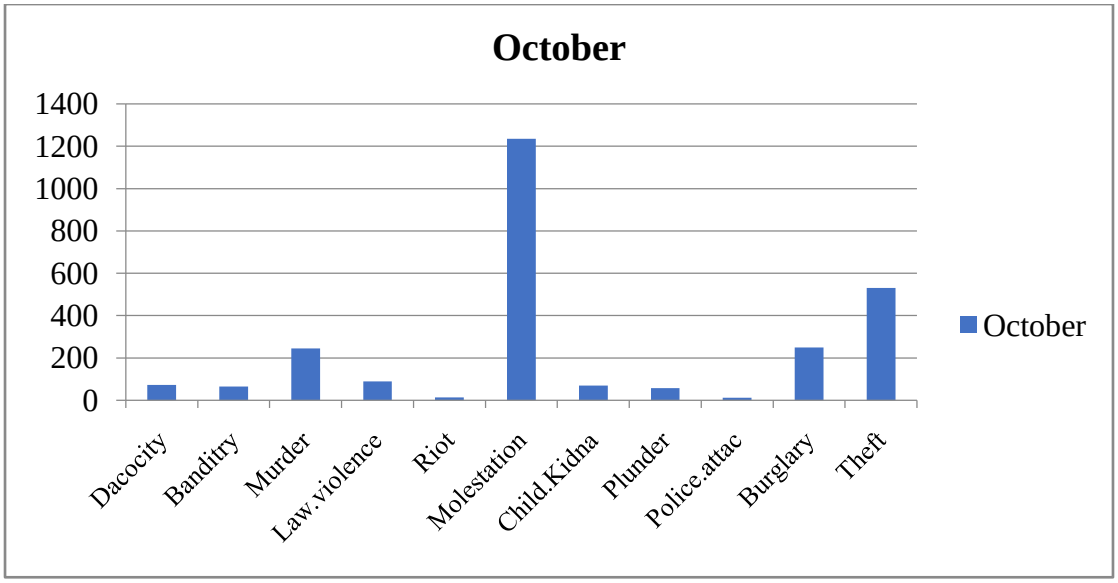

Figure 4.14: Average Crime Figure in the coastal districts of Bangladesh in October.

November

The reported number of crimes in November from 2007 to 2011 in the twelve coastal districts was 2421 comprising 8.36% of total occurrence of crimes in the twelve months. Molestation took the highest rank among the types of crimes in November consisting of 46.22% of the total occurring crimes in the month of November. Theft, murder and burglary took the rank of second, third and fourth place with 20.2%,9.25% and 8.76% of total crimes that occurred in the month of November shown in the Figure 4.15. But the number of total crimes and each type of crimes were comparatively low.

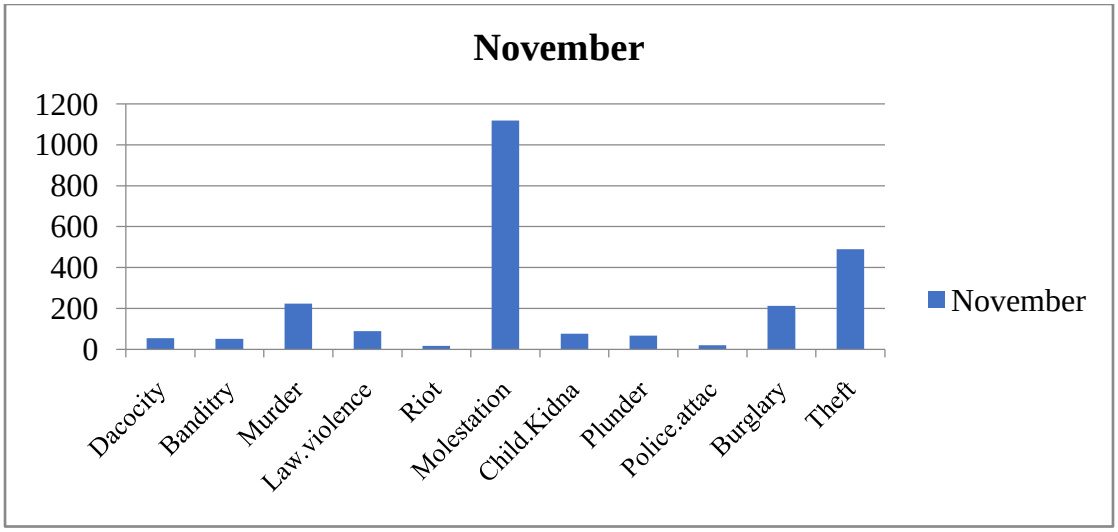

Figure 4.15: Average Crime Figure in the coastal districts of Bangladesh in November.

December

The total occurrence of crimes in December from 2007 to 2011 was 2073 that indicated 7.16% of the total reported crimes in the twelve months. As per total frequency of reported crimes, December was the second lowest month in the year calendar. Molestation took the top position of occurring crime type in December that comprised 44.04% of total crimes in December. Theft, Burglary and murder took the second, third and fourth place comprising 18.95%,11.1% and 10.7% of total crimes in the month of December respectively shown in Figure 4.16. Riot took the lowest place both in December and the whole year. Frequency of total crimes as well as each type of crimes was reduced compared to other months except January and February from 2007 to 2011 in the coastal regions of Bangladesh because of harvesting crops, free from tropical cyclone (based on statistics of cyclones for 100years) and calm in adjacent sea etc.

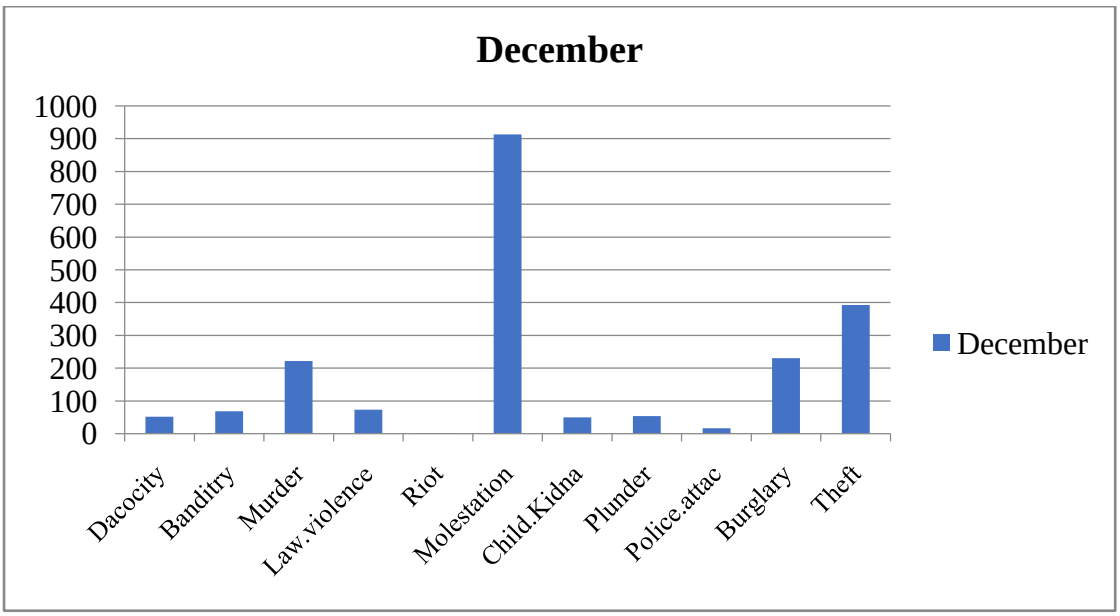

Figure 4.16: Average Crime Figure in the coastal districts of Bangladesh in December.

4.5.3 Trend of crimes in month wise of the exclusive coastal districts

Based on the secondary source of data obtained from the police headquarters, Dhaka, in 2012, crime data from 2007 to 2011 for each month is not same. January is the lowest occurrence of crimes whereas July is the highest occurrence crimes in the

coastal areas of Bangladesh because July is one of the months of rainy season when food grains are not sufficient in the residence of the study area and scarcity is seen and this scarcity sometimes enhances to commit crimes in the rural areas. Besides, disaster like river bank erosion, flood, water logging, cyclone etc. occur in the study area and consequence of these disasters people are hopeless and helpless by losing their property, land, crops, cattle etc. On the other hand, January is the coldest month in Bangladesh when harvest of Aman paddy is occurred and free from disaster in the study area. As a result, people in the coastal zone are happy with new crops and comparatively low number of crimes are occurred in this month. The number of crimes increases from February to July and from then the number of crimes decreases from August to January except October. From the Figure 4.17, it is explicit that the occurrence of crimes above the average line is occurred from the month of April to October and below the average line is occurred from November to February but on the average line in March. It is also associated with the occurrence of disasters which has been explained in the chapter six. Weather and socio-economic environment are also related with the occurrence of crimes cited in previous. On the other hand, cold weather from November to February is somewhat free from major disasters associated with harvesting period may be causes of low occurrence of crimes except political violence and dacoity in the coastal areas of Bangladesh.

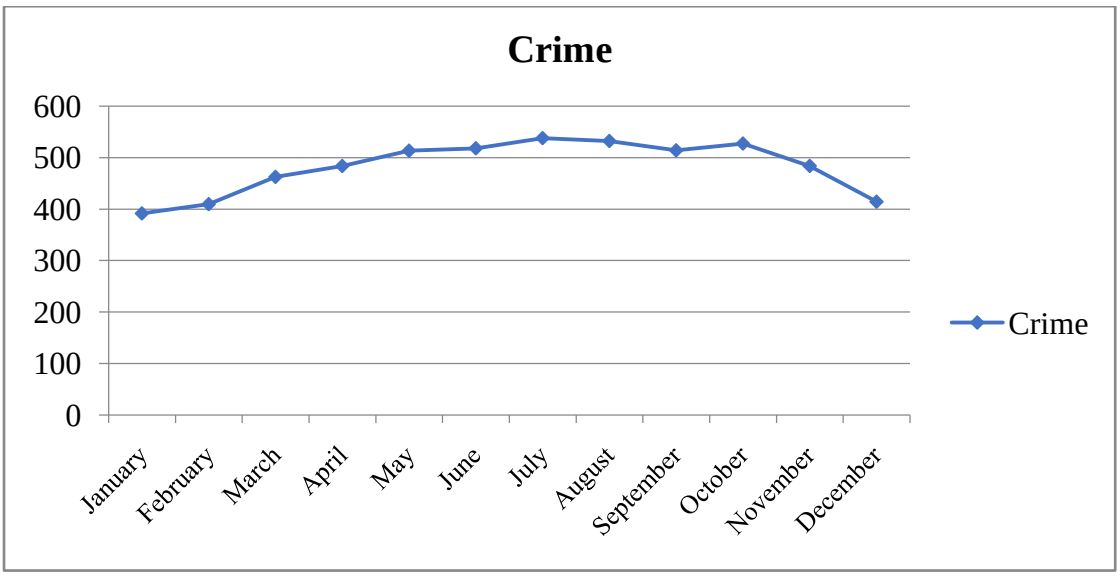

Figure 4.17 Trend of crimes in month wise of the exclusive coastal district of Bangladesh (2007-2011)

4.5.4 Distribution pattern of crimes in the coastal districts

Based on the reported crimes from 2007 to 2011, distribution of crimes in the exclusive coastal districts is explained here. The highest occurrence of crimes takes place in Chattogram district comprising 15.01% of total occurrence of crimes of the exclusive coastal districts of Bangladesh, followed by Cox's bazar (11.03%), Satkhira (10.48%), Bagerhat (8.65%), Khulna (8.54%), Noakhali (7.67%), Bhola (6.83%), Barguna (6.31%), Feni (6.01%), Lakshmipur (5.84%) and Pirojpur (5.75%). The comparative statistics of occurrence of crimes of the exclusive coastal districts of Bangladesh is shown in the Table 4.3 and in the Figure 4.18.

Table 4.3 District (Exclusive coastal districts in Bangladesh) wise crime distribution from 2007 to 2011

District	Total Cases
Bagerhat	10588
Barguna	7726
Bhola	8355
Chaattagram	18458
Cox'sBazar	13498
Feni	7359
Khulna	10457
Lakshmipur	7147
Noakhali	9388
Patuakhali	9544
Pirojpur	7042
Satkhira	12833

Source: Bangladesh Police Head Quarters, Dhaka, 2012

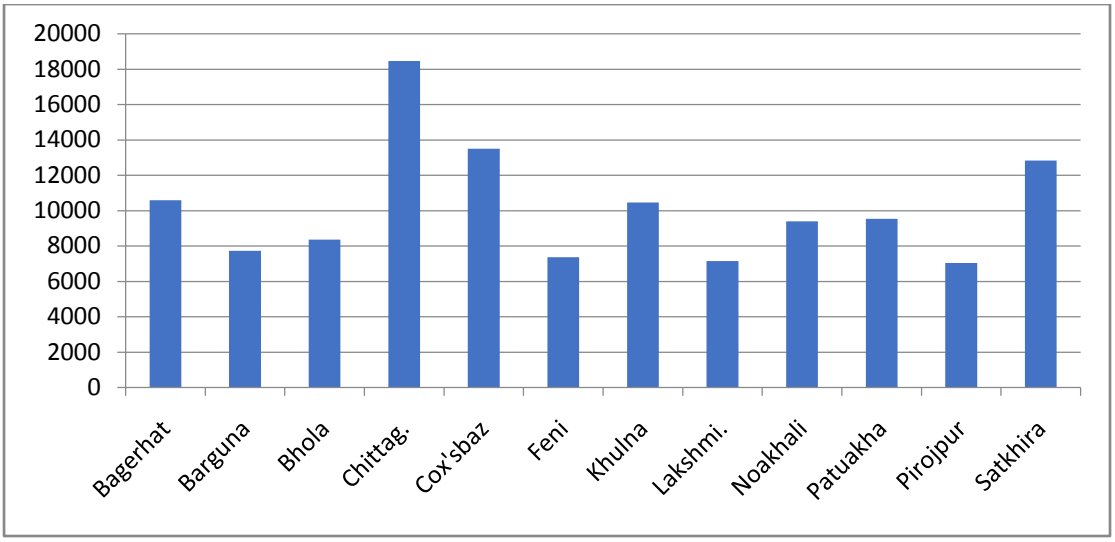

Figure 4.18 Crimes Distribution Pattern of the exclusive Coastal Districts of Bangladesh from 2007 to 2011(Police Headquarters, Dhaka,2012)

As per alphabetical order of district names in the exclusive coastal area, crime pattern as well as distribution is cited here.

Bagerhat

Bagerhat is a district under Khulna division and famous for Khan Jahan Ali with Saat Gambuj Mosque and Mangrove forest of Sundarbans. During the reported period, the total occurrence of crimes in Bagerhat district is 10,588 comprising 8.56 % of total crimes in the whole exclusive coastal districts i.e., Satkhira, Khulna, Bagerhat, Pirojpur, Barguna, Patuakhali, Bhola, Feni, Lakshmipur, Noakhali, Chattogram, and Cox's bazar. It takes the fifth place in the exclusive coastal zones. During this period, the highest occurrence of crimes takes place in 2008 whereas the lowest occurrence of crimes takes place in 2007. But the distribution pattern of total crimes in Bagerhat is undulating (Table 4.4 and Figure 4.19). Molestation takes the top rank of the various types of crimes indicating 14.23% of total crimes in Bagerhat because of lack of proper education, influence of dowry, expansion of narcotics, social conflicts, various types of harassment and decay of social and family norms etc. and the second highest occurring type of crimes in Bagerhat is Theft due to poverty, unemployment, regular facing with disasters and decay of social values etc. On the other hand, the lowest type of crimes taking place in this district is child- kidnapping and police- attack jointly.

Table 4.4 Year wise Crime Distribution in Bagerhat (Police Head Quarters, Dhaka, 2012)

District	Year	Daco city	Banditry	Murder	Law.vio lence	Riot	Molesta tion	Child Kidna	Plunder	Police-Attack	Burg lary	Theft	Rec. case	Other case	Total. case
Bagerhat	2007	14	19	44	6	2	285	2	5	0	62	127	163	1168	1897
	2008	15	7	50	9	1	251	3	9	0	67	176	240	1471	2299
	2009	16	14	74	8	5	242	0	15	1	58	126	212	1348	2124
	2010	14	12	80	16	2	334	0	21	0	33	137	199	1212	2060
	2011	10	17	42	15	3	395	0	10	5	58	121	265	1267	2208

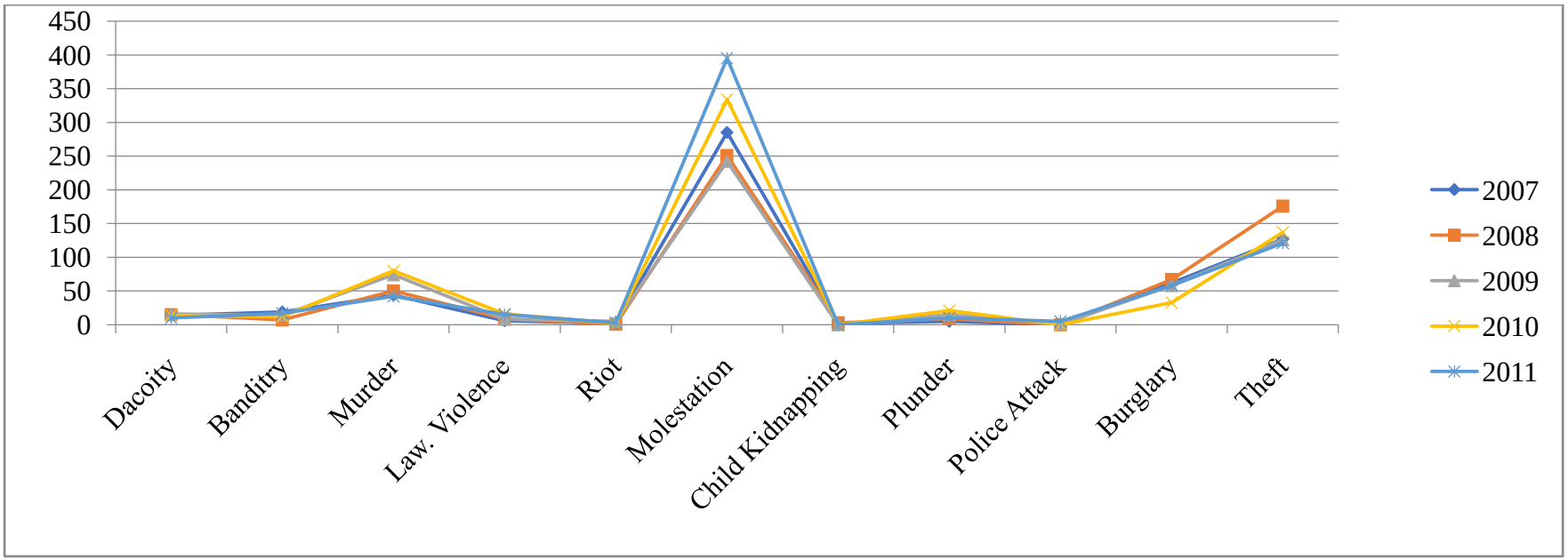

Figure 4.19 Crimes Distribution Pattern of Bagerhat from 2007 to 2011

Barguna

Barguna is a district of Barisal division. During the period from 2007 to 2011, the total reported crimes in Barguna district are 7726 that comprises 6.31% of the total occurrence of crimes in the coastal districts of Bangladesh. During this period, the highest occurrence of crimes takes in 2008 indicating 21.4% of total occurrence of crimes from 2007 to 2011 in Barguna district and the lowest occurrence of crimes takes place in 2010 (Table 4.5 and Figure 4.20). But there is no specific consequence of increasing or decreasing rate of crimes. Changes of total crimes in Barguna indicate undulating line. Molestation takes the highest position of crime types that comprises 9.85% of total crimes reported from 2007 to 2011 because of political conflicts with property, polygamy, fall of immature love, addiction of drug and gambling etc.. But law-violence occurs at highest in 2011 due to political conflicts and expansion of prevalence etc. The second highest type of crimes that takes place in Barguna district is theft comprising 3.33% of total occurrence of crimes shown in figure 4.20.The lowest type of crimes is police-attack indicating very negligible frequency of crimes. But law- violence takes the highest rank type of crimes in 2011.Burglary, banditry, law- violence, murder etc. are vigorous types of crimes that occurred in Barguna.

Table 4.5 Year wise Crimes Distribution in Barguna

District	Year	Dacoity	Banditry	Murder	Law. violence	Riot	Mole-station	Child. Kidna	Plunder	Police. attac	Burglary	Theft	Recovery. case	Other. case	Total. case
Barguna	2007	15	4	33	32	4	151	22	10	1	42	44	77	1103	1541
	2008	8	54	34	25	11	178	9	12	0	39	67	69	1148	1654
	2009	8	35	38	46	2	144	4	16	0	35	61	48	1075	1511
	2010	7	11	48	54	2	113	10	15	2	34	44	60	987	1383
	2011	1	9	40	329	0	175	8	8	3	37	41	92	900	1637

Source: Police Head Quarters, Dhaka,2012

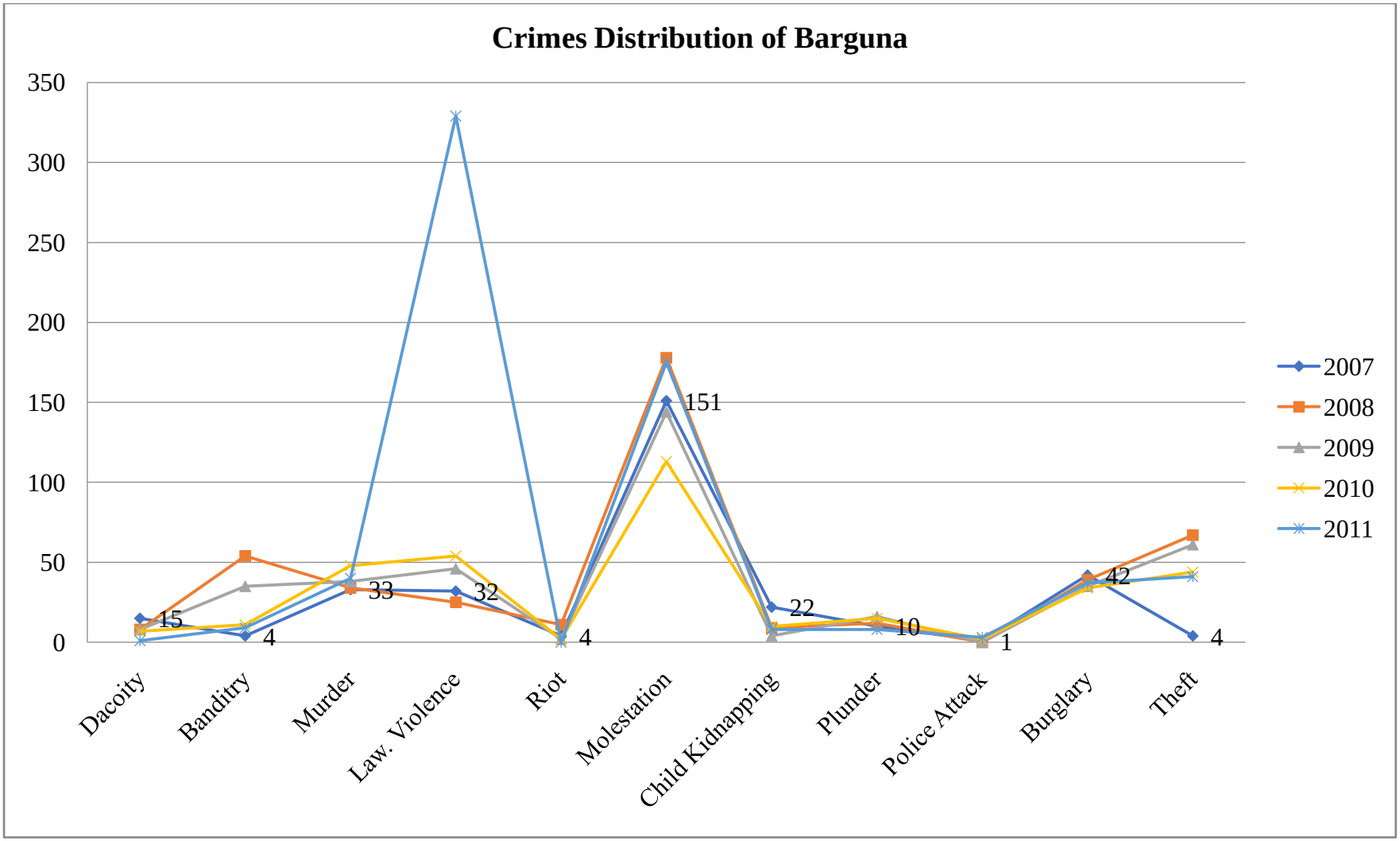

Figure4.20 Crimes Distribution Pattern of Barguna from 2007 to 2011

Bhola

Bhola is a district of Barisal division. It is a large island district. The total occurrence of crimes from 2007 to 2011 is 8355 comprising 6.83% of total crimes that occurred in the twelve coastal districts. The highest frequency of crimes takes place in 2008 comprising 22.68% of total crimes during 2007 to 2011 in Bhola (Table 4.6 and Figure 4.21). Molestation takes the highest place during this period indicating 10.33% of total crimes in Bhola because polygamy, expansion of prevalence in the area of char, lack of proper education, property conflicts and dowry etc. are responsible for this. The lowest rank of crime type during this period is Riot indicating 0% of total crimes. Theft, Burglary, Murder are prevailing types of crimes in Bhola that are elucidated in the table 4.6. Six boatmen were kidnapped on the Meghna near the north side of Jagla char of Monpura by the pirate groups guided by Alauddin of Hatiya during the catching of Hilsha fish. Taking handmade guns and weapons, pirates attack the boatmen and detain the boatmen in the inaccessible char. They demand sixty thousand taka for one boatman. They escaped the boatmen after receiving money as demanded before (The Daily Ittefaq, August 10, 2016). The total frequency with different types of crimes is shown in the following figure 4.21.

Table 4.6 Year wise Crimes Distribution in Bhola

Dist.	Year	Dacoity	Banditry	Murder	Law. violence	Riot	Mole-station	Child. Kidna	Plunder	Police. attac	Burglary	Theft	Rec. case	Other. case	Total. case
Bhola	2007	5	2	36	5	0	136	0	8	0	47	51	44	1445	1789
	2008	5	4	53	0	3	195	0	25	1	59	62	42	1446	1895
	2009	3	9	31	5	0	184	0	6	2	42	39	54	1438	1809
	2010	1	4	30	1	0	213	0	5	2	23	29	50	1131	1492
	2011	3	3	31	5	0	135	13	7	5	21	22	61	1064	1370

Source: Bangladesh Police Head Quarters, Dhaka, 2012

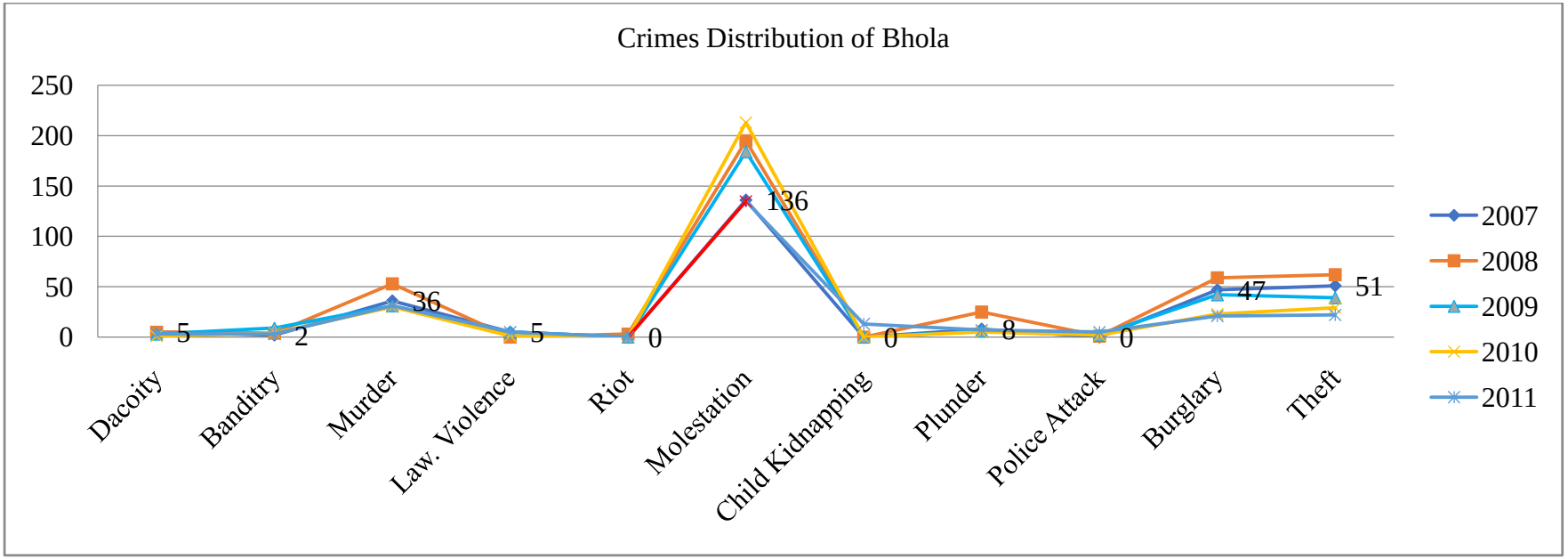

Figure 4.21: Crimes Distribution Pattern of Bhola from 2007 to 2011

Chattogram

Chattogram is a district mixed with hill and flat plain land under Chattogram division. The total occurrence of crimes reported from 2007 to 2011 in Chattogram is 18458 comprising 15.08% of total crimes in the twelve coastal districts and takes the highest rank of occurring crimes in the coastal districts. The highest occurrence of crimes takes in 2007 and the second highest occurrence of crimes in 2010 but the lowest frequency of crimes in Chattogram takes place in 2008. It is clear from the Table 4.7 and Figure 4.22 that there is no speculation of particular trend of occurring of crimes. Molestation takes the peak position comprising 10.35% of occurrence of total crimes among the various types of criminal activities because of religious superstitious, polygamy, drug addiction and conflict of love etc. Again, it is extremely high in 2010.Theft, murder, burglary, banditry, dacoity etc. are the prevailing types of crimes in Chattogram. Funnel shape of the adjoined Bay of Bengal is suitable for occurring cyclones that cause the huge devastation and make the people like farmers, fishermen and petty business men helpless. So, some of the cyclone affected people take part in criminal activities.

Table 4.7 Year wise Crimes Distribution in Chattogram

District	Year	Dacoity	Banditry	Murder	Law. violence	Riot	Mole-station	Child. Kidnap	Plunder	Police. attack	Burglary	Theft	Recovery. case	Other. case	Total. case
Chattogram	2007	96	31	103	19	3	289	3	26	6	87	329	438	3080	4510
	2008	49	35	119	12	6	387	9	10	9	57	294	413	1757	3158
	2009	72	28	123	13	21	308	6	13	7	38	188	636	1577	3181
	2010	35	21	143	19	2	451	5	4	11	43	250	1036	1860	4034
	2011	39	26	105	14	2	476	3	4	18	45	241	620	1979	3575

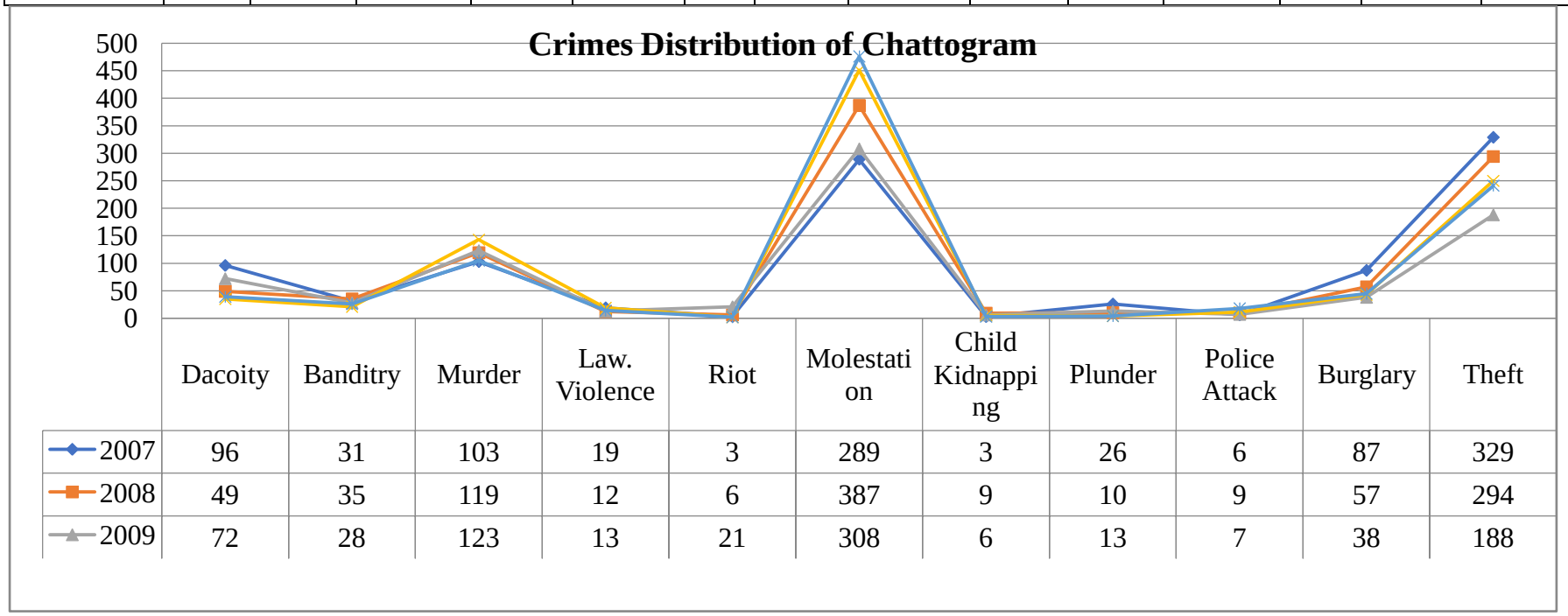

Figure 4.22 Crimes Distribution Pattern of Chattogram from 2007 to 2011

Cox's bazar

Cox's bazar is a district which lies in the border of Myanmar and the Bay of Bengal with hilly and plain land forms. The total occurrence of crimes reported from 2007 to 2011 in Cox's bazar district was 13,498 comprising 11.03% of total crimes in the twelve coastal districts. The highest frequency of crimes occurred in 2011 and lowest happened in 2007. But there is a speculation trend of occurrence of crimes that dramatically increase from 2007 to 2011 given in the Table no 4.8 and Figure 4.23. Molestation takes the highest rank of crime types indicating 8.09% of total crimes in this district and it rises vigorously from 2007 to 2011.Religious fundamentalism, lack of proper education, political conflict, unemployment, property conflict, polygamy and smuggling career etc. are responsible for this.

Housewife, residing Khondakarpara village of Kutubjum union of Moheshkhali Upazilla was physically tortured by forcefully cutting her hair by a group of miscreants. Even her young children were also no escaped from their torture. This immoral event was occurred because the lady did not agree to their sexual proposal. They often teased her. Finally, they made her a thief in false and taking this untrue situation, they took a revenge on her in the disguise of sexual expectation (The Daily Ittefaq, May 5, 2016). Theft, burglary, murder, dacoity, child- kidnapping, law-violence and banditry etc. are prevailing types of crimes that occurred in this district due to location of border district, available of firearms, smuggling routes, human trafficking route, vulnerable to cyclone associated with storm surge that causes awkward situation. But the occurrence of crimes in this district is somewhat different from other districts because of presence of country border, Bay of Bengal, sea-route and frequent of cyclone, erosion, salinity intrusion etc.

Table 4.8 Year wise Crimes Distribution in Cox's bazar

District	Year	Dacoity	Banditry	Murder	Law. violence	Riot	Mole-station	Child. Kidna	Plunder	Police. attac	Burglary	Theft	Recovery. case	Other. case	Total. case
Cox's bazar	2007	22	13	48	14	0	178	6	19	6	43	99	370	1512	2330
	2008	21	38	54	10	0	130	20	27	11	62	127	398	1552	2450
	2009	19	26	66	21	13	199	45		12	49	96	440	1578	2566
	2010	19	7	66	34	1	227	52	10	15	37	72	446	1821	2807
	2011	18	8	66	45	0	358	40	3	33	49	103	498	2124	3345

Source: Bangladesh Police Head Quarters, Dhaka, 2012

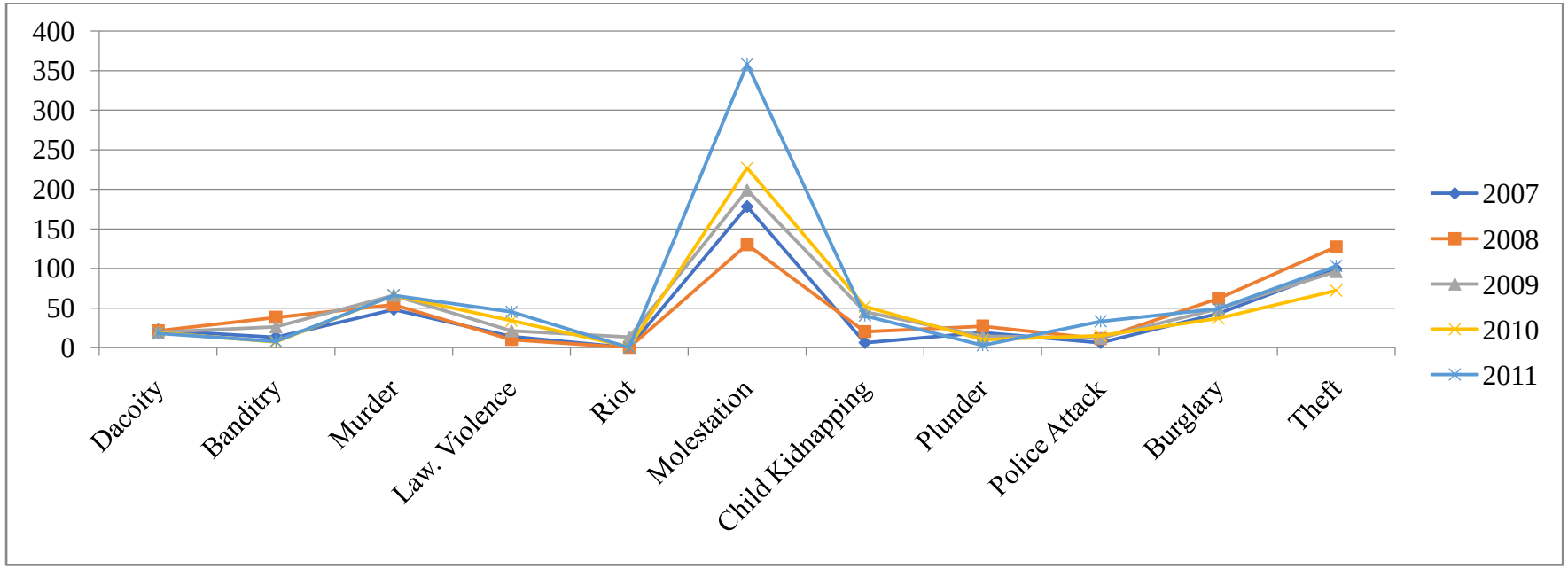

Figure 4.23: Crimes Distribution Pattern of Cox's Bazar from 2007-2011

Feni

Feni is a district under Chattogram division with flat plain land. The total occurrence of crimes reported from 2007 to 2011 was 7,359 comprising 6.01% of total crimes that were occurred in the twelve districts of the coastal belt. The highest occurrence of crimes in Feni was 1627 in the year of 2009 and indicated 22.11% of total frequency of criminal activities and the lowest occurrence of crimes was seen in 2007 comprising 15.86% of total crimes shown in the Table 4.9. Molestation takes the top rank of crime types indicating 5.93% of total crimes in Feni because of religious fundamentalism, lack of proper education, property conflict, prevalence of male, early marriage, drug addiction etc. and the lowest occurring type of crimes was police-attack. Theft, burglary, child-kidnapping, murder, dacoity, banditry etc. are prevailing types of crime scene in Feni shown in the Figure 4.24. Due to the presence of country border, available firearms, prevalence of smuggling route, political conflicts etc. murder, dacoity, burglary and child-kidnapping have been occurred frequently in this district.

Table 4.9 Year wise Crimes Distribution in Feni

District	Year	Dacoity	Banditry	Murder	Law. violence	Riot	Mole-station	Child. Kidna	Plunder	Police. attac	Burglary	Theft	Recovery. case	Other. case	Total. case
Feni	2007	17	12	40	6	4	117	3	5	2	57	99	158	664	1167
	2008	12	9	35	1	12	92	15	15	2	45	93	199	961	1491
	2009	3	4	43	0	7	76	20	5	2	23	74	356	1021	1627
	2010	4	9	40	1	0	90	5	3	4	29	62	430	790	1518
	2011	10	10	33	13	0	61	38	11	3	32	68	488	789	1556

Source : Police Head Quarter, Dhaka

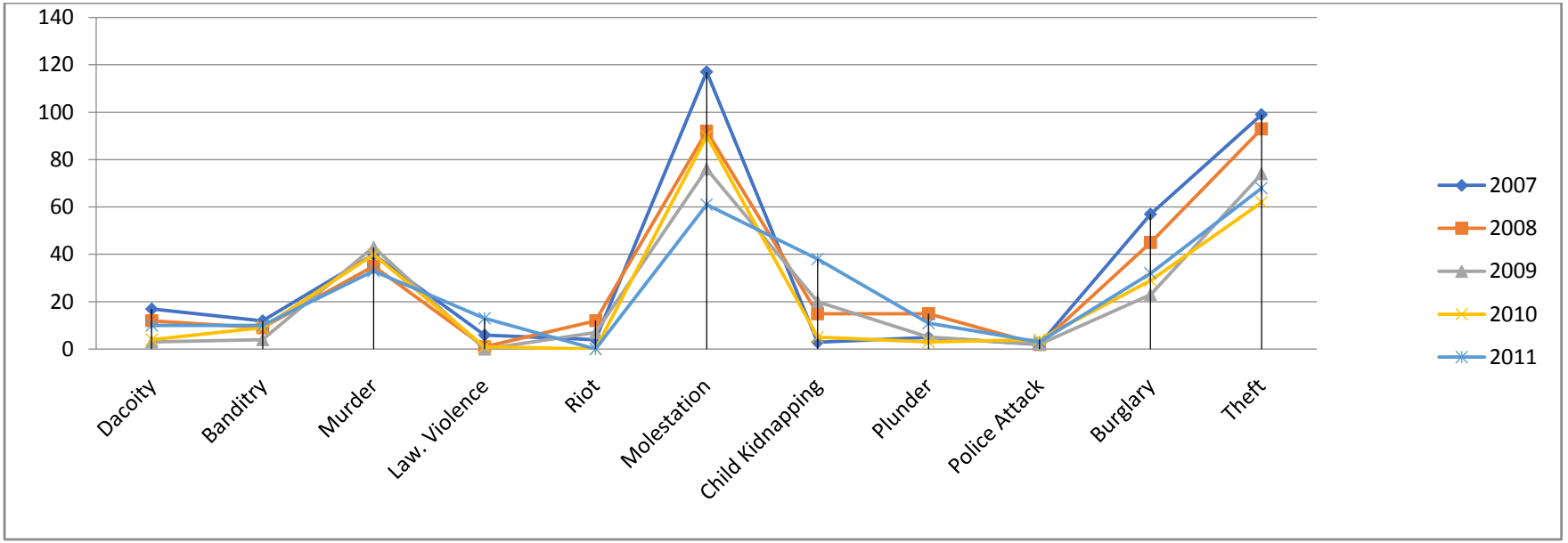

Figure 4.24 Crimes Distribution Pattern of Feni from 2007 to 2011

Khulna

Khulna is a district under Khulna division with deltaic plain extended to Sunderbans forest. The total occurrence of crimes reported from 2007 to 2011 was 10457 comprising 8.54% of total crimes occurred in the coastal districts. The trend of occurrence of crimes in Khulna drastically increased from 2007 to 2011. The highest frequency of crimes was speculated in 2011 and the lowest frequency of crimes was seen in 2007 that is notable in the Table 4.10. Molestation takes the highest rank among the types of crimes indicating 11.48% of total crimes reported in Khulna because of lack of proper education, poverty, political harassment, dowry and early marriage etc. and the lowest type of crime is police-attack indicating 00% of total crimes. Theft, burglary, murder, law-violence, banditry, plunder and dacoity etc. are prevailing types of crimes that occurred in Khulna. Murder, dacoity and plunder etc. occur vigorously here due to presence of different terrorist groups, political conflicts, prevalence of the pirates along the Sunderbans in the Bay of Bengal, available guns, collaboration of some naughty persons in the local administration and some political leaders. South-western region is virtually ruled by the terrorists of different extremists underground political parties and the use of illegal firearms has increased alarmingly in this region. So, killing, extortion, hijacking, robbery, kidnapping have become regular phenomenon of this region (Karzon, 2011). The crime distribution with types of Khulna is shown in Figure 4.25.

Table 4.10 Year wise Crimes Distribution in Khulna

District	Year	Dacoity	Banditry	Murder	Law. violence	Riot	Mole-station	Child. Kidna	Plunder	Police. attac	Burglary	Theft	Recovery. case	Other. case	Total. case
Khulna	2007	5	12	43	39	7	147	13	8	0	27	105	181	1059	1646
	2008	3	8	50	10	2	169	4	19	0	41	118	343	1365	2132
	2009	17	15	67	38	1	185	1	41	0	27	123	348	1302	2167
	2010	18	15	60	6	0	300	3	32	0	26	125	332	1165	2080
	2011	8	14	50	12	0	399	1	28	0	53	106	179	1582	2432

Source: Bangladesh Police Headquarters, Dhaka, 2012

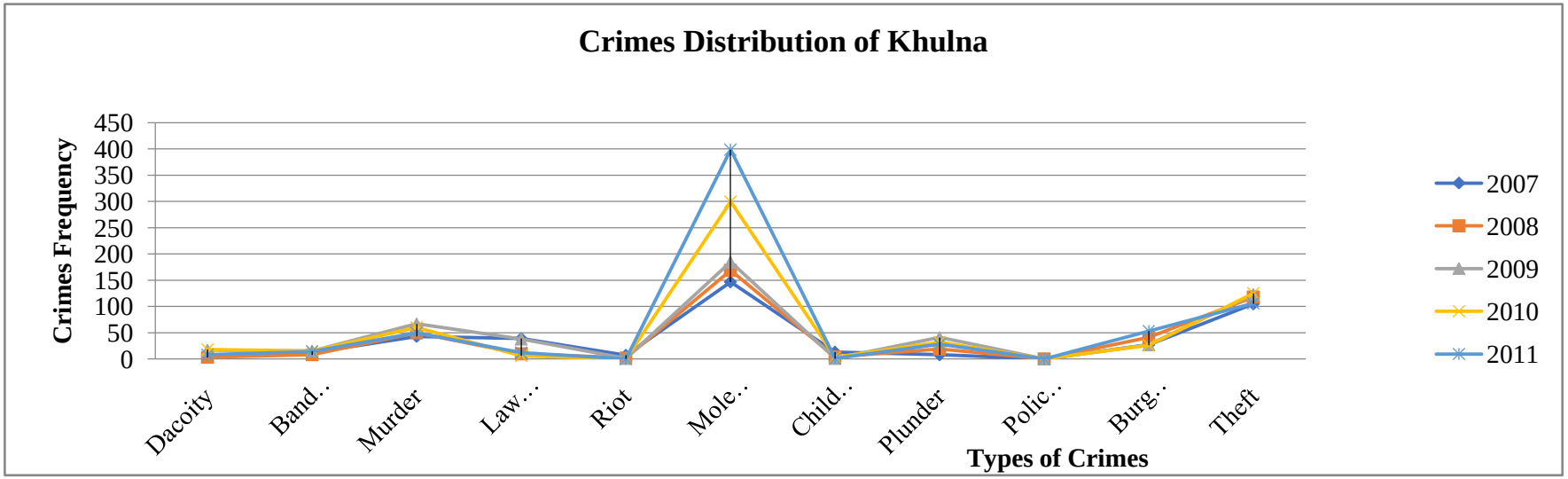

Figure 4.25 Crimes Distribution Pattern of Khulna from 2007 to 2011

Lakshmipur

Lakshmipur is a district under Chattogram division. The total occurrence of crimes reported from 2007 to 2011 was 7147 comprising 5.84% of total crimes occurred in the coastal districts. Among the twelve coastal districts, the occurrence of crimes is the lowest in Lakshmipur. The highest and lowest occurrences of crimes are speculated in 2011 shown in Figure 4.26 due to political conflicts, available illegal arms, weak law-order situation, dominance of political leaders, drug addiction, smuggling, low rate of female education etc. and 2007 because of the presence caretaker government with strong law-order enforcement respectively. Molestation and theft take place the highest and the second highest rank of crime types comprising 6.9% and 3.81% of total crimes respectively in this district. But police –attack is the lowest occurrence of crime types in this district. Burglary, murder, dacoity, law-violence etc.are prevailing types of crimes in this district. But other types of crimes are more or less in tolerable level in this district that is speculated in the Table 4.11.

Table4.11 Year wise Crimes Distribution in Lakshmipur

District	Year	Dacoity	Banditry	Murder	Law. violence	Riot	Mole-station	Child. Kidna	Plunder	Police. attac	Burglary	Theft	Recovery. case	Other. case	Total. case
lakshmipur	2007	8	6	40	6	2	72	1	7	1	43	53	80	858	1175
	2008	9	3	38	4	0	91	7	9	1	57	86	153	934	1429
	2009	12	3	32	5	8	81	8	2	1	28	49	203	978	1402
	2010	6	3	22	5	0	114	7	2	1	28	26	220	1066	1490
	2011	6	6	34	5	0	135	1	6	1	24	58	180	1196	1651

Source: Police Headquarter, Dhaka, 2012

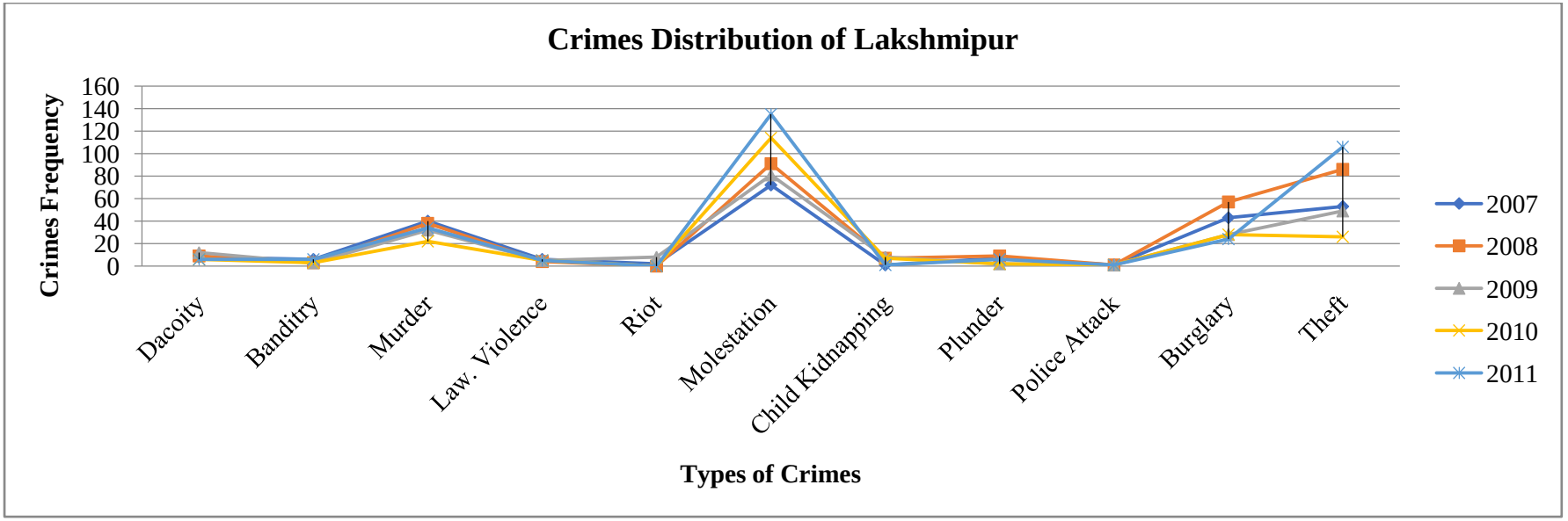

Figure 4.26 Crimes Distribution Pattern of Lakshmipur from 2007 to 2011

Noakhali

Noakhali is a district with flat plain under Chattogram division. The crime statistics from 2007 to 2011 of Noakhali district is 9388 comprising 7.67% of total reported crimes in the exclusive coastal districts. The highest level of crime frequency is seen in 2011 and the lowest level of occurrence of crimes is noted in 2007. There is a trend of explicated changing of crime figures in this district. Molestation and theft take the 1st and 2nd rank of crime types indicating 13.58% and 4.75% of total reported crimes in this district respectively. In addition, the number of molestations vigorously increased in 2011 compared to the other years. Lack of proper education, influence of thought in religious fundamentalism, dowry, some area with the presence of few numbers of male compared with female, presence of some inaccessible char area, property conflict and personality harassment etc. are responsible for the occurrence of molestation. Burglary, murder, dacoity, law violence, banditry and police –attack etc. are prevailing types of crimes that are speculated in the Table 4.12. Types as well as frequency of crimes in Noakhali are shown in the Figure 4.27. Robbers kidnapped fourteen fishermen with two trawlers from near Baluar char adjacent to Hatiya Upazilla of Noakhali and Monpuraupzila of Bhola districts on August 16, 2013. Police rescued 19 of 21 fishermen who were abducted from the Meghna in Monpuraupzila of Bhola (Daily Star, August 16, 2013).

Table 4.12 Year wise Crimes Distribution in Noakhali

District	Year	Dacoity	Banditry	Murder	Law. violence	Riot	Mole-station	Child. Kidna	Plunder	Police. attac	Burglary	Theft	Recovery. case	Other. case	Total. case
Noakhali	2007	22	11	31	7	2	123	3	2	2	54	99	172	1170	1712
	2008	18	15	29	11	0	102	2	6	5	53	82	297	879	1604
	2009	22	8	54	10	12	111	7	10	4	36	69	359	911	1601
	2010	17	6	60	11	2	192	2	4	4	38	87	310	1210	1943
	2011	28	2	60	10	0	747	1	11	18	57	109	229	1255	2528

Source: Bangladesh Police Head Quarters, Dhaka, 2012

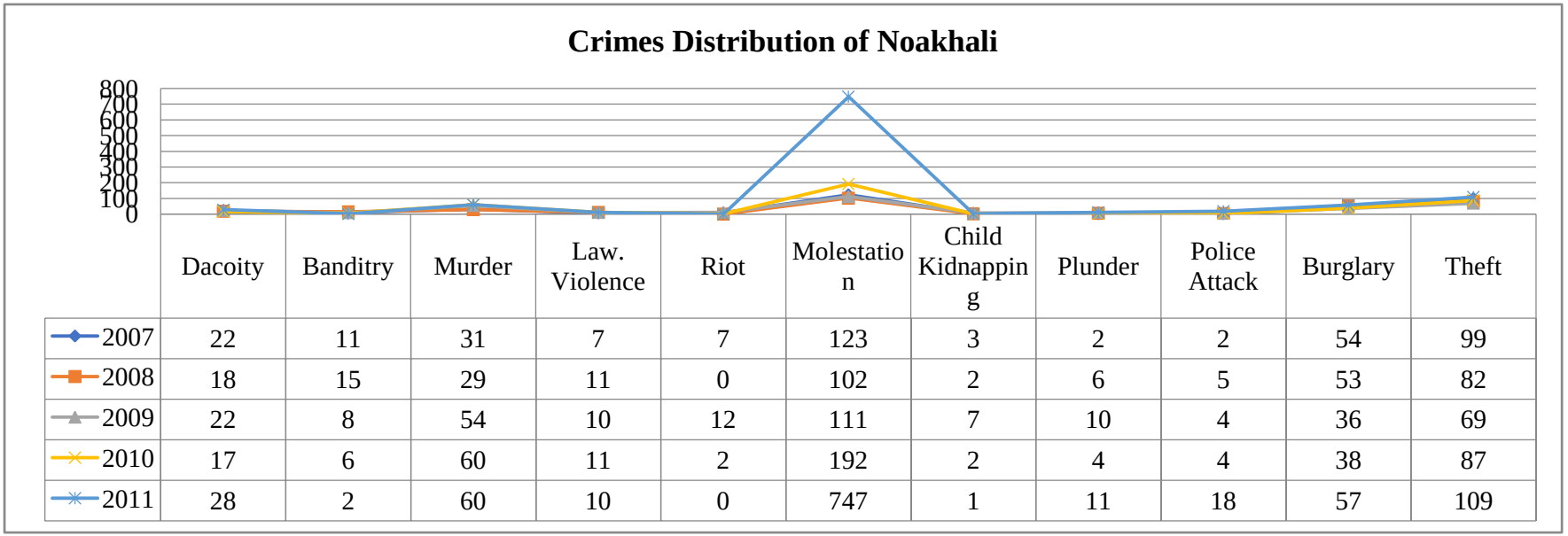

Figure 4.27 Crimes Distribution Pattern of Noakhali from 2007 to 2011

Patuakhali

Patuakhali is a district with well-known sea beach (Kuyakata) extending to Mangrove forest Sundarbans. The total reported crimes from 2007 to 2011 is 9544 comprising 7.80% of total occurrence of crimes in the coastal districts. The trend of crime frequency in Patuakhali somewhat fluctuates . The highest and the lowest occurrence of crimes in this district are taken place in 2008 and 2009 comprising 22.85% and 16.32% of the district total crimes respectively (Table 4.13). Molestation, theft, child-kidnapping, burglary, murder and law-violence etc. are prevailing types of crime in Patuakhali that are easily seen in the Figure (4.28). There is a trend of decreasing of occurrence of theft from 2008 to 2011 in this district due to the role of political government, education and employment etc. The occurrence of molestation fluctuates in every year from 2007 to 2011 but takes highest in 2008 because of personal conflict, low rate of female education, property conflicts, prevalence of political parties etc. Law- violence takes highest rank in 2011 due to political conflicts under the local leadership. Again, occurrence of murder and child-kidnapping take in fluctuation in each year from 2007 to 2011. Presence of the Bay of Bengal, Sunderbans, pirates, available of arms etc. are responsible for this.

Table 4.13 Year wise Crimes Distribution in Patuakhali

District	Year	Dacoity	Banditry	Murder	Law. violence	Riot	Mole-station	Child. Kidna	Plunder	Police. attac	Burglary	Theft	Recovery. case	Other. case	Total. case
Patuakhali	2007	1	14	37	14	5	53	35	5	0	28	118	55	1187	1558
	2008	6	8	41	22	3	122	59	16	2	57	118	73	1647	2181
	2009	4	12	37	27	0	88	67	8	2	55	92	74	1505	1969
	2010	2	2	30	26	0	77	57	15	0	57	83	75	1473	1899
	2011	1	6	46	120	1	72	61	9	3	41	67	85	1425	1937

Source: Police Head Quarter, Dhaka, 2012

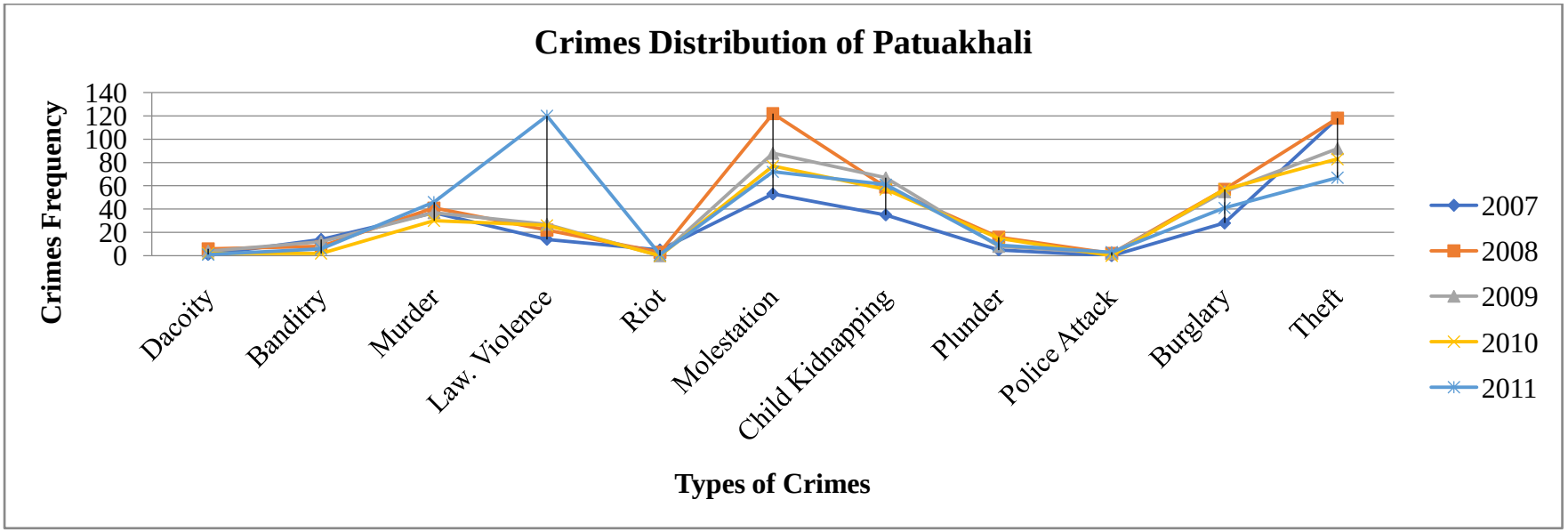

Figure 4.28 Crimes Distribution Pattern of Patuakhali from 2007 - 2011

Pirojpur

Pirojpur is a district under Barisal division. The total reported crimes from 2007 to 2011 in Pirojpur district is 7042 comprising 5.75% of total crime figures of the exclusive coastal districts. This district is the lowest occurrence of crimes in the twelve districts. There is a positive change of trend of occurring of crime figures and a straight line of increasing crimes frequency. The highest and the lowest occurrence of crimes are speculated in 2011 and 2007 respectively (Table 4.14). Molestation and theft take place the highest and the second highest rank of crime types in this district. But riot takes the least position of crime types. Burglary, murder, plunder, banditry and dacoity etc. are the prevailing types of crimes in this district. The types and its frequency of crimes are cited in the Figure (4.29). The number of occurred crimes gradually increases from 2007 to 2011 where molestation slightly increases from 2007 to 2011 due to less female literacy rate, prevalence of religious fundamentalism, polygamy, child-marriage etc.

Table 4.14 Year wise Crimes Distribution in Pirojpur

District	Year	Dacoity	Banditry	Murder	Law. violence	Riot	Mole-station	Child. Kidna	Plunder	Police. attac	Burglary	Theft	Recovery. case	Other. case	Total. case
Pirojpur	2007	3	3	37	6	0	101	3	14	0	55	60	42	876	1198
	2008	3	3	37	6	0	101	3	14	0	55	60	42	876	1198
	2009	11	12	36	5	0	124	15	21	6	37	83	79	1055	1486
	2010	11	12	36	5	0	124	15	21	6	37	83	79	1055	1486
	2011	8	13	31	6	7	191	14	20	3	30	61	28	1201	1619

Source: Bangladesh Police Head Quarter, Dhaka, 2012

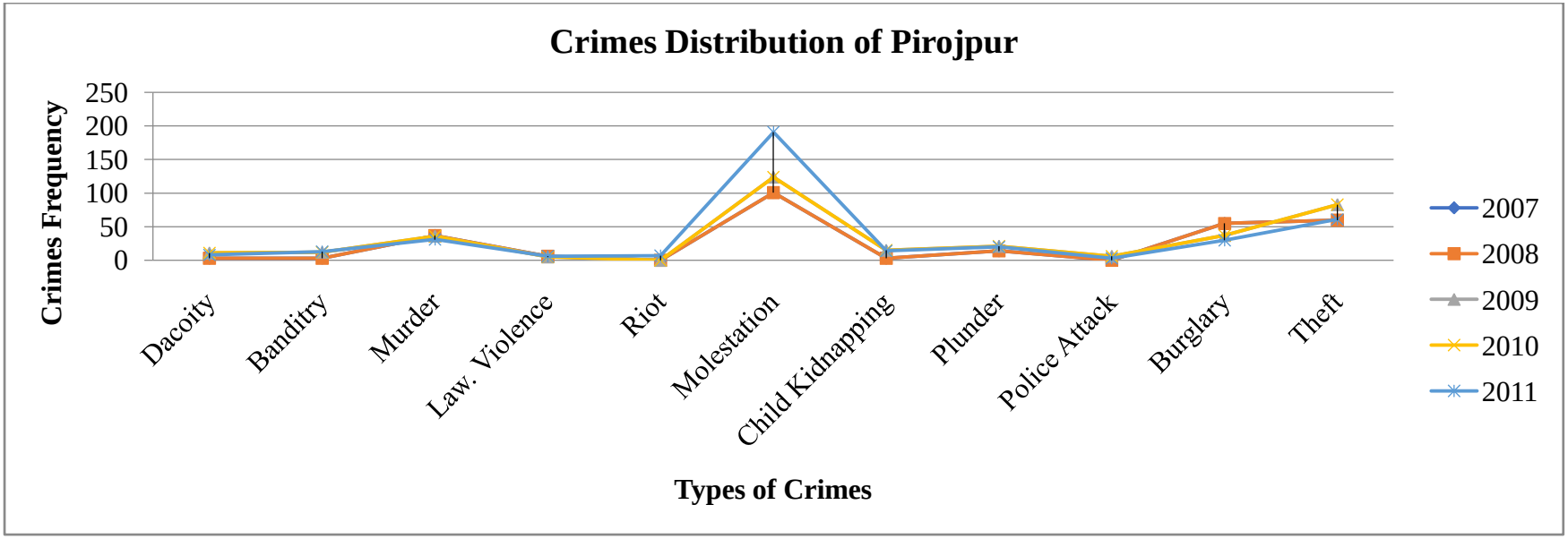

Figure 4.29 Crimes Distribution Pattern of Pirojpur from 2007 to 2011

Satkhira

Satkhira is a deltaic flat plain land and border district under Khulna division. The total occurrence of crimes reported from 2007 to 2011 of Satkhira district is 12,833 comprising 10.48% of total occurrence of crimes in the twelve exclusive coastal districts indicating the third highest district of occurrence of crimes. There is no uniformity of occurring of crimes in this district. The highest and the lowest occurrence of crimes in Satkhira are speculated in 2011 and 2008 indicating 23.52% and 16.86% of total occurrence of crimes during the reported period respectively. Molestation and riot are the top and bottom rank types of crimes in this district respectively shown in the Figure 4.30. Theft, burglary, murder, law-violence, plunder, child-kidnapping etc. are the prevailing types of crimes that can be easily understood from the Table 4.15.A team of forest robbers of Jahangir group kidnapped four owner of shrimp fields by demanding of ten lac taka as rescue value from Shyamnagar, Satkhira (The Daily Ittefaq, July 31, 2013).

Case 2

> *Mr. R. Mondal of 45 years resides at Sinhartali village on the bank of Chunkuri river in Shyamnagar, Satkhira. He lives beside the WAPDA road and cultivates shrimps on his own land due to coverage of shrimp field around his land. He stated that the damaged road by Aila, super cyclone in 2009 along the river was repaired by all people including male and female of the community in the ebb-tide without the assistance of local government. He also expressed in sorrow that every crab boat owner has to pay twelve thousand taka per month to the pirates/terrorists who reside in the Sundarbans. He also said that a retired person, relative to him who was kidnapped and was detained in the Sundarbans. Five lac taka was demanded to rescue him from the kidnapper. It is an as usual event in this area near the Sundarbans. He again expressed that no young/adolescent children are found in this area. Such children stay in Satkhira town, Khulna and outside of Shyamnagar Upazilla to avoid the threat of kidnapping. They come home in some specific festivals and spend their daytime but not stay at night. So, incidence of kidnapping seems to be connected with the presence of Sundarbans, nearness of border, weak law and order situation, available firearms, unemployment and frequent disasters.*

There is a trend of increase of total occurrence of crimes reported from 2007 to 2011 in Satkhira district. The number of total occurrence as well as molestation sharply increases in 2010 and 2011 due to prevailing religious fundamentalism, political conflicts, poverty, less female literacy rate and problem of unemployment etc. Murder, dacoity, theft, burglary etc. are prevailing types of crime in this district due to available of arms, presence of some terrorist groups, country border and sundarbans, attachment of Bay of Bengal, some illegal activity of some political parties such as trees falling, throwing petrol bomb etc. speculated in 2014, weakness of local administration, lack of public awareness and so forth. South-western region has become free land of crime and criminals. Residing in India, top terrors and godfathers' mastermind all types of crimes (Karzon, 2011). Some police have developed very good relation with influential terrorists. Moreover, the terrorists are patronized by the political leaders and parties.

Table 4.15 Year wise crime distribution of Satkhira

District	Year	Dacoity	Banditry	Murder	Law. violence	Riot	Mole-station	Child. Kidna	Plunder	Police. attac	Burglary	Theft	Recovery. case	Other. case	Total. case
Sathkhira	2007	9	7	45	23	0	241	5	9	3	53	138	419	1324	2276
	2008	17	8	40	13	2	219	13	3	4	62	114	608	1061	2164
	2009	5	10	63	27	3	210	12	13	4	52	74	503	1413	2391
	2010	8	10	56	18	0	447	7	32	4	87	132	348	1833	2984
	2011	7	13	36	5	0	585	15	31	4	91	103	255	1873	3018

Source: Bangladesh Police Head Quarters, Dhaka, 2012

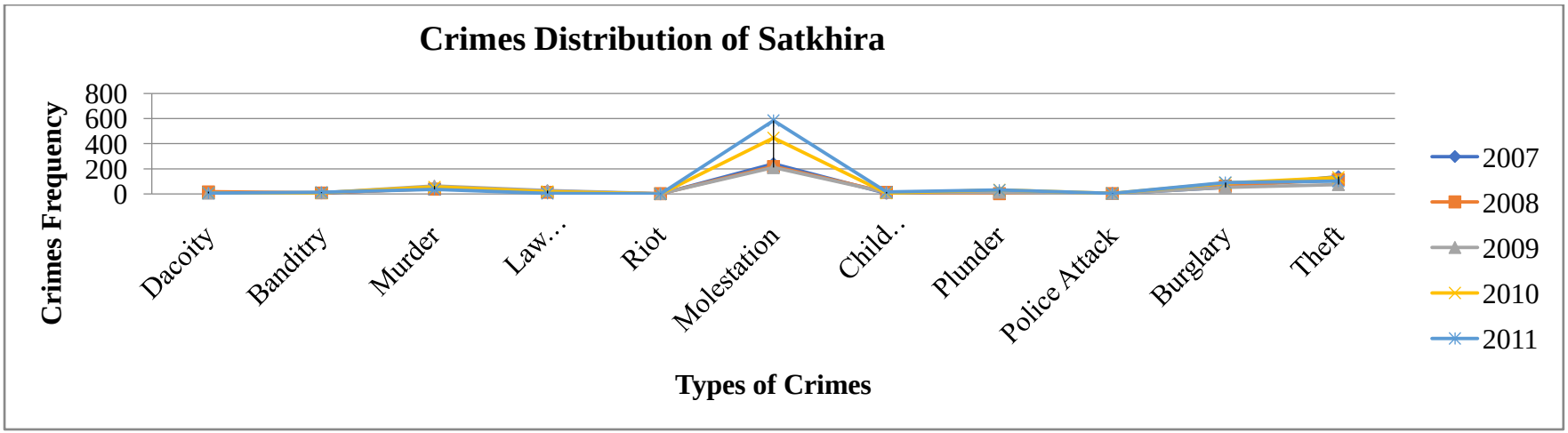

Figure 4.30 Crime Distribution Pattern of Satkhira from 2007 to 2011

4.6 Crime Hotspots

Occurrence of crimes is a common scenario in the rural and urban areas including coastal areas of Bangladesh. All occurrences of crimes are not always reported to the police station. Some of them are not reported to avoid some hassle which are admitted by the local people. There are some places which are very sensitive for the occurrence of crimes in every district as well as Upazilla/thana in Bangladesh. Similarly, some places in the study area, very sensitive for the occurrence of crimes are identified as hot crime spots. These spots are selected by the respondents in the field study shown in the table 4.16. These spots are also recognized by the local authority and some intellectual personalities. The spots of crimes are identified in the exclusive coastal thanas (Figure 4.31). From the field survey, some places are identified as the home for criminals who are very powerful with modern and huge weapons in collaboration with the local leaders. The following places are recognized as hot crime zone.

Table 4.16 Hotspots Crime Zone

Upazilla Name	Hotspots Crime Zone (Local place's name)
Cox's bazar Sadar	Kutubdia para, Ghonapara, Charpara, Tekpara, Barchara, Jojuripara, Pahartali, Samitipara, South Kalatali, Himchhari, City college, Baiddhkhola, Nuliachhara, Larparea, Pionkhali, Kurusakul, Kumchul Bridge, Holiday Moor, Feshkapara
Maheskhali	Shaplapur, KalamonyChhara, Kot, Moheshkhali, Kamarchhara, Baro Maheshkhali, Kutubbazar, Dalghat, Mattarbari, Jallaipara, Hoanak, Thakurtala, Lambaghona
Kotwalithana in Chattogram	Kotwali Moor, Andarkella Moor, Laldegher Moor, EidgahKatcha Road Moor
Kutubdia	Akbarbalirpara, Jojuralisikdrpara, Uttar

	Pawarchil, Binderpara, Kaillarpara, Madanmiahjir Para, Kalammar Para, Choumuhani
Sandwip	Sivarhat, Pachina, Golpara, Chalirhat, Matuapur, Natunpara
Sitakunda	South Muradpur, South Eidelpur, South Jodhainagar, Patherpara, Dalipara, Akilpur, Boaliakul
Sonagazi	South Charchandia, Char Shahbekhari, Chardarbesh, Nawabpur,Vorbazar,Mongolkandi
Mirersharai	Bodiullahpara, Rahamatabad
Anawara	Raishata, Raipur, Juidondi, Barakhchara, Battali,Suranga, Borumtara, Barunchhara, Gahira, Rampur, Barshat, Barkhain
Banshkhali	SarayallaBazar,BasanayaBazar,Kalikapara, Sindhepara, Duaripara, Matkhoirapara, Said Baharullahpara, Maijhpara, Fakirpara, Mahaldaripara, Choumohoni
Koyra	Maheswaripur, ShakherghonaAntabunia, Kushadanga, Kalikapur, Kushadanga, Aamtola, Fatekati, MadinabadSathalia, Jaigirmahal, MathbariChoukiniArjunpurBogaBarpata
Dashmina	Dasmina Ward 2, Charhati, Basbariar Char, Basbaria Launch Ghat, Gahana ,Bandar, Rana-Gopadi, Nijabad, Khaishikhali ,Sundarban Forest, Masuakhali, Betagi Bazar, Jaforabad, Amtola, Bogra, Adumpur, Charhadi, Char Shahajalal ,Kazi Kanda Area, Launch Ghatbaria, Purba, Auliapur, Char

	Borhan ,Patarchar, Talipur Union, Alipurahat, Sonar Char, Betagi Bazar, Gopaldi, Betagi Bazar, Mollabazar, Bidin Char, Bangla Bazar, GhatVolaisingh, Pachkhal, Kalibari , Rashwalobe ,Nepalgonoj, Nehalgonj Char Area
Charfession	Soto Bogibazar (1), Pazalganj, LatifMaih'r Hat, SabujBagh, Ajlampur,
Lalmohan	SabujBagh ,Aligath,Badarpur, Ramganj, Fulbagicha,Dattari, Fulbagicha, KhazuraDavi Char, Badarpur
BholaSadar	DakhinCharanbad, Prorokada, Char Noor, Ali Nagar, Rasulpur, Ali Nagar
Hatiya	VoyarCha, Sukchar Union ,Voyar Char, Nalachira, Nalir Char, CharaBastal, Nalachira, NijhumDwip, CDSP Bazar, Naler Char, Kering Char, Char King, King Jahaizzar Char
Others	Nalachira, Char Ishwara, Kring Char, Rahamat Bazar, Jahaizzar Char, Adazia,Kalir, Dail ,Kazir Bazar, Nanglair Char, BuriddanaSuis etc.

Source: Field Survey, 2012-2013

The above table shows the major hotspots of crimes in the coastal zone of Bangladesh.

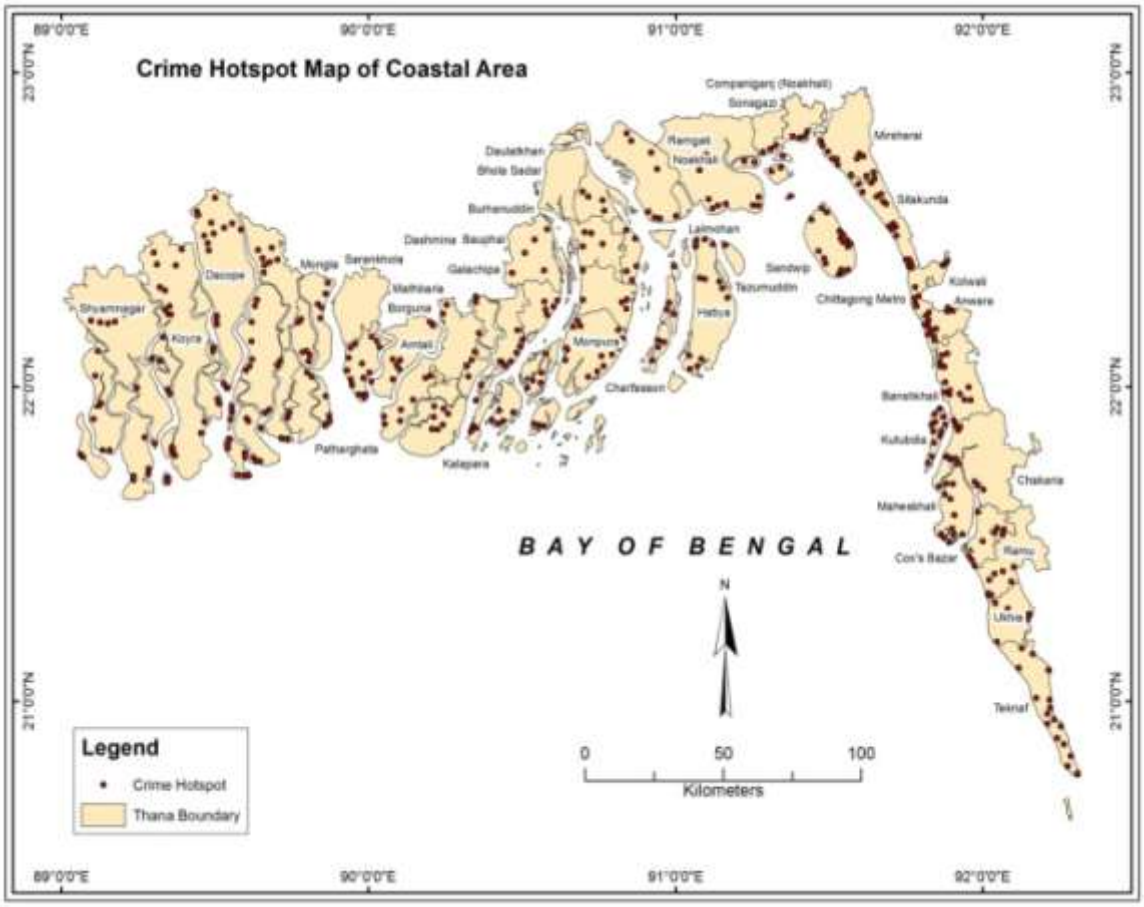

Figure 4.31 Map of Hot Crime Spot of Study Area

4.7 Season of occurrence of Crime

Bangladesh is a land of six seasons. But based on climate, there are three seasons like Summer, Rainy and Winter in Bangladesh. Summer season consists of March, April and May, Rainy season consists of June, July, August and October and Winter season lasts from November to February. Seasonal occurrence of crimes for the coastal area revealed (table 4.16) that thirty five percent crimes occur in winter season because nights are long, cool and comfortable and hence, the atmospheres congenial for crime like petty thefts and burglary (Ahmad and Baqee, 1988). Besides, political events take place in cooler months and political programs directed against the establishment inevitably lead to arson, rioting and other acts punishable by law, followed by Rainy season (Twenty nine percent), Summer season (twenty three percent) and all season (rest part). But Pre-monsoon (Summer) and post monsoon (winter) are the ideal period for genesis cyclones which

ransacks the property and lives in the study area. This adverse situation sometimes creates a suitable environment for social disorder.

Table 4.17 Season of occurrence of crimes

Name of season	Frequency	Percent
Summer	126	23
Rainy	160	29
Winter	193	35
Any Season	71	13
Total	550	100

Source: Field Survey, 2012-2013

4.8 Time of occurring Crimes

Primary data obtained from the field survey conducted on 2012 reveals (Table 4.17) that, 3.5 percent of respondents passed their opinion that crimes generally occur in day time and 73% respondents admitted that crimes usually occur at night whereas 23.5% respondents agreed that the occurrence of crimes happen in any time of the day and night. But night is the suitable time for the occurrence of crime due to rest time of people, absence of light, less barrier of criminals and less movement of the public etc.

Table 4.18 Time of occurring crimes

Time	**Frequency**	**Percent**
Day	19	3.5
Night	402	73
Both	129	23.5
Total	550	100

Source: Field Survey, 2012-2013

4.9 Crime Population Ratio

Crime population ratio is measured from the quotient of the crime number by the total population of the respective area in the coastal zone of Bangladesh. The crime rate is not very high in our country. The crime rate per one lakh population in India is 636.6, in Canada it is 12735, in Britain it is 8576, in Germany it is 8036, in Denmark it is 10021 and in New Zealand it is 13087 (Ahuja, 2014) whereas in Bangladesh is 1178.24 in 2011.

Table 4.19 Crime density and crime-population ratio

District Name	Area (SQKM)	Total Crime	Population 2011	Crime Density (Area Wise)	Crime and Population Ratio
Barguna	1309.16	7726	892781	1.18	0.0087
Bhola	1929.46	8355	1776795	0.87	0.0047
Patuakhali	2283.06	9544	1535854	0.84	0.0062
Pirojpur	1167.63	7042	1113257	1.13	0.0063
Chattogram	4208.58	18458	7616352	0.88	0.0024
Cox Bazar	2168.87	13498	2289990	1.24	0.0059
Feni	863.08	7359	1437371	1.71	0.0051
Lakshmipur	1332.19	7147	1729188	1.07	0.0041
Noakhali	2492.81	9388	3108083	0.75	0.0030
Bagerhat	3522.75	10588	1476090	0.60	0.0072
Khulna	3650.42	10457	2318527	0.57	0.0045
Satkhira	3441.88	12833	1985959	0.75	0.0065

Source: BBS, 2015 and Police Head Quarter, 2012. Dhaka

Based on the secondary data, this ratio is determined. Crime population ratio is measured from the number of crimes divided by the number of the population in the individual coastal district of Bangladesh. This ratio indicates the number of occurrences of crime per person in the exclusive coastal district of Bangladesh. Comparing with neighboring countries, this ratio in Bangladesh is alarming. This ratio is divided into five categories such as very low ratio indicating from 0.0024 to 0.0036, low from 0.0037 to 0.0048,

moderate from 0.0049 to 0.0060, high from 0.0061 to 0.0072 and very high from >0.0072.

Very low ratio zone falls in Chattogram and Noakhali district where as low crime population ratio falls into Khulna, Lakshmipur district. Moderate crime population ratio falls into Bhola, Feni district. High crime population ratio zone falls into Satkhira, Baghrhat, Pirojpur, Patuakhali and Cox's bazar district but very high crime population zone falls in Barguna district shown in figure 4.32. Barguna is comparatively less occupied area with high occurrence of crimes and primary qualitative data also revealed that unemployment, lack of proper education, illiteracy, political conflict, poverty and so forth are responsible for the high occurrence of crime in this district. Whereas Chattogram and Noakhali district fall into very low crime population zone because of covering comparatively vast area and population with scope of a work, gradually expanding the modern education, a large number of people engaged in foreign countries.

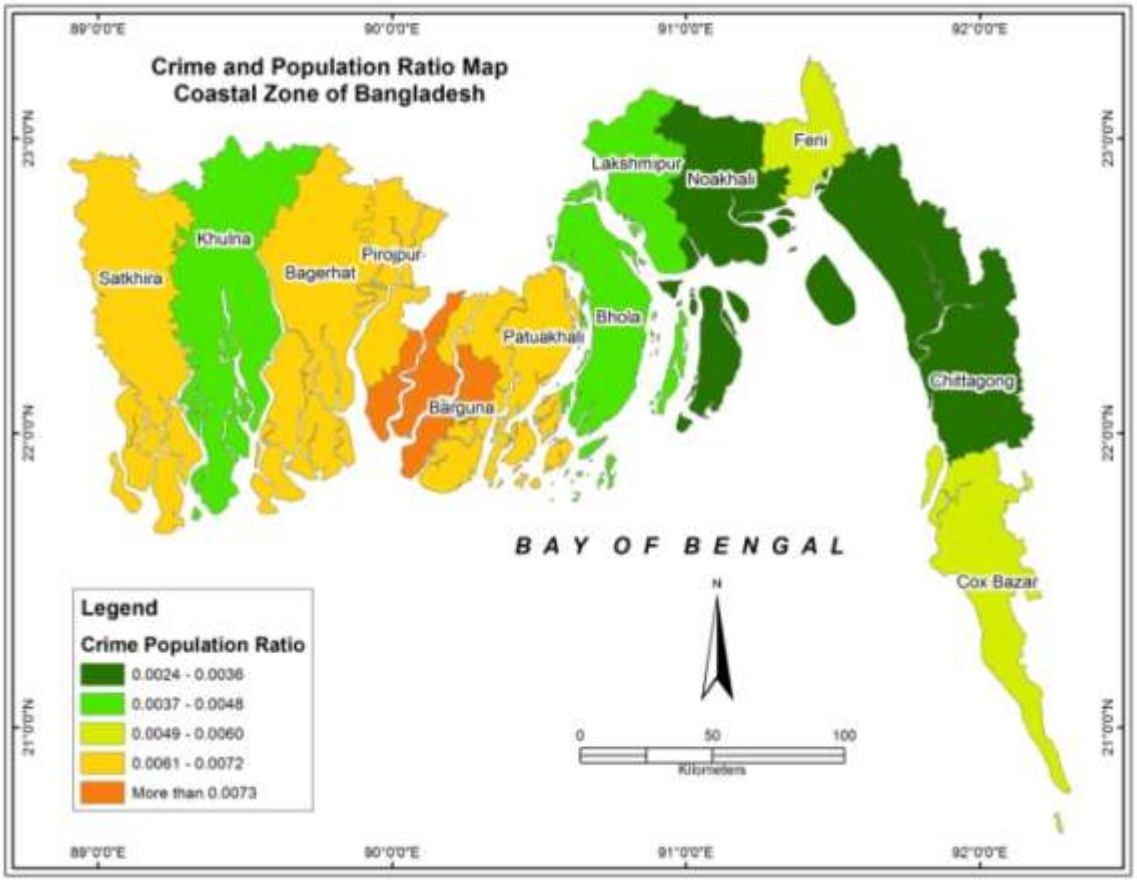

Figure 4.32 Map of Crime Population Ratio of the exclusive coastal districts of Bangladesh (Police Headquarters, 2012 and BBS, 2015)

4.10 Crime Density

Crime density is measured from the number of crime figure divided by the area in square kilometer of the individual district of the coastal zone of Bangladesh.

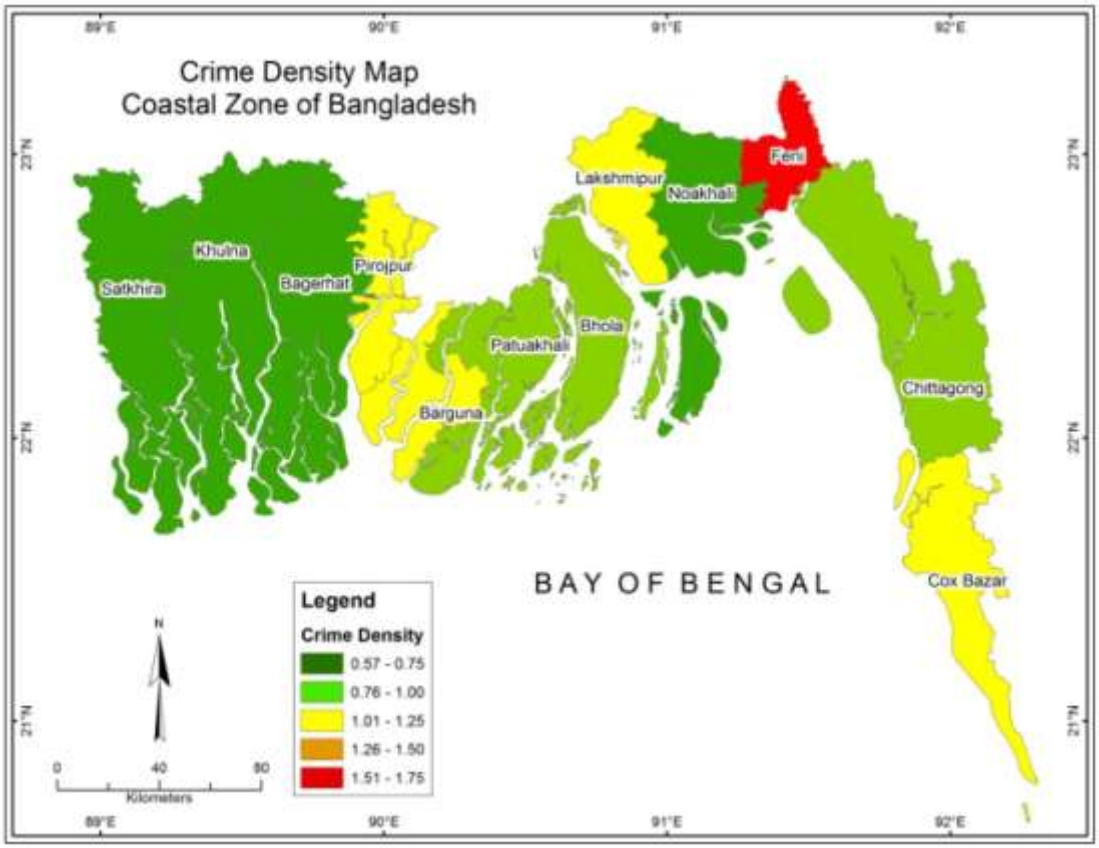

Figure 4.33 Crime Density Map of the Exclusive Coastal Districts of Bangladesh

(Police Headquarters and BBS, 2015)

Crime density based on crime number and area in square kilometer of the respective coastal district is divided into five category zones like Very low crime density zone ranging from 0.57 to 0.75 crimes per square kilometer, low crime density zone from 0.76 to 1.00, moderate crime density zone from 1.01 to 1.25, high crime density from 1.26 to 1.50 and very high crime density from 1.51 to 1.76. Very low crime density zone falls into the coastal district of Satkhira, Khulna, Bagerhat and Noakhali due to occupy comparatively large areas. Low crime density zone falls into Patuakhali, Bhola and Chattogram district. Similarly, moderate crime density zone falls into Pirojpur, Barguna,

Lakshmipur and Cox's bazar district shown in Figure 4.33. High crime density zone is no found in the coastal district but very high crime density zone falls into Feni district due to occupy comparatively less area with high frequency of criminal activities. The presence of some remote islands/chars, neighboring country border, political conflict, use of illegal arms, misuse of drug and narcotics etc. are responsible for the highest rank in crime density zone of Feni.

4.11 Concluding Remarks

This chapter described the findings on crimes in the coastal area of Bangladesh. It has depicted the types, causes, distribution, hot spot of crimes with crime density and crime-population ratio of the exclusive coastal region of Bangladesh based on primary and secondary data. Molestation and thief take top and second highest rank in almost every exclusive coastal district in Bangladesh. The next chapter describes the disasters with types, causes and severity that have been important findings which induced crimes in the study area.

Chapter Five: Disasters with Types, Causes, Severity, Occurrence of Time and Devastation in the Coastal Area of Bangladesh

5.1 Introduction

Bangladesh is a disaster-prone country. The major disasters known from the perception study area are cyclone, flood, storm surge, river/sea-bank erosion, salinity intrusion etc. Earthquake, tsunami, landslide and drought etc. are speculated in little level in the limited area of the coastal zones of Bangladesh.

5.2 Disaster Severity

Bangladesh is a land of disasters. The coastal area of Bangladesh is a disaster-prone zone. Cyclone, Flood, River/ Sea bank erosion, Salinity, Earthquake, Tsunami, Tidal Surge, Landslide and Water logging etc. are the major hazards in the coastal zones of Bangladesh. Disaster severity is determined in terms of devastating activity, duration, speed, casualty etc. Disaster severity is measured by the perception and experience of the respondents through the questionnaire survey in the study area. In the field survey where the respondents were asked to mention the rank from 1 to 5 for each disaster and 1 indicates the very severe whereas 5 indicates the very low severe. From the obtaining position for each disaster, severity of individual disaster is calculated from 1 to 5 which indicates very severe to very low and red colour to green colour indicates very severe to very low severe. The measurement of disaster severity of the coastal area is cited in the Annexure II (Table 02). Based on the data from the questionnaire survey, individual hazard severity is discussed as follows.

Cyclone Severity: Natural hazards visit Bangladesh in many forms. Among the weather-related hazards, the most devastating ones are coastal cyclones associated with tidal surges. One of the worst cyclones in human history hit Bangladesh on 12 November 1970 killing over 300,000 people and the loss of other forms of life as well as physical property was proportionately massive (Islam, 2005). Severity of cyclone is expressed from very severe to very low based on the perception and experience of the respondents. Cyclonic severity has been measured by the data obtained from the field survey where

ranking from 1 to 5 for cyclone was mentioned and average score for cyclone for each thana/upazilla was calculated. This score has indicated the severity of cyclone as 1 to5 where 1 indicates for high severe, 2 for severe, 3 for moderate, 4 for low and 5 for very low. Very severity cyclonic coastal thanas/upazillas are Amtali, Kotwali (Chattogram) Barguna Sadar, Patharghata, Borhanuddin, Charfession, Lalmohan, Monpura, Dasmina, Galachipa, Kalapara, Mathbaria, Anawara, ChattagongSadar, Sandwip, Kutubdia, Maheskhali, Hatiya, Mongla, Sarankhola, Dacop, Koyra and Shyamnagar shown in the figure 5.1. Severity of cyclonic zone lies in Taltali, Bhola Sadar, Daulatkhan, Bauphal, Banshkhali, Mirsharai, Sitakunda, Teknaf, Ukhia, Ramu, Sonagazi, Ramgati, Assasuni and Companigonj (Figure 5.1). On the other hand, Moderate zone of cyclonic severity zone lies in Cox's bazar Sadar and Chakaria thanas cited in annexure (Table-02). But there is no low and very low severity of cyclone zones in the study area.

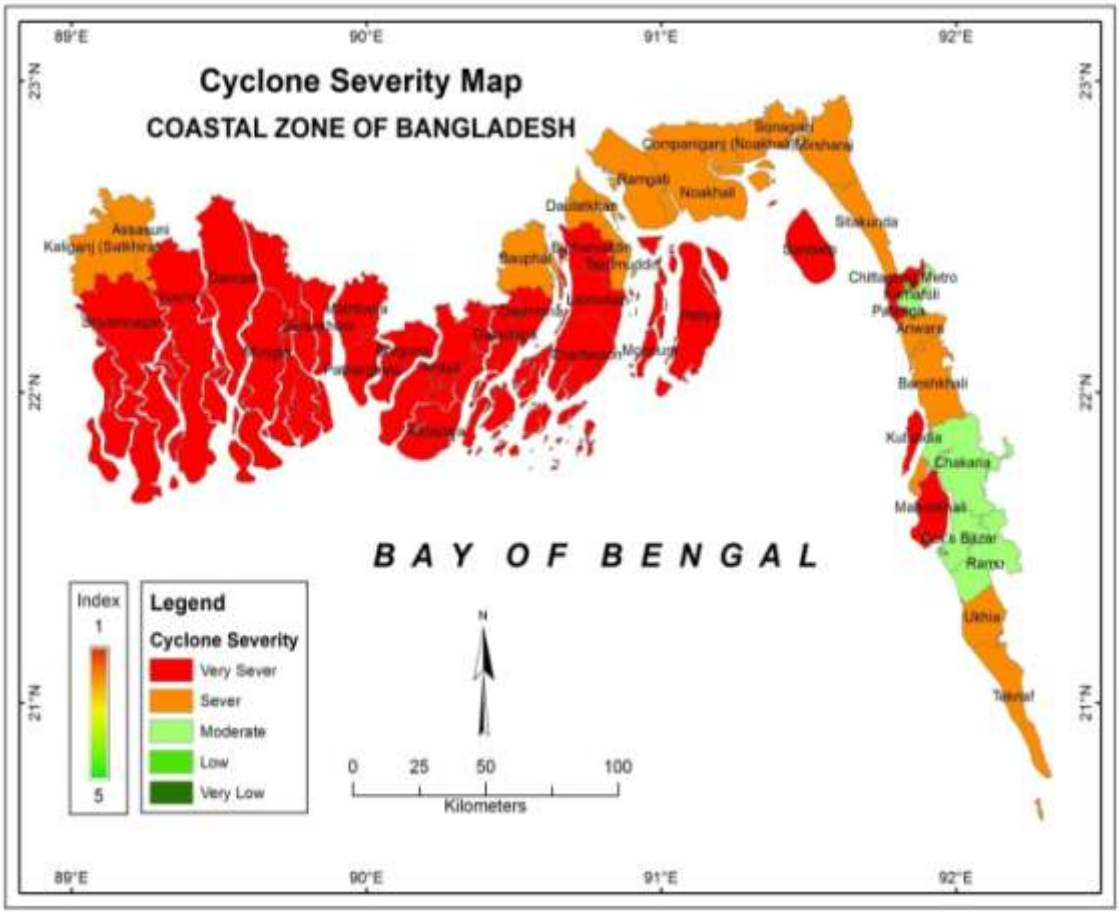

Figure 5.1 Cyclone Severity Map of Study Area (Field Survey, 2012-2013)

Based on the list of major cyclonic storms from 1960 to 2007 recorded by Meteorological Department, Dhaka, fifty percent major cyclonic storms hit in the Chattogram coast and thirty one percent of major cyclonic storms hit in the coast of Cox's bazar. Twenty four percent of occurrence of major cyclones hit in the coastal zone of Khulna whereas fourteen percent of major cyclonic storms hit in the coast of Barisal. About 70 countries of the world are directly affected by tropical cyclones cited in (Ali and Chowdhury, 2014). But among them, Bangladesh is the worst sufferer, particularly in terms of human death. Ali and Chowdhury (2014) stated in their book that about 38% death occurred in Bangladesh, 18% in India, 4% in Myanmar and 40% in the rest of the world. The total Bay of Bengal share comes out to be about 60%. About 1% cyclones of the global total caused about 38% death in Bangladesh alone (Ali and Chowdhury, 2014).

Earthquake Severity: Bangladesh frequently experiences earthquakes of lower magnitude in the north eastern, south-eastern and central parts of the country. It also experienced at least 7 major earthquakes in the last 150 years of which two had their epicenters in Bangladesh (Islam, 2005). In July 22, 1919, a moderate earthquake (mb=5.2) jolt Moheskhali Island that caused 7 deaths and rendered hundred and thousands of people homeless (Dewan et al., 2001). It is believed that more than 95 percent of deaths occurring in earthquakes are due to collapse of houses in the earthquake prone areas of the world (Alexander, 1985) and about 90 percent of which belongs to low-income people (Schilderman, 1993). Severity of earthquake is measured from the qualitative data related to earthquake converted into quantitative data in the field survey. Severity of earthquake has been classified into five categories like very severity, severity, moderate, low and very low based on the perception and experience of the respondents. But severity of earthquake is identified by the responses of the respondents. Ramu, Snadwip, Kutubdia, Chattogram Sadar and Cox's bazar etc. lies in the severe earthquake zone of the study area. Maheskhali, Ukhia, Teknaf, Mirsharai, Sitakunda and Chakoria fall in the moderate zone of earthquake shown in the Figure 5.2. Rest part of the study area is identified as very low earthquake zones in Bangladesh except Sonagazi.

The main earthquakes that have affected Bangladesh since the middle of the last century are the Cachar Earthquake of January 10, 1869, the Bengal Earthquake of July 14, 1885,

the Great Indian Earthquake of July 12, 1897, the Srimangal Earthquake of July 8, 1918, the Dhubri Earthquake of July 3, 1930, the Bihar Nepal Earthquake of January 15, 1934 and the Assam Earthquake of August 15, 1950 (Choudhury, 2009). Of these, only the Bengal Earthquake of 1885 and the Srimangal Earthquake of 1918 had their epicenter in Bangladesh. There is a strong chance of an earthquake occurring along Myanmar coast or along Moheshkhali coast of Bangladesh in near future and Bangladesh can be affected (Choudhury, 2009). Bangladesh frequently experiences earthquakes of lower magnitude in the north eastern, southeastern, and central parts of the country, it also experienced at least 7 major earthquakes in the last 150 years of which two had their epicenters in Bangladesh (Islam et al., 2016).

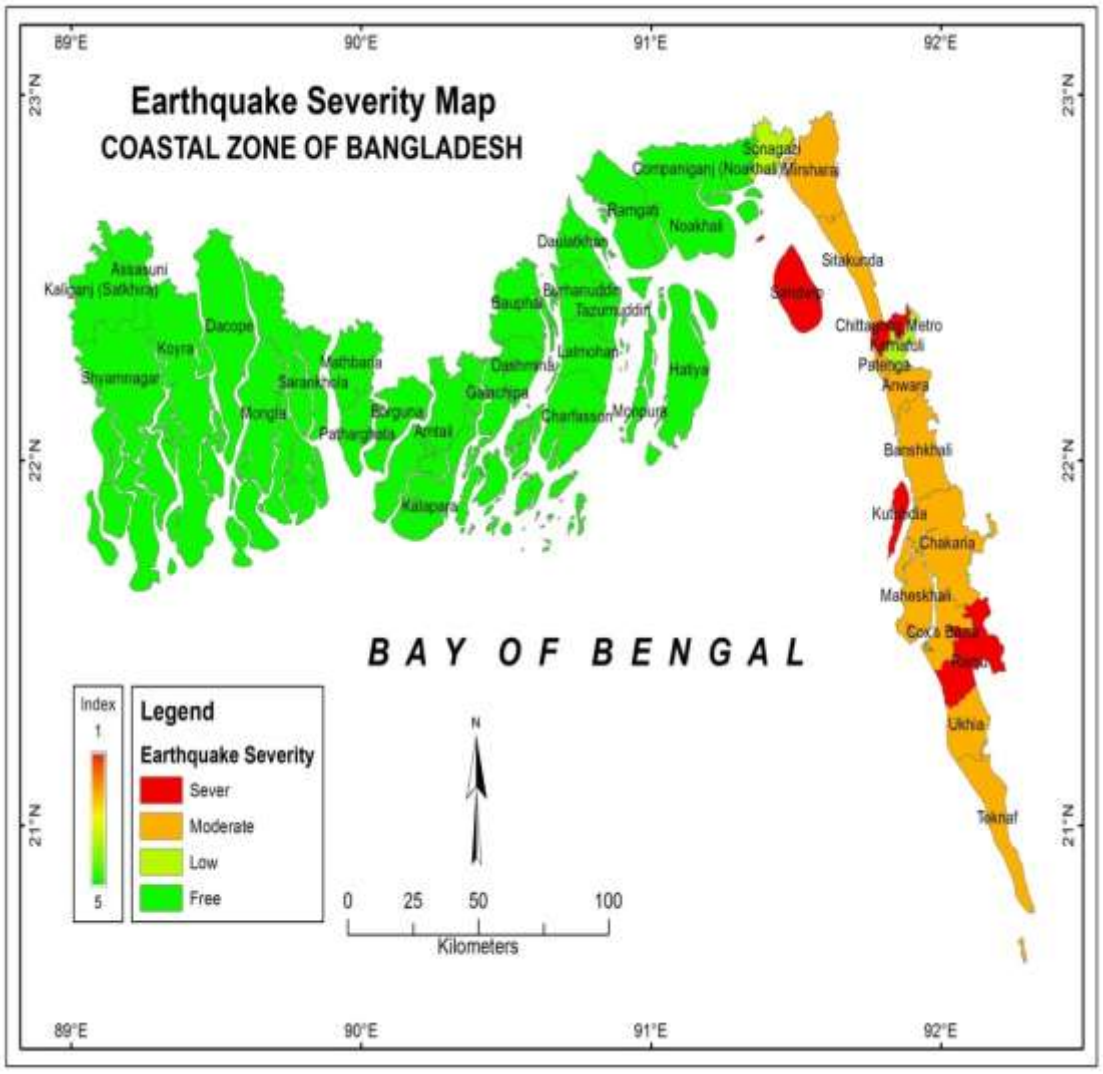

Figure 5.2 Earthquake Severity Map of the Study Area. (Field Survey, 2012-2013)

Flood Severity: Floods are the most devastating disasters in terms of damage to crops and physical properties. Loss of life is also not very insignificant while in some of the worst floods economic loss may amount to many billion dollars (Islam, 2005). Generally the most severe floods occur during the months of July and August (DMB, 2010). Regular river floods (during monsoon season) affect 20% of the country which may rise up to 67% in extreme years like the 1998 flood (Hossain, 2012). The floods of 1988, 1998 and 2004 were simply disastrous (SDC, 2010). Tidal flood is a common scene in this study area. High tide in the Bay of Bengal coupled with wind set-up caused by south westerly monsoon winds that interfere drainage of the upland discharge and storm surges due to tropical cyclones in the Bay of Bengal are the main causes of tidal flood (Rasheed, 2011).

Flood severity is measured from the perception and experiences of the respondents in the field survey. Severity is grouped into five categories i.e very severe, severe, moderate, low and very low ranked from1 to 5 indicating red colour to green colour respectively. Taltali, Kotwali. Amtali, BholaSadar, BargunaSadar, Patharghata, Charfession, Monpura, Galachipa, Kalapara,Teknaf, Hatiya, Mongla, Koyra and Syamnagar are in severe zone of flood. Moderate zone lies in Borhanuddin, Daulatkhan, Lalmohan, Bauphal, Dasmina, Mathbaria, Sandwip, Kutubdia, Maheskhali, Ukhia, Ramgati, Sarankhola, Dacope and Assasuni shown in the Figure 5.3. Low zone falls in Anwara, Chattogram Sadar, Cox's bazarSadar, Ramu, Companiganj and very low zone falls in Banshkhali, Mirsharai, Sitakunda, Chakaria and Sonagazi cited in the annexure II.

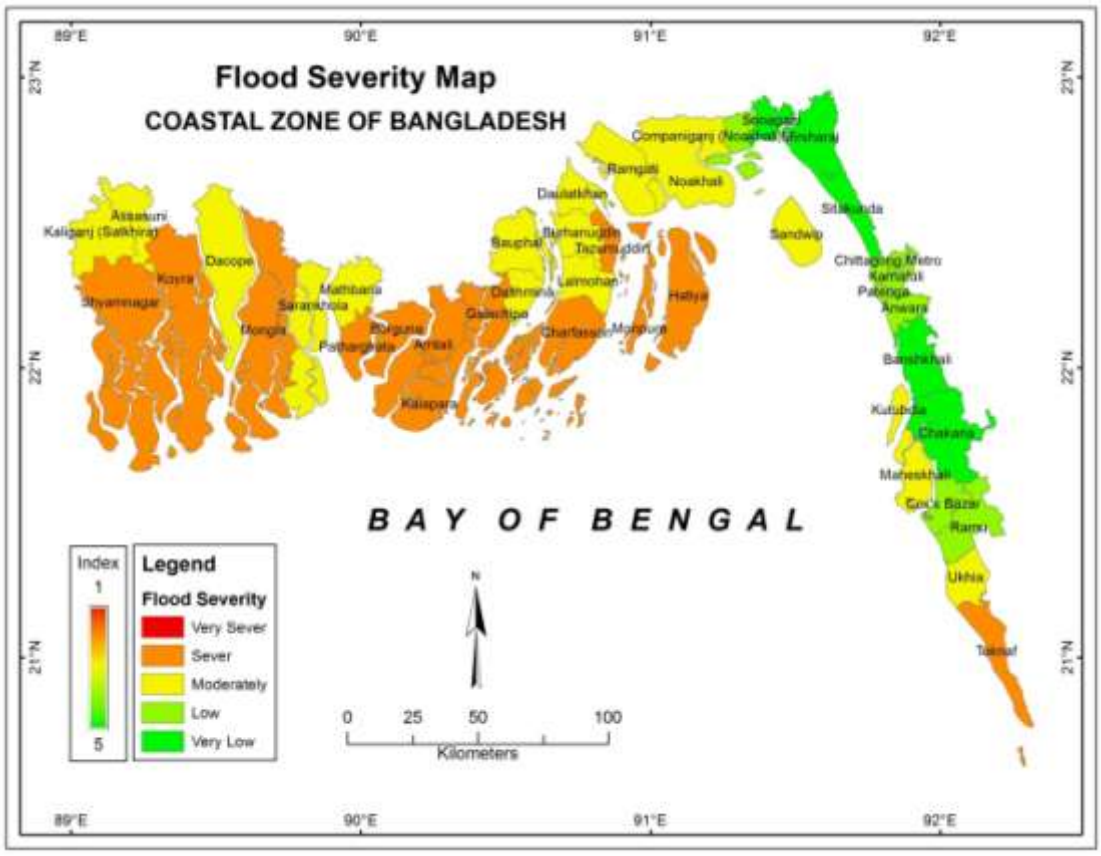

Figure 5.3 Flood Severity Map of the Study Area (Field Survey, 2012-2013)

About 60 to 65 percent of the country is considered flood prone, while even in years of normal rainfall- some 20-22 percent of the land is inundated (Rasheed,2011). The geographical location of Bangladesh in the downstream section of the Ganges-Brahmaputra-Meghna (GBM) basins along with the flat topographic nature of the terrain makes it highly vulnerable to floods. Flash floods occur in the hill streams along the northern, northeastern and southeastern parts of country during the pre-monsoon months of March to May. Storm surges accompanying tropical cyclones in the Bay of Bengal cause sudden, but temporary, flooding of coastal areas with brackish or saline sea water. The extent of storm surge floods depends on several factors: the elevation of the storm surge at the coast, the relief of the adjoining land, whether or not a coastal embankment exists, and the impedance of water flow by settlements, trees, crops and road embankments (Rasheed,2011).

Landslide: Severity of landslide is measured from the qualitative data obtained from the field survey. Severity of landslide is categorized into five groups like very severe, severe, moderate, low and very low. In the coastal belt where there is no very severe or severe zone of landslide. Anawara, Banshkhali, Chakaria, Cox's Bazar sadar, Kutubdia, Ramu, Teknaf, Ukhia fall in the moderate zone of landslide. Kotwali, Chattogram Sadar, Mirsharai, Sitakunda and Moheskhali fall in the low severity zone of landslide. But the rest part of the study area falls in the very low severity zone shown in the Figure 5.4. As per the perception and experience of the study area is in somewhat less severity zone of landslide.

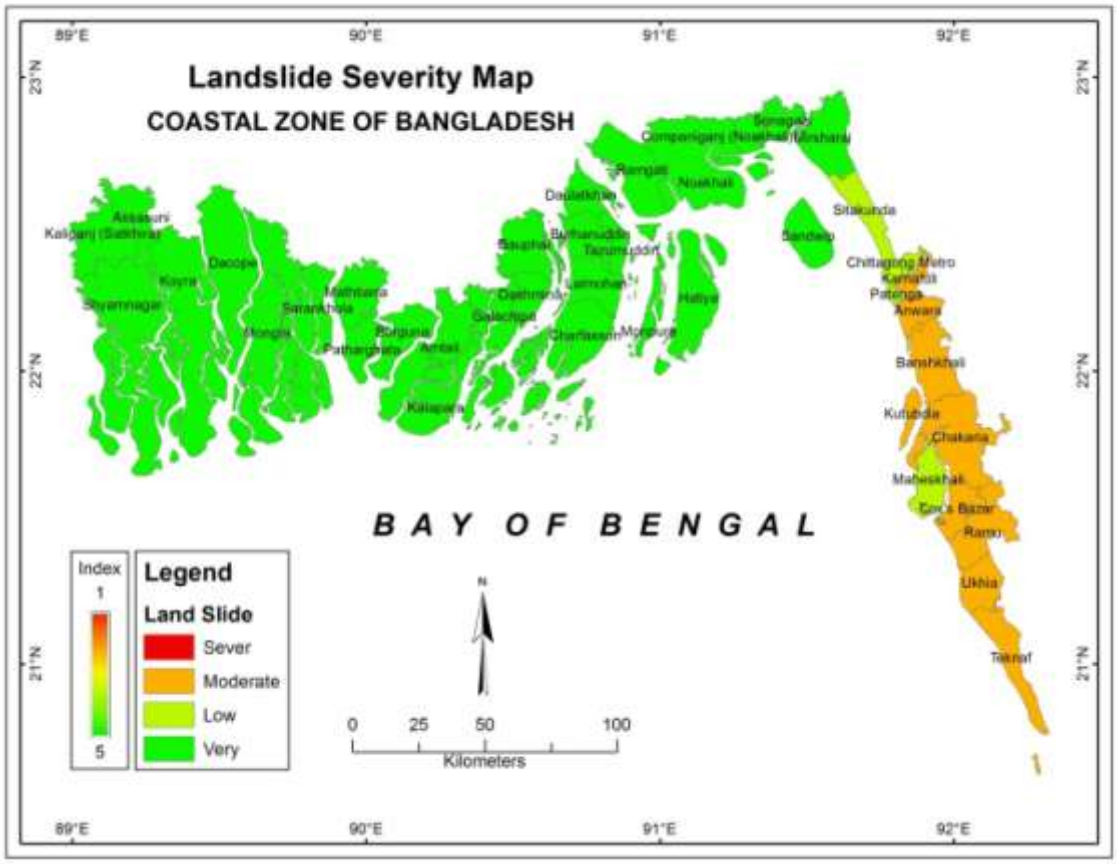

Figure 5.4 Severity of Landslide Map of the Study Area (Field Survey, 2012-2013)

River/Sea Bank Erosion: River bank erosion is a common hazard of the coast zone of Bangladesh. Hundreds of thousands of rural people are rendered homeless each year due to river bank erosion, the poorest among affected people ending up as migrant slum dwellers in cities (Islam, 2005). Every year twenty-five thousand acres of land is swept

away into the riverbed by river erosion and only two thousand and five hundred acres of land including char surface rise up. About 5% of the total flood plain area of Bangladesh was directly affected by riverbank erosion (Krantz, 1999). The erosion near the coast of Tozumuddin (Bhola) was about 3.5 kilometres between 1940 to 1963 and about 3 kilometres between 1963 to 1982 (Krantz, 1999). Riverbank erosion severity is measured by the same way and the category of severity of riverbank erosion is of five types. BholaSadar, Charfession, Monpura, Dashmina, Galachipa, Kalapara, Sandwip, Maheskhali, Ramgati and Hatiyathana/Upazilla fall in the very severity of riverbank erosion (Figure 5.5). The natural shape of Bangladesh coastal and marine areas is regulated by dynamic processes such as tides, wave actions, strong winds and sea level variations. Over the last two centuries, huge changes have taken place due to continuous land erosion and accretion along the coastline. The area of Sandwip Island, for example, was 1080 sq km in 1780, but now it has been decreased to only 238 sq km and in Hatiya, erosion is taking place at the rate of 400 metre/year (Ahmed,1999). Hatiya has reduced from 1000 sq km to only 21 sq km over 350 years whereas Sandwip has lost 180 sq km in the last 100 years and Kutubdia has reduced from 250 sq km to only 60 sq km during the period 1880 to 1980 (Hossain, 2012). Haroni-Chanandi, Sukchar and Nalchira unions have been vigorously affected. But Harani and Nillakshmi unions out of 11 unions were totally disappeared in 40 years (The Dailly Ittefaq, July 31, 2013).

Monpura is a scattered island Upazilla of Bhola district and it always faces deadly and continuous erosion of Meghna. It has become small gradually due to river erosion. Mazgram, Kalatali, MonpuraMauza have already disappeared into the Meghna. Besides, most parts of Andirpar, Sitakunda, Ishwarganj, Sonarchar, Daserhat and Charanjan have become eroded by the Meghna (The Dailly Ittefaq, August 8, 2013). Taltali,Mongla, BargunaSadar, Borhanuddin, Bauphal, Mathbaria, Sitakunda, Kutubdia, Teknaf, Ukhia, Sarankhola, Shyamnagar and Koyra fall in severity zone. River morphology in Bangladesh is highly dynamic. According to the Bangladesh Water Development Board about 1200 km of river banks are busily erodible (SDC, 2010). Bhola (district) island has been extracted from 6400 km^2 to 3400 km^2 since 1960 (Hossain, 2012). Sea-level is rising at a faster pace along the Chattogram coast line, causing serious problem of coatal erosion (Brammer, 2014). Much of of the Kutubdia Island has been eroded and the Cox's

bazar-Teknaf highway is now threatened. The St. Martin's coral island is also jeopardy (Islam,2016). Moderate zone of river bank erosion lies in the thana/ Upazilla of Kotwali, Amtali, Daulatkhan, Lalmohan, Chattogram Sadar,Cox's Bazar, Ramu, Sonagazi, Companiganj, Dacop. On the other hand, low severity of riverbank erosion falls in Mirsharai, Chakaria and Anowara but very low severity of riverbank erosion lies in Banshkhali.

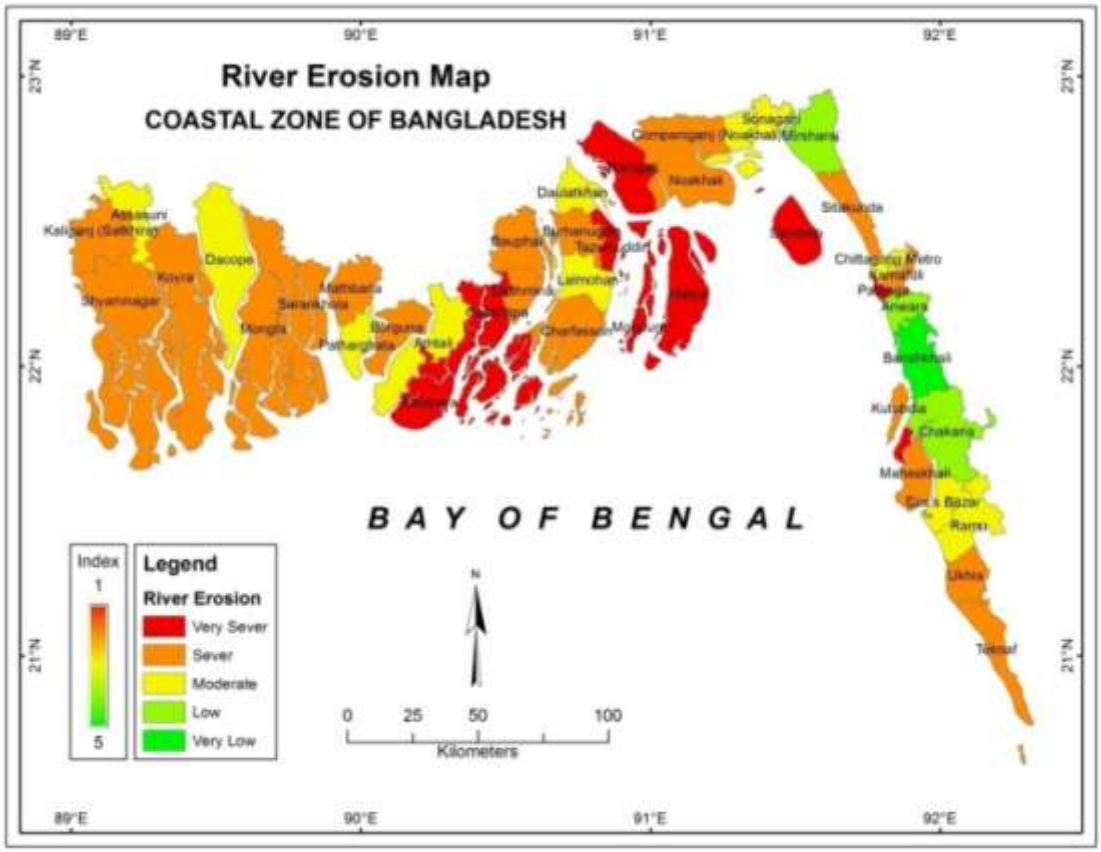

Figure 5.5 Severity of RiverBank Erosion Map of the Study Area (Field Survey, 2012-2013).

In every year during Monsoon, crop land, educational institutes, market, mosque including houses become disappear into the river Meghna and Tetulia ((The Daily Ittefaq,August 24, 2013).

Salinity: Salinity is a common scenario in the coastal region of Bangladesh. Saline water is commonly seasonal in Bangladesh. During winter the saline front starts to penetrate into inland, and the affected areas increase sharply from 10% in the monsoon to over 40% in the dry season (Hossain, 2012). The impact of salinity is long affecting on socio-

economic and environment of the coastal zone of Bangladesh. The severity of salinity is measured from the qualitative data obtained from the field study and categorized into five groups like very severe, severe, moderate, low and very low (Annexure II). Very severe of salinity zone lies in Taltali, Mongla, Amtali, BargunaSadar, Patharghata, BholaSadar, Borhanuddin, Charfession, Lalmohan, Monpura, Dashmina, Galachipa, Kalapara, Sandwip, Kutubdia,Maheshkhali,Teknaf, Ukhia, Hatiya,Sarankhola, Dacope, Koyra, Shyamnagarthanas/Upazillas(Figure 5.6). Severe of salinity zone falls in Kotwali, Daulatkhan, Bauphal, Mathbaria, Sitakunda, Ramu, Sonagazi, Ramgati, Companiganjthanas/Upazillas. Moderate zone of severity in salinity lies in Anawara, Banskhali, Chattogram Sadar, Mirsharai, Cox's Bazar Sadar, thanas/Upazillas. Low severe of salinity falls in Chakariathana but there is no very low severe zone of salinity in coastal belt of Bangladesh. The worst salinity conditions are reported from the Khulna, Bagerhat, Satkhira and Patuakhali districts (SRDI,2010). Salinity Intrusion is identified as the principal cause that makes the life endangered by creating various problems such as food insecurity, drinking/sweet water crisis, fuel wood problem, diseases, damaging agricultural crops, unemployment etc. (Azad and Khan, 2015).

The combination of rising sea-level, rising surface water temperature and increased salinity is causing a serious threat to the flora and fauna of the Sundarbans. It is generally believed that the Sundari trees are the main tree species of the Sundarbans, are sensitive to salinity and may face extinction (Islam, 2016).

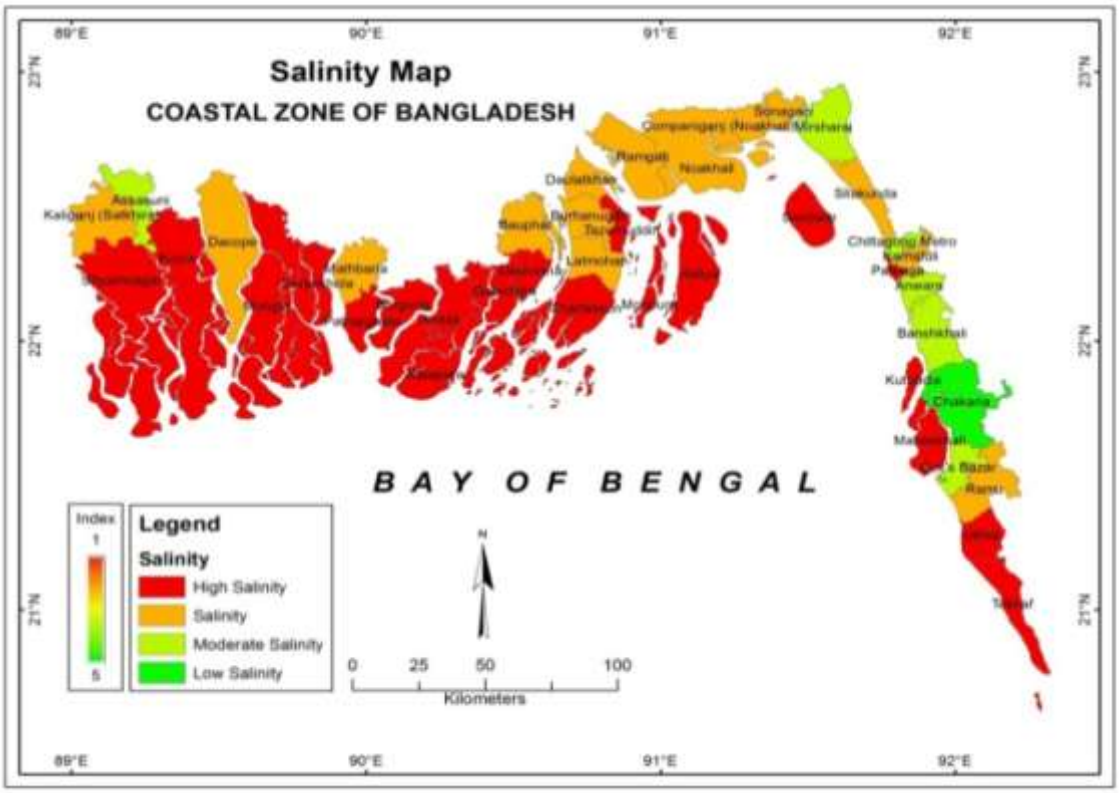

Figure 5.6 Severity of Salinity Map of the Study Area (Field Survey, 2012-2013)

Tsunami: Tsunami is not a common disaster in the coastal region of Bangladesh. But Bangladesh is not free from affecting of tsunami. A Tsunami wave is generated by the action of earthquake taken place on oceans or cataclysmic events beneath the ocean floor like volcanic eruptions or undersea slumps (Choudhury,2009). There is a strong chance of an earthquake occurring along Myanmar coast or along Moheshkhali coast of Bangladesh in near future and Bangladesh can be affected (Choudhury, 2009). Severity of tsunami is measured from the obtained data in the field survey. Severity of tsunami is categorized into five groups. No coastal thana/Upazilla is identified as very severe zone of tsunami. Severe zone of tsunami falls in Taltali, Mongla and BholaSadar. Moderate severe zone of tsunami lies in the thanas/Upazillas like Amtali, Charfession, Monpura, Galachipa, Kalapara, Sandwip, Kutubdia, Maheskhali,Teknaf, Ukhia and Hatiya. Major coastal thanas of Bangladesh falls in low severe of tsunami zone like BargunaSadar, Patharghata, Lalmohan, Dashmina, Anawara, Banskhali, Chattogram Sadar, Sitakunda, Cox's Bazar Sadar, Sonagazi, Ramgati, Companiganj, Sarankhola, Koyra and Shyamnagar shown in the figure 5.7. Very low severe zone of tsunami falls in

Borhanuddin, Daulatkhan, Bauphal, Mathbaria,Mirsharai, Chakaria, Ramu and Dacopethana/Upazilla in Bangladesh.

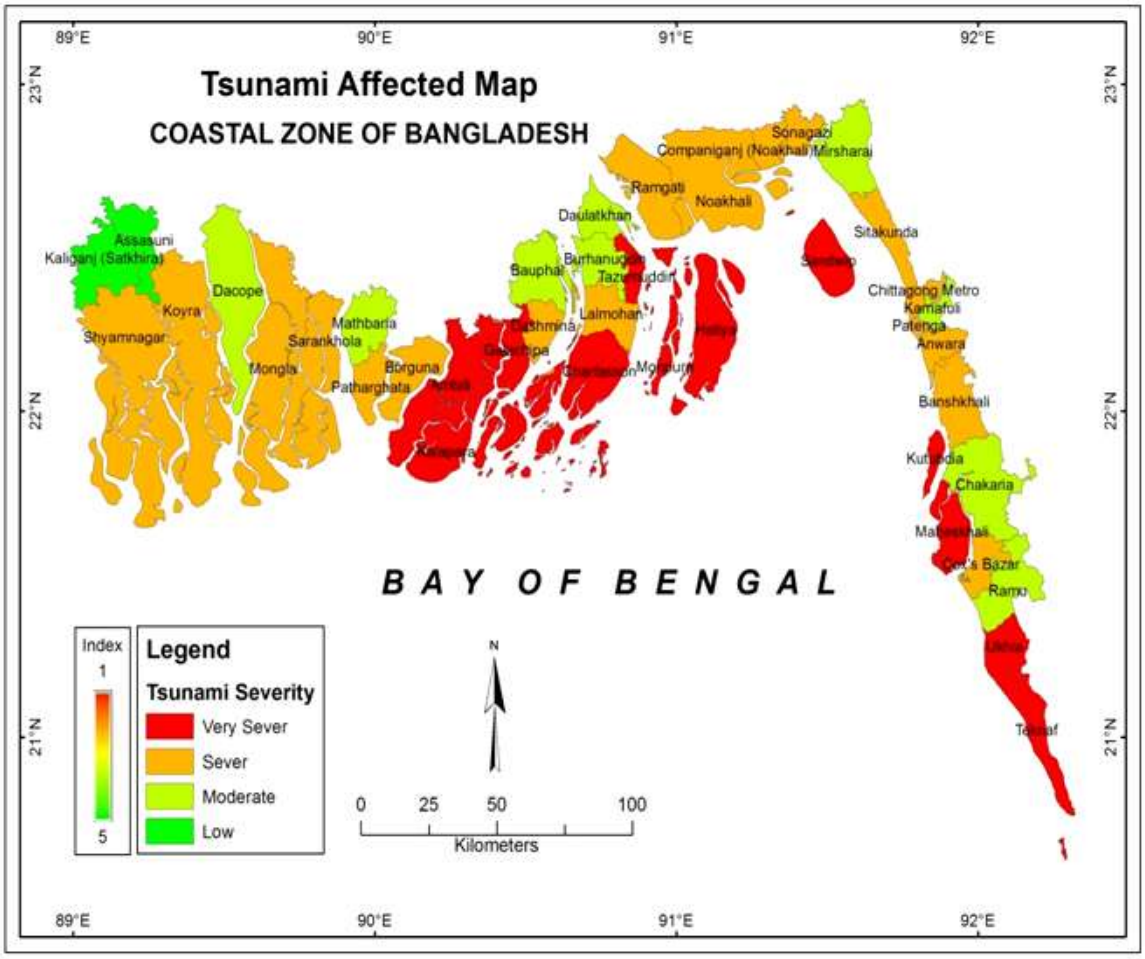

Figure 5.7 Severity of Tsunami Map of Study Area (Field Survey, 2012-2013).

Tidal Surge: Tidal surge is a common scene in the coastal zone of Bangladesh. Storm surge is the associated disaster of cyclone in the coastal belt of Bangladesh. It increases the level of destruction by cyclonic activity in all aspects in the coastal regions of Bangladesh. Bangladesh received international attention and sympathy when an 8m storm surge crossed the Bangladesh coast on 29 April, 1991 and killed 138,000 people in just a few hours and similarly, on 12 November, 1970, more than 200,000 people were killed by a 9m storm surge (Islam, 2001). The funnel shaped configuration of the coastline expands the tides and surges at the head of the Bay, especially on the Meghna

estuary (Islam, 2001). Severity of tidal surge is measured by using qualitative data obtained from the field survey and categorized into five groups as before (Annexure II).

High severity of tidal surge zone lies in the thanas/ Upazillas like Amtali, Charfession, Monpura, Galachipa, Kalapara, Sandwip, Maheskhali, Teknaf, Hatiya shown in Figure 5.8. Severe tidal surge zone falls in the coastal thanas/Upazillas like Mongla, BargunaSadar, Patharghata, BholaSadar, Borhanuddin, Daulatkhan, Lalmohan, Bauphal, Mathbaria, Anawara, Banskhali, ChiitagongSadar, Mirsharai, Sitakunda, Ukhia, Sonagazi, Ramgati, Companiganj, Sarankhola, Dacope, Koyra and Shyamnagar. Moderate zone of Tidal surge lies in the thanas/ Upazillas like Taltali,Chakaria, Cox's Bazar Sadar and Ramu. On the other hand, there is no zone of very low severe of Tidal surge identified by the perception and experience of the local people in the coastal belt of Bangladesh but low severe zone of Tidal surge falls in Kotwalithana of Chattogram district.

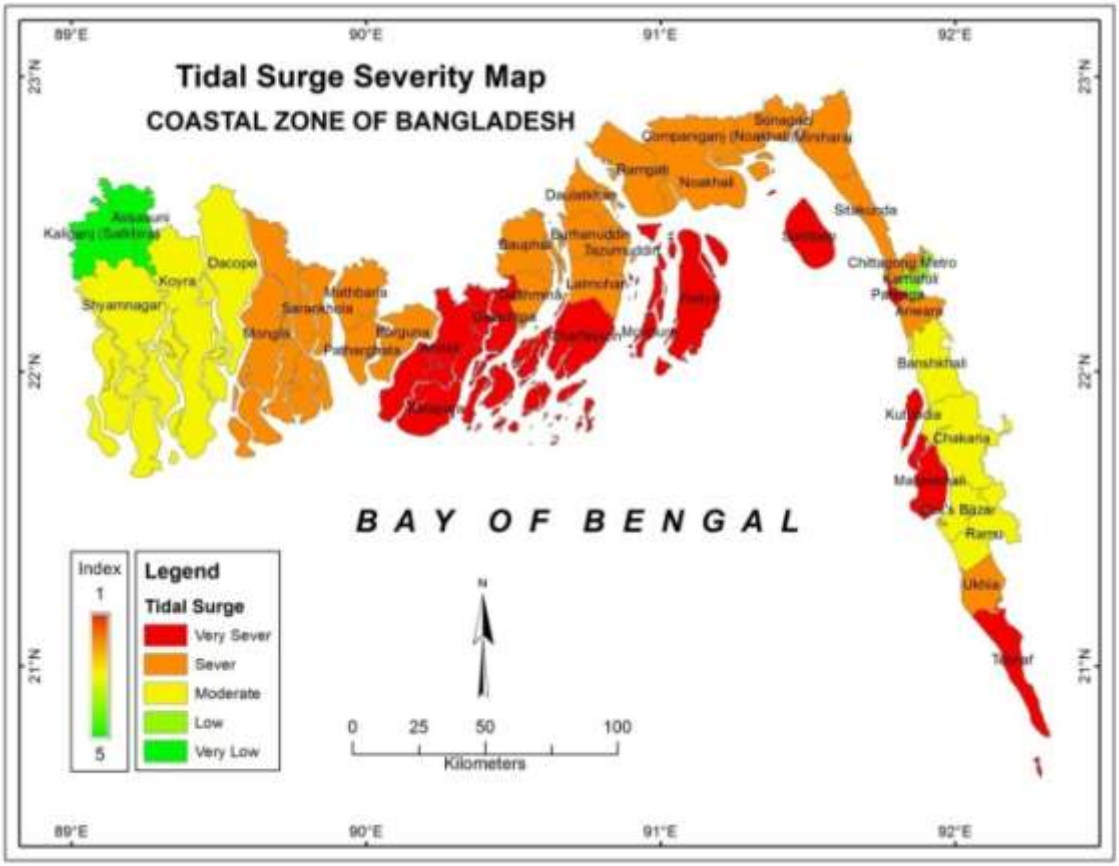

Figure 5.8 Severity of Tidal Surge Map of Study Area (Field Survey, 2012-2013)

Water Logging: Water logging is a burning issue of Bangladesh at present. Level and intensity of water logging gradually increases. Severity of water logging is measured by the qualitative data obtained from the field survey in 2012-2013. Severity of water logging is categorized into five groups as before (Annexure II). Due to the presence of Bay of Bengal and navigable river, very severe and severe zones of water logging are not identified by the perception and experience of the local people in the coastal zone of Bangladesh. But moderate zone of water logging falls in the coastal thanas/ Upazillas like Kotwali of Chattogram, Patharghata, Daulatkhan, Bauphal, Dashmina, Galachipa, Mathbaria, Chattogram Sadar, Mirsharai, Chakaria and Cox's Bazar Sadar. Low severe zone of water logging lies in Taltali,Mongla, Amtali, Barguna Sadar, BholaSadar, Borhanuddin, Lalmohan, Anawara, Banskhali, Sitakunda, Moheskhali,Teknaf,Ukhia, Sonagazi, Ramgati, Companiganj, Hatiya and Sarankhola. Very low severe zone of water logging falls in the thanas/ Upazillas like Charfession, Monpura, Kalapara, Sandwip, Kutubdia, Ramu, Dacope, Koyra and Shyamnagar shown inFigure 5.9.

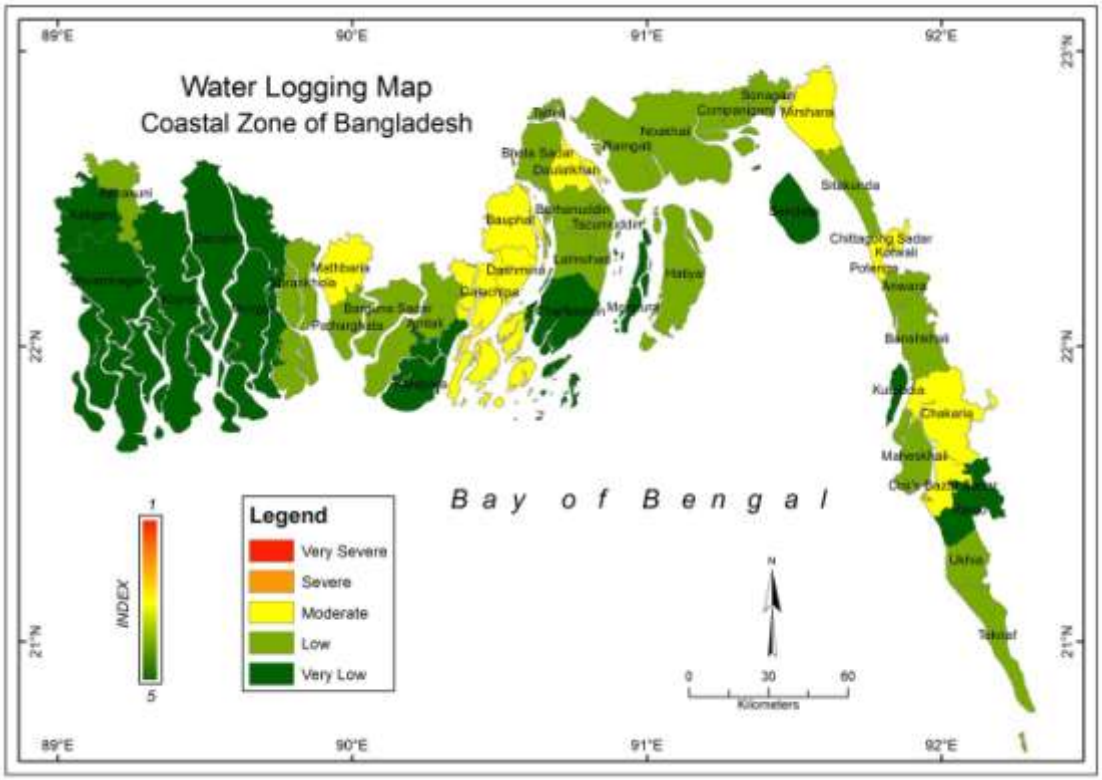

Figure 5.9 Severity of Water Logging Map of Study Area (Field Survey, 2012-2013)

Average Disaster Severity: Every Upazilla/thana of the coastal zone faces different types of disasters. Among the disasters, cyclone, tidal surge, salinity, river bank erosion, flood are the most common scenario in every coastal Upazilla/thana in Bangladesh. Based on the perception and experience of the respondents, FGDs and KII, qualitative data about coastal disasters were collected in the field survey. The data were accumulated in an average score value for overall the above five disasters for individual thana/Upazilla (Annexure-3). This score has been divided into five categories like very severe, severe, moderate, low and very low severe zone.

High severity of disaster zone falls into Amtali, BargunaSadar, Bauphal, Borhanuddin, Charfession, Dashmina, Galachipa, Hatiya, Kalapara, Koyra, Kutubdia, Lalmohan, Moheshkhali, Mongla, Monpura, Patharghata, Sandwip, Sarankhola, Shyamnagar, Taltali and Teknaf Upazilla (Figure 5.10). Severe zone of disaster lies in Anawara, Chattogram Sadar, Companygang, Dacope, Daulatkhan, Kotwali, Mathbaria, Ramgati, Ramu, Sitakunda, Sonagazi and UkhiaUpazilla/thana of the coastal areas of Bangladesh. Moderate zone of severity in disaster lies into Assasuni, Banskhali, Chakoria, Cox's bazar and Mirersharai Upazilla/thana. But no Upazilla/thana has been identified as low or very low severity of disaster in the coastal zone of Bangladesh. It indicates that every Upazilla/thana is under threatened now of disastrous risk in more or less degree of magnitude.

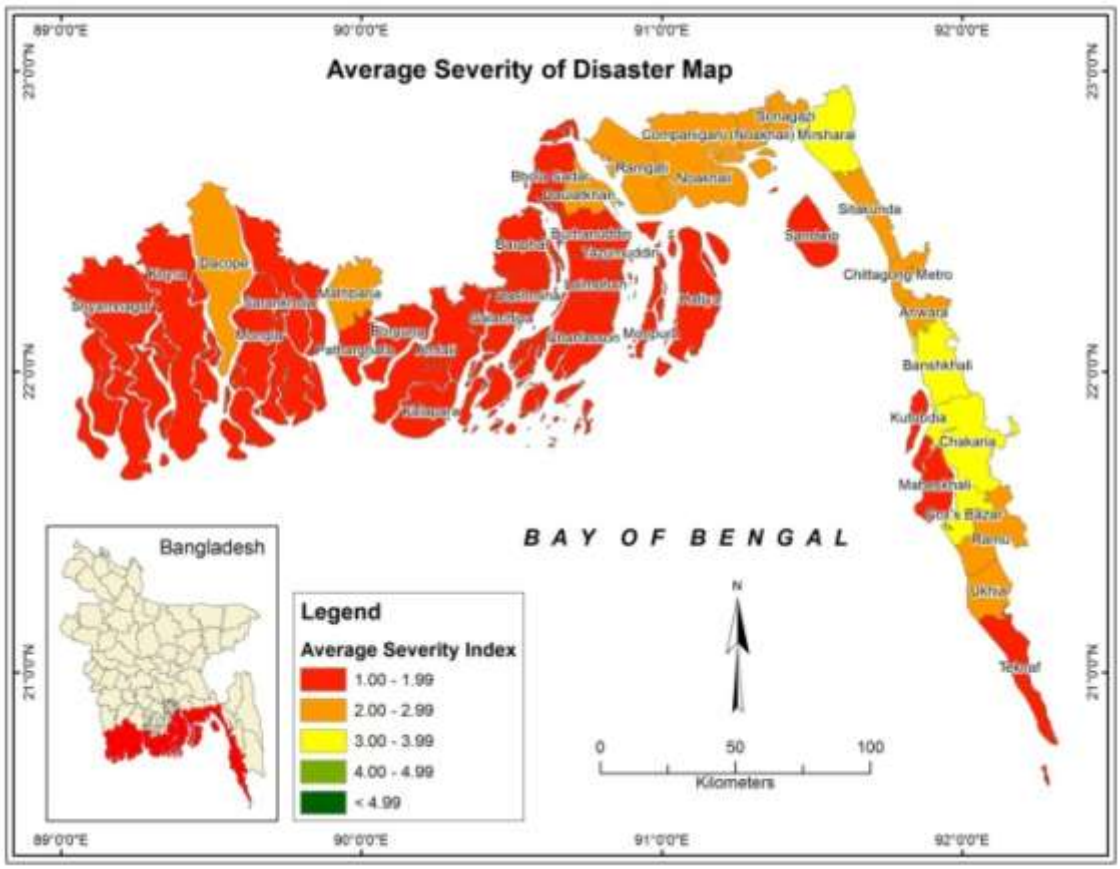

Figure 5.10 Average Severity of Disaster Map of the Study Area(Field Survey, 2012-2013)

5.3 Causes of disaster

There are various reasons behind each category of disasters. There is also a variation of severity of disasters in terms of space. The main causes of disasters that are identified from the field study as follows:

Table 5.1 Causes of coastal disaster in Bangladesh

Causes	Frequency	Percent
Global Warming	52	6.9
Deforestation	174	13.11
Heavy Rainfall	104	7.84
Sedimentation on River bed	147	11.08
River/Sea current	33	2.49

Penetration of Saline water	172	12.96
Narrowness of River /Sea Embankment	200	15.07
Lack of Drainage System	161	12.13
Rise of Sea- level	199	15.0
Climate Change	50	3.77
Other	35	2.64

Source: Field Study, 2012-2013

Global warming: Global warming is a worldwide concern. Scientists predict that global warming will increase the frequency and intensity of tropical storms. A high surface temperature of over 27^0 C, of the sea supports in the formation of cyclones (Nizamuddin, 2001). Global warming will increase the sea surface temperature more than what it is now, thus increasing the possibility of cyclones. Bangladesh already experiences catastrophic cyclones. The one that hit Bangladesh in 1991 claimed 1,38,000 lives and caused staggering loss to livestock and property. A warmer climate, by increasing the frequency of natural hazards such as floods and cyclones will further aggravate such situations and nullify the development efforts of the country. Global warming will cause a thermal expansion of the seawater. A rise in temperature will also melt the polar and alpine ice sheets. Bangladesh being a deltaic country, vast areas of it will be submerged with the rise of the sea level. A Taskforce report predicts one meter rise in the sea level will lead to damage of about 22,889 square kilometers of land, which is about 15.8 percent of the total area of Bangladesh (Taskforce Report, 1991). Due to global warming, frequent and severe disasters like cyclone, flood, drought etc. occur in the coastal regions. Respondents from the field study admit that global warming is responsible for coastal disasters comprising 6.9% of the combined causes.

Deforestation: Due to over population, amount of forest land gradually decreases. As a consequence, different types of disasters like soil erosion, temperature rise, drought etc. occur in the both coastal and whole country of Bangladesh. The indiscrimination and ruthless deforestation have been immensely influencing the ecological balance in the region. The process of landslide, soil erosion, siltation in the local streams, rise in temperature, decrease in humidity and dry up of hilly springs are some adverse effects of

the regions caused by depletion of natural vegetation (Shaheed et al., 2001). The local natural bio-diversity is also on the verge of destruction. The depletion of forest through jhum cultivation or other processes creates wide-spread land erosion during the rainy season. Deforestation has caused massive change in climatic condition in Bangladesh. According to the meteorological records from 1958 to 1980, the maximum average temperature in Bandarban was 29^0C but at present it has risen up to about 41^0C (Shaheed et al., 2001). The average rainfall has also decreased significantly. It occupies 13.11% of causes of coastal disasters that are admitted by the local people as respondents in the study area. Definitely deforestation or depletion of forest is one of the main causes of climate change or soil erosion.

Heavy Rainfall: Heavy rainfall is one of the major causes of disaster in Bangladesh. Rainwater (local) floods due to heavy localized rainfall in the monsoon, often generating water volume in excess of the drainage conveyance capacity are characteristic of meander floodplains, floodplain basin, old piedmont and estuarine floodplains. These floods are caused by heavy rainfall occurring over the floodplains, terraces and hills within Bangladesh, which often generates water volume in excess of the drainage capacity (Rasheed, 2011). The extent, depth and duration of rainwater flooding also varies within the rainy season as well as from one year to another-depending on the amount and intensity of local rainfall, and the water levels in the major rivers. Due to heavy rainfall, sometime flood occurs in the study area. Respondents from the field study admit that heavy rainfall is responsible for some disasters like flood, erosion of embankment etc. comprising 7.84% of the causes of coastal disasters in Bangladesh.

Sedimentation on River bed: Sedimentation on River bed is a major cause of coastal disaster. Water logging and flood are the main outputs of it. It occupies 11.08% of causes of coastal disasters that are admitted by local people as respondents in the study area. Along with the floodwater, the rivers of Bangladesh carry large amounts of sediments, an estimated 2.4 billion m.tons/year. The sediments are washed down from highlands on three sides of the Basin, particularly from the Himalayas, where the slopes are steeper and the rocks are less consolidated. Erosion plays a vital role in the siltation process, and the water-holding capacity of rivers. The deterioration of the river system due to siltation is one of the causes of floods in Bangladesh. The river sediments are

subjected to coastal dynamic processes generated mainly by river flow, tide, and wind actions. The eventual result may be additional new land in some places due to accretion, and loss of land in some other places due to erosion. On the consequence of sedimentation, the formation of c*hars* (islands) through accretion takes place. These undesirable *chars* in the river system threaten inland water navigation, cause erosion in the riverbanks, and generate other socio-economic problems for people due to land loss and displacement. Erosion in the coastal regions of Bangladesh is caused by a number of factors, such as high monsoon wind, waves, strong tidal actions, and currents, and storm surges (Ali, 1996).

River/Sea current: River/Sea current is one of the major factors that causes of disaster like erosion. River current of major river with its streams like Meghna, Karnaphuli etc. causes erosion in the coastal region. Similarly, sea current like the Bay of Bengal is the vital cause of coastal erosion. Respondents from the field study admit that river/ sea current is responsible for some coastal disaster comprising 2.49% of the combined causes in the coastal disasters of Bangladesh. Sarikite, Nayamasahi, Azimpur, Izatpur etc. under Snadwip are the explicit examples for erosion by the Bay of Bengal. Similarly, Bhola is also an example of erosion by the Bay of Bengal.

Salinity Intrusion: Penetration of Saline water sometimes creates permanent water logging that affects the crops and forest in the coastal area. It makes the land barren gradually. The impact of it is admitted by the local people as respondents in the field study area. It occupies 12.96% of the whole causes of coastal disaster. Saline water intrusion has increased with the sea level rise. It is mostly seasonal and affects the productivity of the agricultural sector. In winter months (Dry season) the saline front begins to penetrate inland, and the percentage of the affected areas (coastal districts) increase sharply from 10 percent in the monsoon to over 40 percent in the dry season.

Narrowness of River /Sea Embankment: Coastal zone embankment (CZE) along with a properly functioning cyclone warning system provide an effective buffer during storm surges and wave attacks. Some embankments did not even fail when they were overtopped by the storm surge (PPCR, 2010). The existing network of CZEs is enormous with more than 6000 km of coastal embankments and over 120 polders, incorporating

more than 7000 hydraulic structures such as one sluice gates and outlets and many of them are constructed more than 30 years ago (PPCR).

Narrowness of River /Sea Embankment is a major problem for creating a disaster specially flood, water logging in the coastal region of Bangladesh. Respondents in the field study pass their opinion that it comprises 15.07% of the combined causes for the occurrence of disaster. The intensity of tropical cyclone and storm surges is expected to rise due to climatic variability and change. With frequent storms recently, the CZEs have weakened and are in need of systematic restoration and upgrading. Most of the polders developed in Bangladesh do not have notable greenbelt or coastal plantation. It is only in the 90's that coastal afforestation and plantation along the road side and embankments became popular. The greenbelt will strengthen the earthen polders and ensure their longevity.

Lack of Drainage System: Lack of Drainage System is a major problem for the creating suitable condition for a disaster. 12.3% respondents admit that lack of drainage system is responsible for creating a disaster like water logging, flooding etc. When a river is embanked, the sediment or silt is not able to spread on the banks, but gets settled slowly at the bottom thus raising the riverbed gradually. As a result, the flood water level rises (Sahni et al., 2010). A huge area of canals, river bank, marshy area etc. has been filled up with soil/sand due to capture land for more housing, cultivation, urbanization, industrialization purposes etc. For the consequence of this, rivers loss their characteristics and navigability.

Rise of Sea- level: The global sea level has increased by between 10 and 20 cm over the past 100 years and much of the rise may be related to the increase in global mean temperature. From around 1850 onward, most of the world's glaciers including those of the Alpine regions, Mt. Kilimanjaro in Africa and Mt. Chacaltaya in Bolivia, have been retreating. Climate changes evidently indicates the retreats of glaciers in the mountainous regions of the world. The Arctic ice is thinning. The ice is about 40 percent thinner than what it was at beginning of the last century (Choudhury, 2009). Global mean sea level is projected to rise by 9-88 cm between 1990 and 2100. Sea level causes problems associated with beach erosion, silting of waterways and flood risk in coastal

communities. Bangladesh would be one of the most severely affected countries in this regard. One meter rise of sea level will inundate approximately 17% of the total area of Bangladesh. This rise of ocean water will force migration, inundate wetlands and lowlands, accelerate coastal erosion, and increase saltwater intrusion into rivers, agricultural and coastal forest lands and into groundwater. Sea level rise of 4mm-7.8mm/year at different points of Bangladesh coast has been announced by SAARC Meteorological Centre, located at Dhaka (Choudhury, 2009). Height of Sea- level rise is a main problem in the coastal zone of Bangladesh. It is the ultimate result of global warming. 15% respondents think that the rise of sea-level causes disasters like flood, riverbank/coastal erosion etc. in the study area.

Climate Change: Bangladesh is one of the most affected countries by the impact of climate change. Current indications are that floods and cyclones will become more severe, they will also start to occur outside of their established seasons, a common change in rain patterns and increasing temperatures can already be observed. It is projected that the possible sea level rise will affect the country by inundating large parts of the coastal areas, dislocating millions of people from their homes, occupations and livelihoods. About 10 percent of the country will be inundated with only 45 cm of sea level rise. Climate Change is a worldwide problem. It makes a disaster like cyclone, flood, storm surge, drought etc. 3.77% respondents admits that climate change causes the disaster in the coastal zone in Bangladesh.

Other: Hill cutting, decreasing river depth etc. are included as other causes that are also responsible for the occurrence of disasters. Some of the important and noteworthy impacts of hill cuttings are flood, water logging, landslide, soil erosion, cause of earthquake and destruction of Bio-diversity etc. (Rob et.al, 2001). 2.64% respondents admit that it is the cause of disasters like soil erosion, inundation, losing ecological balance etc. in the coastal zone of Bangladesh.

5.4 Season of Occurring Disaster

Natural disaster may occur in any time of the year. But the perception and experience of the respondents about the occurrence of disasters may be varied from season to season (Table 5.2). 29.1% of respondents admit that disasters occur in Summer and 54.2%

respondents pass their opinion that disasters occur in Rainy season. 9.2% of respondents admit that disasters occur in Winter season and 3% of respondents as local people admit that disasters in Spring. Whereas 4.8% of respondents admit that disasters may occur in Summer and Rainy season, 0.5% of respondents agree that disasters may occur in Summer and Winter season and 1.3% of respondents admit that disasters may occur in Rainy and Winter. But 0.5% of respondents as local people admit that disasters may occur in almost all time of the year.

Table 5.2: Occurrence of disaster in season

Season	Frequency	Percent
Summer	160	29.1
Rainy	298	54.2
Winter	51	9.2
Spring	2	.3
Summer and Rainy	26	4.8
Summer and Winter	3	.5
Rainy and Winter	7	1.3
Almost All Time of Year	3	.5
Total	550	100.0

Source: Field survey, 2012-2013

5.5 Time of occurrence of Disasters

There is no definite time of occurrence of disasters in the coastal zone of Bangladesh. But the time of occurrence of disaster is identified by the perception and experience of the local people as respondents in the study area (Table 5.3). 8.2% respondents admit that coastal disaster may occur during day time, 43.1% respondents pass their opinion that disasters occur at night and 48.7% respondents admit that disasters may occur during both day and night (Figure 5.11)

Table 5.3: Time of occurrence of disaster

Time	Frequency	Percent
Day	45	8.2
Night	237	43.1
Both Day and Night	268	48.7
Total	550	100.0

Source: Field Study, 2012-2013

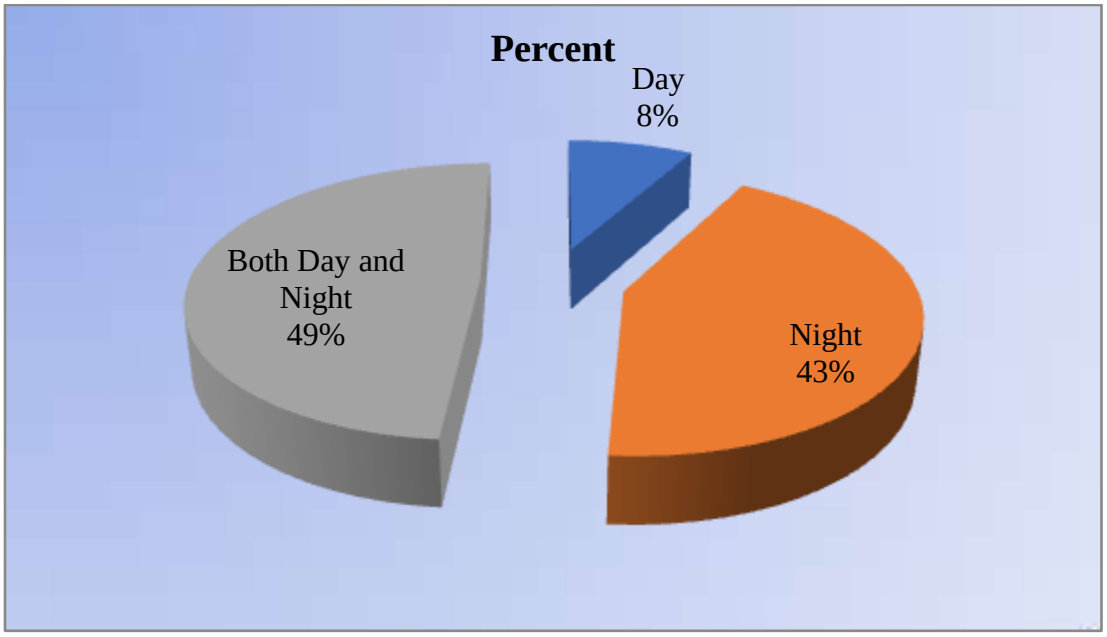

Figure 5.11 Time of Occurrence of Disasters of the study area (Field Survey, 2012-2013)

5.6 Damage/ Loss in Disaster

Damage in economic and loss of life may be occurred in every disaster. Coastal zone of Bangladesh is a disaster-prone area. So, consequently some damage of property and loss of life including live stocks are apparently seen through the field survey in the study area. According to the perception and experience of the respondents known as local people, average damage of houses, crops, live stocks, net and boat, business and other sectors comprising on taka 37106.46, 44662.04, 43520.41, 38840.58, 107750 and 34000 respectively. Similarly, human lives are under threat in every disaster that is admitted by

the respondents. Average no of death, disable person and affected by disease during disaster are 8, 2 and 799 respectively (Table -5.4). But the level of damage, casualty and disability etc. depend on the severity, duration and consciousness of disaster. During the cyclone of SIDR, as per government statement 3347 people died, 89,23,259 people had to face different types of loss and crops of 7,42,827 acres land was totally damaged, 5,63,877 houses damaged, loss lives of cattle was 17,78,507 and 4,231 educational institutes were totally damaged in Bangladesh (Montu, 2008).

Table 5.4: Loss/Damage

Types of Loss	Average Loss in Taka (Estimated)
Houses	37106.46
Crops	44662.04
Cattle	43520.41
Net and Boat	38840.58
Business	107750
Other	34000
Total Loss	102060.20
Casualty	8
Physical Disability	2
Affected by Diseases	799

Source: Field Survey, 2012-2013

5.7 Concluding Remarks

This chapter described the findings on disasters in the coastal area of Bangladesh. It has depicted the types, causes, severity and damage or loss that induced by disaster in the exclusive coastal region of Bangladesh based on primary data from questionnaire survey. There is a variation of disaster in terms of space and severity index. But the cyclone, storm surge, river bank erosion and salinity intrusion are vigorously common scenario in the whole study area. The next chapter describes the relationship between crimes and disaster in the study area.

Chapter Six: Relationship between Crimes and Disasters

6.1 Introduction

Bangladesh as a developing country is identified as the country of highest risk cited in (Azad and Khan, 2015) and leads the top 10 countries in the Asia-Pacific region based on complete physical exposure for floods; 5th for storms; and 8th for earthquakes (Asia Pacific Disaster Report, 2010). The coastal area of Bangladesh is a disaster prone zone. Among the disasters, the tropical cyclone is widely expanded and commonly frequent disaster to the study area. Data of cyclone (Gorky 1991, Sidr 2007, Aila 2009, Nargis 2008, Bijli 2008, Komen 2015, Mohasen 2016, Roanu 2016 etc.) for more than 100 years are available but other disaster data for long time are not available. This is why, cyclonic data are to be emphasized to link with crime data. This chapter deals with relation between crime and disaster, how does cyclone influence on crime and what types of crimes are affected by cyclone in the coastal belt of Bangladesh.

Due to unique geographic characteristics, Bangladesh frequently suffers from devastating tropical cyclone, flood, drought, river bank erosion, landslides, tornado, earthquakes. The funnel-shaped northern portion of the Bay of Bengal causes tidal bores when cyclones make landfall and thousands of people living in the coastal areas are affected (Azad and Khan, 2015).All disasters are deadbeat on the part of human systems. In every disaster, the physical and social infrastructure fail to protect people from conditions which threaten their well being. At times, the infrastructure itself creates an extensive social disruption. To reduce the vulnerability of people to disasters, social and technological systems must adapt to their changing physical and social environment (Bates et al., 1991). Natural hazards not only cause human casualties and property loss, but also disrupt social order and community life. News media frequently cover natural disasters as agents of social disorder panic, looting, and criminal deviance.

The impact that natural disasters have on crime is still little known. Usually it is assumed that crime declines shortly after the disaster and slowly increases to pre-disaster levels over time. However, this assumption is not always confirmed by the few empirical studies that have been conducted to date. It is believed that crime generally trends downward during the recovery stage, with the exception of domestic violence. Most

studies discuss changes in crime during the emergency and reconstruction stages with the length of both stages depending on the severity of the disaster (Leitner and Helbich, 2010). Crime prone individuals, who did not follow the evacuation order, burglarized the temporarily unprotected homes of evacuees. The number of crimes decrease with increased distance from the offender's anchor point i.e. the offender's residence.

The empirical link between disasters and crimes is disputed in mass emergency and disaster research (Zahran et. al., 2009). Zahran et. al. (2009) divide the existing studies into two propositions that represent a long standing debate in the hazards and disaster research field: one proposition maintains that disasters strengthen social bonds and increase prosocial behavior, ultimately leading to a decrease in crime; the other proposition argues that natural disasters lead to increase the occurrence of crime because social cohesion and mechanisms of social control decline(Zahran et al., 2009).

Little can be concluded scientifically on the degree to which disasters affect criminal behaviour. Many studies reporting an increase in post disaster criminal activity draw on two ecological theories of crime; routine activities theory (Cohen and Felson, 1979) and social disorganization theory (Shaw and Mckay, 1942). Routine activities theory posits that crime will occur if three key elements covering time and space are present viz.: the availability of suitable targets (i.e. property to steal or individuals to victimize), the absence of capable guardians (police, neighbours or technologies of surveillance), and the presence of motivated offenders (Cohen and Felson, 1979). A disaster event changes local "routine behaviours and increases the likelihood that motivated offenders will identify as suitable targets in the absence of capable guardianship. Vacated residential and commercial properties represent suitable targets. Survivors of a disaster may become prey for criminal victimization during recovery, evacuation and relocation efforts (Zahran et. al., 2009).

Social disorganization theory posits that communities characterized by residential instability, low socioeconomic status, and poor collective efficacy have impaired capacity to informally control crime (Sampson and Groves 1989; Shaw and Mckay1942). Natural disasters can smash community cohesion, impairing a community's ability to respond to

and sanction antisocial conduct or crime (Berkowitz 1993; Erikson 1976; Taylor 1989). There is no specific data of crimes during disaster period. But the people in the study area have an experience of criminal activities that were revealed by their responses in the field survey conducted in 2012.Various types of crimes that occurred in the disaster period in the study area are: theft, dacoity, burglary, rape, violence, corruption of relief, kidnapping, snatch etc. One of the major crimes that occurred in the disaster period is theft which was supported by 50.4% respondents in the field survey. It is property crime. Siman (1977) noted a 40 percent rise in property crime and a 14 percent increase in drinking-related offenses following a flood disaster in Wilkes Barre, Pennsylvania, USA (Zahran, 2009).

The second major criminal activity that occurs during the disaster period in the coastal region is dacoity. Twenty percent respondents admitted that dacoity is one of the major criminal incidents occurring in the disaster period in the study area. They assumed that unemployment, unprotected property, weak law and enforcement situation, degradation of social values etc. are responsible for this type of occurrence. Islam (2011) revealed in his study that 18.33% respondents face robbery at the time of disaster in the coastal region of Bangladesh. Following the floods of 2008 in the Indian state of Bihar, Criminals and anti-social elements are looting abandoned houses and robbing hapless evacuees at gun point (Roy, 2010). Crime rates, property crimes in particular, do tend to increase following moderate to big disasters. There is clear evidence of a rise in both homicide and armed robbery rates in the Nilgiris district following the landslide. Murder rates rose in Lucknow following the flood but not armed robbery. Every time of disaster an Indian Air Force (IAF) helicopter drops food, there is a murderous rush to grab the packets. Despair is driving many rural people to loot trucks passing through National Highways (Roy, 2010).

This study also revealed that burglary, rape, violence, corruption of relief goods, snatching, kidnapping etc. are common crime in the coastal region in Bangladesh during the disaster period. Thirty percent respondents passed their opinion that these common types of crime occur in the coastal zone at different levels in terms of time and space. The

FGD participants identified the following causes of crimes during the disaster period in the coastal areas of Bangladesh :(I) Poverty (II) Political Conflict (III) Lack of proper education (IV) Decay of social values (V) Weak administration/ law and enforcement (VI) Taking shelter in disaster /cyclone shelter (VII) Dishonesty (VIII) Financial crisis (IX) Unemployment (X) Unprotected house (XI) Joblessness (XII) Loss of everything (XIII) Lack of implementation of law (XIV) Lack of awareness (XV) Food crisis etc.

Disaster creates the weak situation in the aspect of socio-economic and environmental sectors. During this unexpected critical situation, social and economic order are broken and some unethical activities have been seen depending on the duration period and intensity of disaster. Primary data revealed that number of crimes increases in every disaster like cyclone, riverbank erosion, flood, tsunami, salinity, storm surge etc. in the coastal regions of Bangladesh. Due to riverbank erosion, helpless, property less people take shelter in the newly raised char area and on the embankment. Sometime, fighting among different groups guided by some musclemen including some local leaders takes place for the predominance in the newly raised char. Hundreds and hundreds of families migrate to the urban area due to riverbank erosion and some of the riverbank erosion affected people sometime may be involved in criminal activities because of joblessness, landlessness and propertylessness.

Land occupiers have become desperate to occupy the land specially the khasplot/ khas land along the coast from Sonapara to Monkhali of Ukhia. So, landless people and army of occupation have to face a serious fighting for the establishment of occupancy of land (The Dailly Ittefaq, May 13, 2015). The salinity is a major issue in the coastal zone of Bangladesh. Primary data revealed that some landlord political person, business magnets with the cooperation of local administration forcefully pierce the saline water into the shrimp fields in the western and eastern coast of Bangladesh. So, petty landowner who are interested to cultivate paddy or other crops in their land have to surrender to the owner of shrimp field with a less amount of money and some case, small pieces of landowners have to migrate into other regions and change their original profession. As a result, psychological conflict between these classes of people continue for a longtime and

environment with plants and animals is vigorously hampered. Recently some shrimp fields have been occupied by crab cultivation using saline water in the western coastal region of Bangladesh.

6.2 Relation between crimes and Cyclone

Coastal zone of Bangladesh faces different types of disasters like cyclone, storm surge, earthquake, river bank erosion, salinity intrusion and drought etc. Among the disasters, devastation of cyclone with storm surge is widely expressed and known to all. To this point of view, empirical relation between crime and cyclone may be linked.

In the coastal regions of Bangladesh, cyclone is the major disaster. Among the disasters the cyclone is here highly emphasized to determine the correlation between crimes and disaster because the coastal belt of Bangladesh is very prominent for cyclonic hazard from the very beginning. Besides, cyclonic data are available for a long period of time. Crime data are collected for the time period of 2007 to 2011 from the Police head quarter, Dhaka. During this period, super cyclone Sidr in November, 2007, Super cyclone Aila May 2009, Cyclone Mahasen May 2013, cyclone Nargis May 2008 are occurred in the study area. Super cyclone Sidr and Aila vigorously affected the coastal zone of Bangladesh. Recently cyclone Roanu affects the coastal zone like Chattogram, Cox'sbazar, Noakhali, Chandpur, Bhola and Patuakhali districts etc. on 21 May, 2016. So, based on the primary data through the questionnaire survey in the Sidr and Aila affected area, the criminal activities are explained here. Seventy six percent respondents regard as intellectual, political leader, social worker, teacher, religious leader and some affected people and so on admit that theft is common occurrence of crime during and post disaster period of Sidr and Aila. Cattle, food crop, ornament, money etc. are stolen during this time. Friesema et al. (1979) observed 30 percent increase in auto theft following Hurricane Carla in Galveston, Texas. Twenty eight percent respondents passed their opinion that during this period molestation also occurred. Specially Shyamnagar upazila (50% respondents) in the district of Satkhira, Moheskhali upazila (32% respondents) district of Cox'sbazar and Sonagazi upazila (33%) district of Feni where molestation is a common scene of criminal activity during the period of cyclone like Sidr and Aila

because of unemployment, poverty, lack of proper education and impact of narcotics. Fifteen percent respondents also admit that dacoity occurred during this period and particularly in Moheskhali of Cox'sbazar, Sonagazi of Feni and Senbag of Noakhali district where dacoity is seriously happened. Due to presence of local made arms, bad communication, unprotected char area and prevailing of pirates etc., this zone is well known to all for the occurrence of crimes. Most of the female respondents face various kinds of unexpected events at the time of disaster and they face theft (16.67%) and robbery (18.33%) respectively (Islam, 2011).

Case 3

> *Newly married Selina ageing of 20 years urged that a group of young people introducing themselves as NGO workers entered into their house and looted away some cash money with four bhori (46.64 gram) of golden ornaments by showing firearms in the cyclone Roanu affected area, kutubdia in Cox'sbazar on 22 May, 2016.*

8% respondents admit that rape occurred during this period because naughty and addicted people take the opportunity during this adverse situation.

Case 4

> *In the middle of 2012, in the district of Cox'sbazar, only the hilly island upazila Moheshkhali, Kalarmarchhara union, north Nalbila village where Bazal Ahmad 38 years kidnapped a madrasa girl student of class six named Rumi Akter D/O Md. Rushan.Mr. Bazal would guide a gang of robbers and he was listed as criminal in different cases like rape, killing, plundering etc. in the police station. Dacoit Bazal and his gang stayed in the maximum time at the hills where from he led the criminal operation. Especially in the adverse situation like the period of cyclone or other adverse weather situation he used to take opportunity. The girl was kidnapped in the way of returning from Madrasa to house by Bazal and his gang. A few days ago before kidnapping, he proposed to marry the girl. After kidnapping, she was raped and physically assault by them. By this time, the family of the girl was trying to rescue her by using a plan. When the notorious robber*

> *Bazal came to the local area with arms. He was finally shot and arrested with arms by the local people and he died. Besides, when the people of the locality fall to victim of natural hazards, the gang of robbers used to rape and plunder the valuable assets of the victims.*

Nineteen percent respondents also mentioned that plundering is a common phenomenon during this adverse period. But as per opinion of the key person and respondents, corruption of relief goods, smuggling, kidnapping etc. occurred in little numbers in the study area. On the other hand, hijacking, political harassment and forcefully crop cutting etc. occurred vigorously in large extent.

Shyamnagar upazila of southwest coastal belt of Bangladesh was hit vigorously by the cyclone Aila. Storm surge washed away all the houses, crops and agro-land, homestead garden and livestock and there by the experienced huge toll damage to lives and livelihoods. Aila not only broke down the overall social harmonization but also resulted into a chaotic situation in the upazila. People in the affected region, are now struggling to manage minimum life sustaining requirements like food, shelter, water and sanitation facilities. Women and children are experiencing most inhuman situation and they become more vulnerable as the male earning member of the family either faced death or migrated for managing family needs and livelihoods. During the disaster and post disaster period, corruption of relief and some crimes are most common scenario in the affected area. The major forms of corruption are nepotism and favouritism in case of relief distribution (Azad and Khan, 2015). In Bangladesh there have three types of basic problems which could be identified as 3D: Durjog (Disaster), Durniti (Corruption) and Daridro (Poverty). Some of the political elites were also cheating the local people in weight of relief goods. In some cases, the political persons in power of local government misappropriated the disaster relief after the post Aila and abuse the authority. Weakness of local government, lack of good governance, decreasing ethical issues and social norms, lack of social commitment, lack of transparency and accountability, expectation to be rich, lack of political will, inefficiency of government official and local government, lack of skills and

training to analyze the complex situation were the responsible for corruption in the coastal region (Azad and Khan, 2015).

Disasters bring disruption in the normal social life, create chaos, destroy social structure and contribute to replace social disorder, disaster research may be reviewed as the study of 'social pathology'(Dynes et al.,1978; Nasreen, 2004). There had several forms of crimes in the coastal regions of Bangladesh during and post Aila period were included trafficking, theft, stealing, child trafficking, robbery (very limited extent), smuggling, sex crime and gender violence etc. (Azad and Khan, 2015). South and south eastern part like Gabura, Burigoalini, Atulia, Padmapukur, Munshiganj and Ramjannagar union of Shyamnagarupazila were more affected by Aila. The qualitative data revealed that stealing, robbery in plain land and road, forest, household and boat, kidnapping, political harassment, nepotism and favourtism in relief distribution, violation of human rights, addiction and smuggling etc. occurred in the affected area in Shyamnagar**u**pazila during and post Aila period. In the field survey in 2012-2013, FGD and KII participants identified the following causes of crimes in Shyamnagar upazila : (a) unemployment (b) poverty (c) lack of education (d) lack of awareness (e) job less (f) loss of economic productivity (g) food crisis (h) expansion of muscle power (i) prevalence of saline water due to Aila (j) poor implementation of law (k) political and religious conflicts (l) weak community sanctions against perpetrators and lack of legal assistance

Case 5

> *A man of 60 years old named Md Abul Kalam residing at Char Chandira, Sonagazi in Feni district being a political leader uttered that houses as well as property is damaged and some criminal activities like theft, robbery and attack by pirates etc. are also seen during cyclonic period. Pirates from Feni Baronadi come to loot financial asset and valuable ornaments during disaster period. During cyclonic period in 1991, pirates attacked and tortured him and looted valuable ornaments, cattle and poultry etc. worth about five lac taka. During the cyclonic period, the most affected people are fishermen. Besides, some dishonest men as well as opportunists used to harm and torture the cyclonic affected people*

in this area. Due to fragile and indolent administration such types of criminal activities occurred during cyclonic period. An NGO worker named Most. Sonia Zerin of 35 residing at Agarpara, Barguna Sadar in Barguna district expressed her opinion that Barguna is a cyclone prone district in Barisal division where storm surge, riverbank erosion and tidal flood etc. are common issue. She expressed her saddest and trembling experience of Sidr in 2007. During the cyclonic period of Sidr, a huge property, crops, livestock and human lives etc. are taken away in the Bay of Bengal. Fisher men and farmers were highly affected by Sidr. She also admitted that some criminal activities like theft, kidnapping, harassment, robbery, relief corruption and molestation etc. are common scene in disaster like cyclonic period in Barguna. Due to political prevalence, poverty, lack of proper education, unemployment, addiction/narcotics, favoritism and weak administration etc. these types of criminal activities are occurred during cyclonic period like Sidr, Aila in Barguna Sadar.

Hence, the qualitative data revealed that crimes like theft, robbery, kidnapping, snatch, relief corruption etc. follow the disaster like cyclone in the study area. The rate and frequency as well as degree of the occurrence of crimes is somewhat affected by the cyclone in terms of duration and severity in the study area. Most of the respondents in the field study in 2012-2013 admitted that the occurrence of crimes increases during and post period of disaster in the coastal region of Bangladesh.

From Table 6.1 and Figure 6.1 where the data of crimes for five years(2007 to 2012) and cyclones for hundred years from 1915 to 2015 are calculated as average obtained from the secondary sources, the lowest occurrence of cyclone and crimes of the year is in January. From the month of April, the frequency of both cyclone and crimes gradually increases and it takes place of the peak position in the month of October. Then both occurrences usually decreases up to January. But May and November are the second highest occurring months of cyclones because they are pre-monsoon and post-monsoon month respectively which are the suitable time for generating the tropical cyclone in the Bay of Bengal. On the other hand, July is the highest occurring month of crimes. The

relationship between cyclone and crimes is a straight line. The positive relation between the occurrence of cyclone and crimes volume is measured by the method of Pearson correlation.

Table 6.1: Average Frequency of crimes and cyclones

Month	Crime in number	Cyclone in number
January	391.8	0
February	409.8	0
March	462.8	0
April	484	0.04
May	513.8	0.19
June	518.4	0.19
July	538.2	0.13
August	532.6	0.19
September	514.4	0.13
October	527.6	0.39
November	484.2	0.19
December	414.6	0.09

Source: Secondary source (Police headquarters and Weather Department, Dhaka)

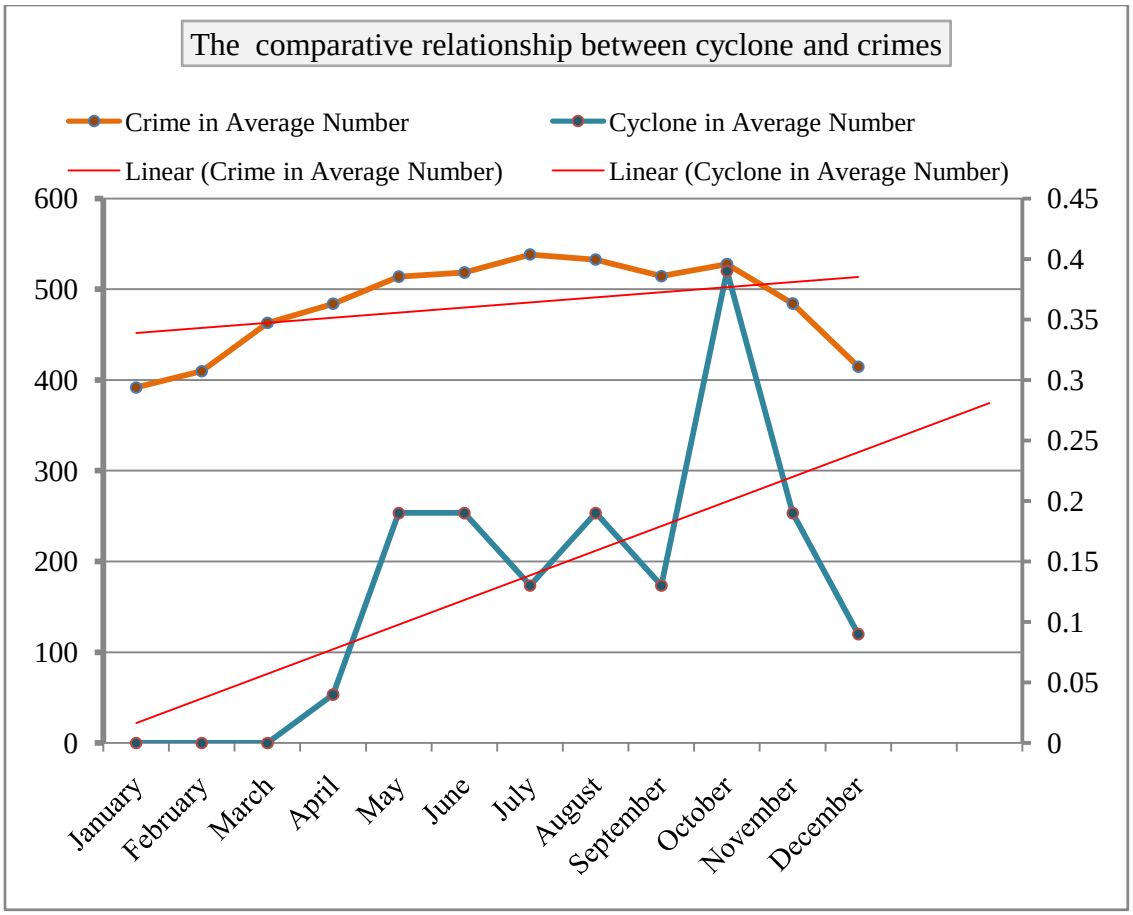

Figure- 6.1 The comparative relationship between cyclone and crimes

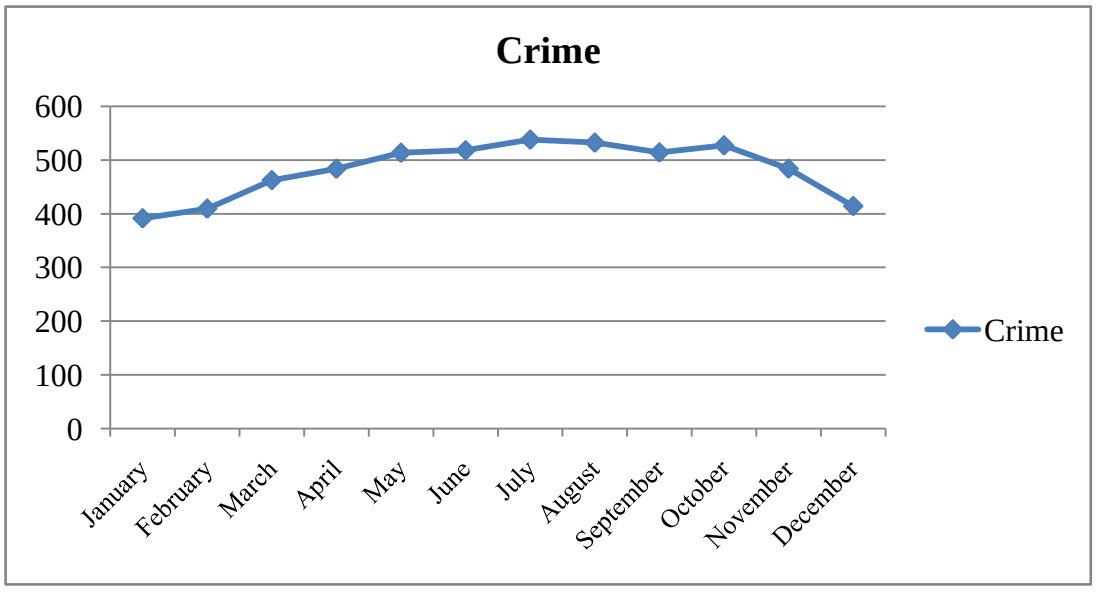

Figure 6.1(a) The occurrence of crimes in month wise of the study area.

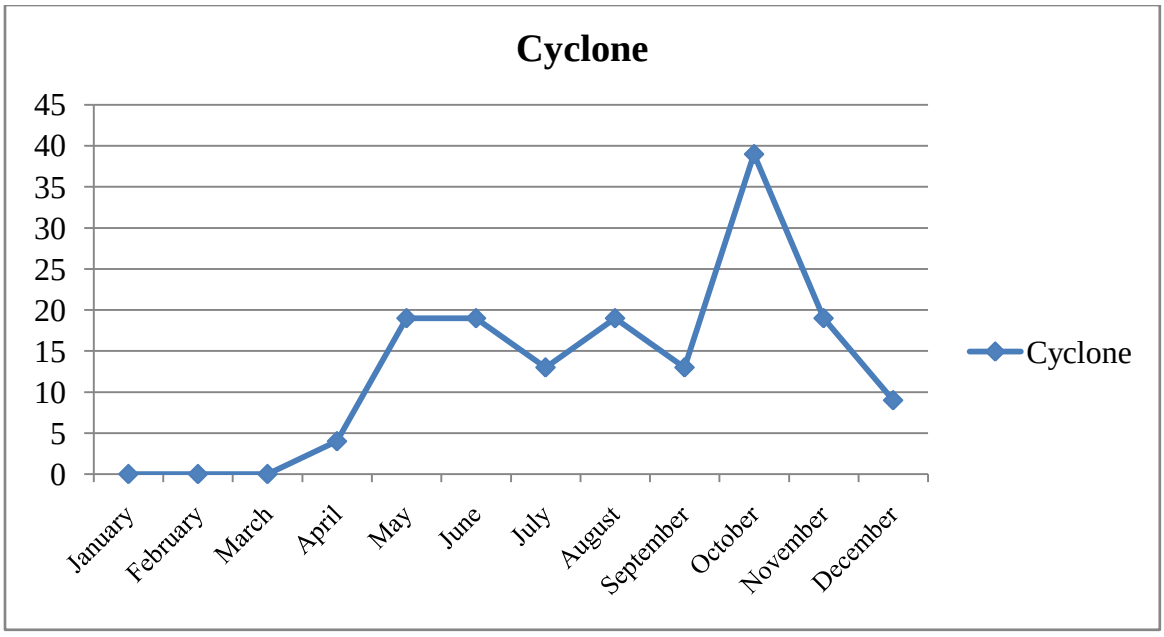

Figure 6.1(b) The Occurrence of Cyclones in month wise of study area

From the Table 6.1, it is noted that the number of occurrence of crimes increase associated with the increment of occurrence of cyclone and the number of crimes decreases associated with decreasing the occurrence of cyclone. Rate and frequency of crimes are vigorously affected by the occurrence of cyclone in terms of duration and severity. Some unsocial and naughty people take the opportunity of weak and unavoidable situation in which major portion of local people always try to save their life and property. Unprotected property is more vulnerable for theft and dacoity during weak geographical and socio-economic situation etc. On the other hand, according to Pearson correlation method, a positive and linear relation (0.699) between cyclone and crime variable is seen.

The value of correlation coefficient, r=0.699, which implies that there is a strong positive linear association between the variables, cyclone and crimes volume. Here p-value=0.011 Since p-value is less than 0.05, we may reject the null hypothesis (There is no relation between crime and cyclone) at 5% level of significance and conclude that the population correlation coefficient (α) is not equal to 0, i.e., there is a linear association between cyclone and crimes volume. The estimated value of α = 441.89, which implies that on

average the increase in crimes is 441.89 when increase in occurrence of cyclone =0. The estimated of value of β =3.179, which implies that for 1 increase in occurrence of cyclone the average amount of increase in crimes is 3.179. Here p-value for α.=,ooo. Since p-value <0.05, we may reject the null hypothesis at 5% level of significance and conclude that the intercept coefficient not equal to 0. Here p-value for β=. 011. Since p-value <0.05, we may reject the null hypothesis at 5% level of significance and we may conclude that β not equal 0 that means number of crime changes as number of cyclone changes. Here R^2 = 0.488 which implies that 48.8% of the total variation in crimes can be explained by the regression model (by the variation in cyclone).

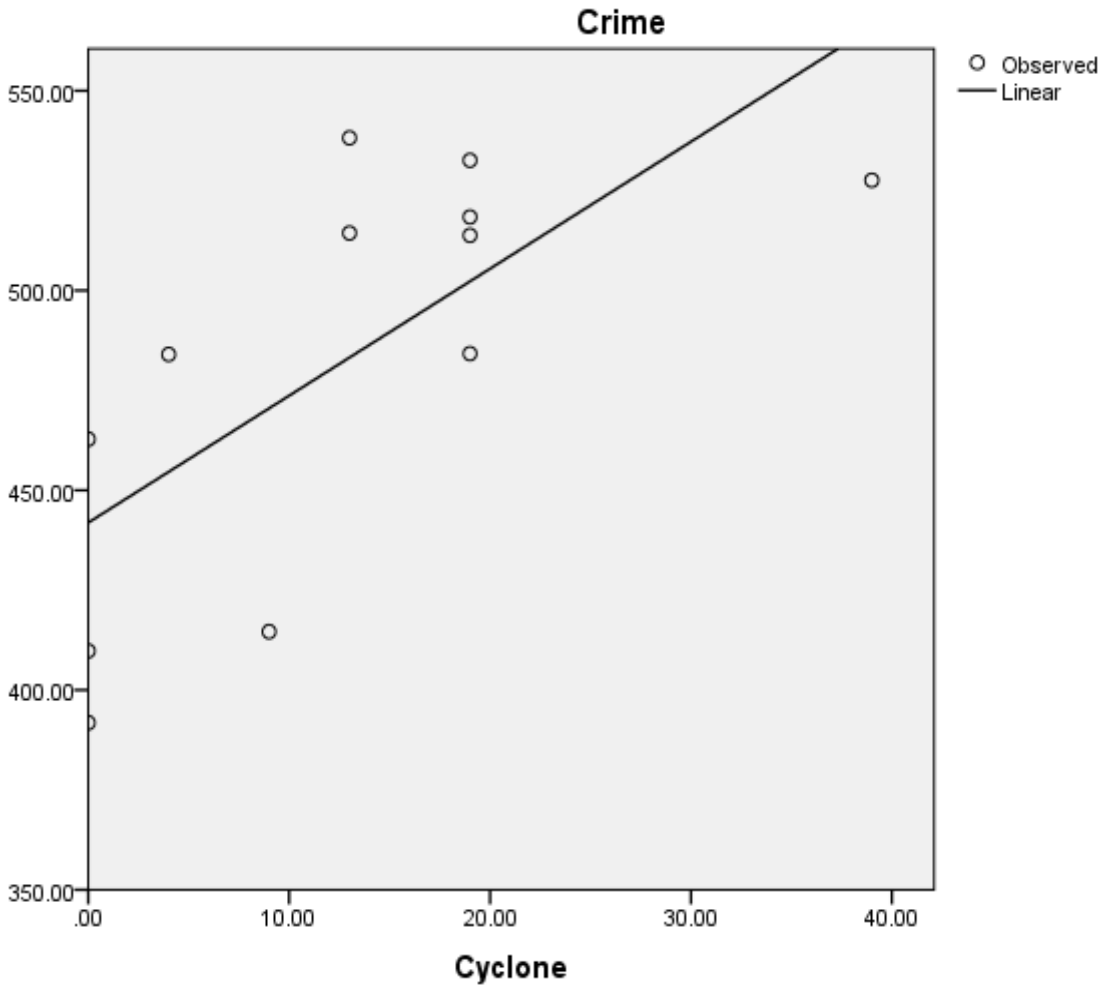

Figure 6.2 Regression line of crime and cyclone of the study area (Police Headquarters 2012 and BMD, 2012)

So, the quantitative data obtained from the secondary sources revealed that the occurrence of crimes associated with cyclone increases/ decreases. From the figure (6.2), 48.8% of the total variation in crimes can be explained by the regression model by the variation in cyclone. From the Karl Pearson correlation method, the value of correlation(r) between crimes and cyclone is 0.699 that indicates the positive linear relation between crimes and cyclone. Therefore, we can conclude that there is a positive relationship between crimes and disaster in the study area. This relation gradually increases due to uneven commercial and mechanical competition with sattelite culture, prevallence of political conflicts, presence of social and moral decays, poverty, unemployment, narcotics and indolent local administration etc.

6.3 Concluding Remarks

This chapter described the findings on relationship between crimes and disaster in the coastal area of Bangladesh. It has depicted that cyclone is the most devastating disaster which induced the adverse situation with crimes during and post cyclonic period in the study area. The next chapter describes the Conclusion and Recommendations for further research and future planning for the coastal belt of Bangladesh.

Chapter Seven: Conclusion and Recommendation

7.1 Conclusion

Bangladesh is a riverine country. Crime is a social phenomenon. Depending in location and time of the year, crimes have been found to be many. Types and rate of crimes are of variation in terms of geographical and temporal space. The main types of criminal activities are: Dacoity, Murder, Banditry, Molestation, Kidnapping, Burglary, Theft, Rape, Corruption of relief goods, Plunder, Smuggling etc. Among the types of crimes, Molestation takes the highest occurrence of crimes in number in the coastal zone of Bangladesh. It takes the top rank in every district of the coastal areas of Bangladesh and in each year from 2007 to 2011. It is the highest in number in October and lowest in January. Drug addiction, Illiteracy, harassment, dowry, property conflicts, one side love, deceit in love, gambling, multiple marriage, political harassment, poverty and lack of proper education etc. are responsible for the occurrence of molestation in the study area. Theft is the second highest occurrence of crime. It takes the highest place in August due to heavy rainfall, poverty, adverse situation for works etc. in the coastal zones of Bangladesh. But Murder, Burglary, Kidnapping, Corruption of relief goods and Dacoity etc. are also prevailing types of crimes in the study area.

There are various factors which are responsible for committing crimes are biological, social, economic, psychological and environmental reasons. The main causes of committing crimes in the study area are poverty, unemployment, tendering, satellite culture, misuse of drug, decay of morality, smuggling, lack of proper education, weak law and order situation, illiteracy, injustice and political conflicts etc. Distribution of crimes in the study area is explained in terms of month, year and location especially exclusive coastal district wise. The highest occurrence of reported crime in the coastal zone was in 2011 comprising 15.77% of the total crimes of Bangladesh whereas the lowest occurrence of crimes in the study area was in 2008 comprising 9.55% of the total crimes of the whole country due to most area free from major disaster, reign of caretaker government with good law and order situation. The number of crimes gradually increases from 2007 to 2011 except in 2008 because of frequent disaster, poverty, unemployment,

weak law and order situation etc. Based on the secondary data of crimes, January is the lowest occurrence of crime in number comprising 6.75% in the whole year, followed by February (7.08%) and December (7.16%). Harvesting crops, and cyclone free period etc. are the prevailing causes of less occurred crimes in the study area. The number of crimes gradually increases from February to July. During this period, the highest number of dacoity, murder and child-kidnapping occur in April; law violence in June; police-attack and burglary in July. Hot weather, presence of tropical cyclone, political conflicts, predominance in shrimp field(gher), unemployment, gambling, prevalence of smuggling etc. are responsible for the occurrence of crime. But July is the highest occurrence of crimes comprising 9.29% of the total crimes in the year, followed by August (9.20%), October (9.11%), June (8.95%) and September (8.88%). The highest number of theft and murder occur in August; banditry in September and molestation in October due to heavy monsoon rain, lack of jobs, drug-addiction, gambling, property conflicts, activity of miscreants etc.

The distribution of the occurrence of crimes is uneven in terms of space particularly in the coastal districts. On the basis of the reported crimes from 2007 to 2011, the occurrence of the highest number of crimes takes place in Chattogram district comprising 15.08% of the total crimes occurred in the coastal zones of Bangladesh; followed by Cox'sbazar (11.03%), Satkhira (10.48%), Bagerhat (8.56%), Khulna (8.54%), Patuakhali (7.80%), Noakhali (7.67%), Bhola (6.83%), Barguna (6.31%), Feni (6.01%), Lakshmipur(5.84%) and Pirojpur(5.75%). The overall causes of crimes in the coastal zones of Bangladesh are same but different in Chattogram, Cox'sbazar and satkhira where the total occurrence of crimes are high are location of hill/mountain(Chattogram and Cox'sbazar), country border (Cox'sbazar and Satkhira), presence of route for smuggling and human trafficking, salinity intrusion, impact of cyclone with storm surge, presence of Sundarbans (Satkhira), available for firearms, predominance in shrimp and salt cultivation and drug addiction etc.

Occurrence of crime is a common phenomenon of the both rural and urban areas including coastal areas in Bangladesh. The places in the study area which are identified as sensitive for the occurrence of crimes are considered hot spot area of crime. In each

coastal upazila/thana where some places have been identified as hot crime spot by the respondents in the field survey conducted in 2012 and shown in the chapter four.

There is no specific adjustment between crime population ratio and crime density in the study area. Crime population ratio and crime density takes highest place in Barguna and Feni district respectively. But both of them is overall high in Baruna, Pirojpur, Cox'sbazar. On the other hand, these ratios are comparatively low in Khulna, Noakhali and Chittagomg district due to coverage of a large area with high population. Bangladesh is a disaster-prone country. Qualitative data obtained from the field study revealed that tropical cyclone, storm surge, salinity intrusion, earthquake, drought, flood, erosion, water logging, land slide,tsunami etc. are observed in thecoastal zone of Bangladesh. Among them, tropical cyclone, flood, river/sea bank erosion, salinity intrusion, tidal surge are mostly seen in the expand form in the coastal area. But earthquake, land slide, drought, water logging etc. are observed in small scale with a limited space. Severity of disaster has been determined by the perception and experience of the respondents in the field survey conducted in 2012-2013. The most devastating disaster in the coastal zones in Bangladesh is cyclone associated with tidal surge. The maximum coastal zone of Bangladesh is under severe threat of cyclone. Amtali, Lalmohan, Kowtali(Chattogram), BargunaSadar, Patharghata, Borhanuddin, Charfession,Monpura, Dasmina, Galachipa, Kalapara, Mathbaria, Anawara, Chattogram Sadar, Sandwip, Kutubdia, Moheshkhali, Hatiya, Mongla, Sarankhola, Dacop, Koyra and Shyamnagarupazila/thanaetc. are in very severity of cyclonic zone.

Flood is another devastating disaster in terms of damage to crops and physical properties. Normally the most severe floods occur during the months of July and August. The south westerly monsoon wind and tropical cyclones in the Bay of Bengal are the principal causes of tidal flood in the coastal zones of Bangladesh. Kotwali, Patharghata, BholaSadar are in high severity zone of flood where asTaltali, Mongla, BargunaSadar, Charfession, Galachipa, Kalapara, Teknaf, Hatiya,Kayra and Shyamnagar etc. are fell in severe zone of cyclone. River bank erosion is a common hazard of Bangladesh. Twenty-five thousand acres of land is swept away into river bed by river erosion and only two

thousand five hundred acres of land including char surface rise up. BholaSadar, Charfession, Monpura, Dasmina, Galachipa, Kalapara,,Sandwip, Moheshkhali, Ramgoti and Hatiya fall in the zone of high severity of erosion. Taltali, BargunaSadar, Borhanuddin, Bauphal, Mathbaria, sitakunda, Kutubdia, Teknaf, Ukhia, Sarankhola, Shyamnagar and Koyra are in the zone of severe erosion in the study area.

Salinity is a common scenario in the coastal region of Bangladesh. The impact of of salinity is long affecting on socio-economic and environment of the coastal zone of Bangladesh. Based on the perception and experience of the respondents and FGDs, very severe of salinity zone lies in Taltali, Amtali, Mongla, BargunaSadar, Patharghata, BholaSadar, Borhanuddin, Charfession, Lalmohan, Monpuraa, Dasmina, Galachipa, Kalapara, Sandwip, Kutubdia, Moheshkhali, Teknaf, Ukhia, Hatiya, Sarankhola, Daacope, Koyra and Shyamnagarupazila/thana of the coastal belt. But there is no zone of salinity free in the study area. Tidal surge is an associated scene of tropical cyclone in the coastal belt of Bangladesh. It increases the level of destruction caused by the cyclonic activity in all aspects in the coastal region in Bangladesh.High severity of tidal surge zone lies in thana/upazila like Amtali, Charfession, Monpura, Galachipa, Kalapara, Sandwip, Moheshkhali, Teknaf, Hatiya.The rest of exclusive coastal areas fall in severe, moderate and low severe zone of tidal surge. But there is no zone of very low severity of tidal surge identified by the respondents in the study area.

Average severity of disaster is determined by the average combined score from the individual score for each disaster. Very severe disastrous zone lies in Amtali, BargunaSadar, Bauphal, Borhanuddin, Charfession, Dashmina, Galachipa, Hatiya, Kalapara, Koyra, Kutubdia, Lalmohan, Moheshkhali, Mongla, Monpura, Patharghata, Sandwip, Sarankhola, Shyamnagar, Taltali and Teknafupazila. Severe disaster-prone zone falls into Anawara, Chattogram Sadar, Companygang, Dacope, Daulatkhan, Kotwali, Mathbaria, Ramgati, Ramu, Sitakunda, Sonagazi and Ukhiaupazila/thana of the coastal areas of Bangladesh. The rest part of the study area lies in moderate zone of severity. So, every upazila/thana of the study area is under threatened now of disastrous risk in more or less degree of magnitude.

There are different reasons behind each type of disasters in Bangladesh. There is also a variation of severity of disasters in terms of space. The principal causes of disasters determined from the field study are global warming, deforestation, heavy rainfall, sedimentation on riverbed, river/sea current, penetration of saline water, narrowness of embankment, lack of proper drainage system, increment of sea-level rise, climate change and so on. Qualitative data revealed that narrowness of embankment was identified as one of the principal causes comprising 15.07% of coastal disaster in Bangladesh; followed by increment of sea-level rise (15%), deforestation (13.11%), penetration of saline water (12.96%), lack of proper drainage system (12.13%) and sedimentation on riverbed (11.08%). Maximum disasters occur in the Rainy season supported by 54.3% respondents in the field survey and disasters may occur both day and night supported 48.7% respondents. Frequent of cyclone, storm surge, flood, earthquake, salinity intrusion, river bank erosion, tsunami and water logging etc. are common disaster in the coastal regions of Bangladesh. Due to intensity and frequent with duration of disaster, the lives of the coastal regions of Bangladesh are hampered and people become helpless, homeless, jobless and property less and so on. This adverse situation can create an opportunity of committing crimes. Some disaster affected people migrate from the remote coastal zone and may be involved in the occurrence of crimes.

Due to unique geographic characteristics, Bangladesh frequently suffers from different disasters. Natural disasters not only cause human casualties and property loss, but also disrupt social order and community life. Little can be concluded scientifically on the degree to which disasters affect criminal behaviour. More than eighty eight percent (88.4%) respondents from the field survey conducted in 2012-2013 admitted that the occurrence of crimes increases during and post period of disaster in the coastal region of Bangladesh. It is difficult to explain the relationship between crime and individual disaster because of lack of proper data for every disaster. But tropical cyclone is widely occurred in the coastal zone in Bangladesh and cyclonic data is somewhat available. This is why, empirical relation between crime and cyclone may be linked. Qualitative data from the questionnaire survey conducted in 2012-2013 revealed that various crimes like theft, dacoity, burglary, rape, corruption of relief goods, kidnapping, high jacking etc.

occurred during and post disaster period. Seventy percent respondents admitted that theft is common occurrence of crime during and post period of Sidr and Aila. Cattle, food crop, ornament etc. are stolen during this period. Twenty eight percent respondents admitted that molestation also occurred during this period. According to opinion of respondents of Shyamnagar (50%), Moheshkhali (32%) and Sonagazi(33%) that molestation is a common scene of criminal activity during the period of cyclone like Sidr, Aila because of unemployment, lack of proper education, impact of narcotics and predominance of miscreants etc. As per opinion of the key person and respondents, corruption of relief goods, smuggling, kidnapping etc. occurred in a little number in the study area.

During the disaster, life and property are disturbed and destructed respectively across the world. The rate of crimes increases due to the occurrence of disaster in terms of intensity and duration. 83% respondents in the field survey admit that theft and corruption of relief are the major crimes that happen during the during and post disaster in the study area. Besides, rape, burglary, robbery, smuggling and kidnapping are also seen in little amount in the post disaster in the coastal zone. So, there is a straight linear relationship between crime and disaster. On the other hand, the secondary data of crime and cyclone revealed that the lowest occurrence of both crime and cyclone is in January and the both occurrence gradually increases from the month of April and it takes the place of the peak position in the month of October. By using these two types of data, Pearson Correlation method determined that there is a straight positive relation between them (0.699) and p value =0.011. Since p value is less than 0.05, the null hypothesis(there is no relation between them) is rejected at 5% level of significance and conclude that the population correlation coefficient *p* is not equal to 0, i.e. there is a linear association between cyclone and crime volume. Again in the regression line where the estimated value of α=441.89, which implies that on average the increase in crimes is 441.89 when increase in occurrence of cyclone =0. The estimated of value of β=3.179, which implies that for 1 increase in occurrence of cyclone the average amount of increase in crimes is 3.179. Here p-value for α=0.000. Since p-value <0.05, we may reject the null hypothesis at 5% level of significance and p-value for β=0.011, hence p-value<0.05, we may reject the null

hypothesis. Besides, R^2=0.488 which implies that 48.8% of the variation of crimes can be explained by the regression model. Therefore, both qualitative and quantitative data revealed that there is a positive relation between cyclone and crime. So, cyclone has impact on crime. This relation gradually increases due to uneven commercial and mechanical competition with satellite, prevalence of political conflicts, presence of social and moral decays, unemployment, poverty, narcotics and weak law and order situation.

7.2 Recommendations

Based on the results and findings, the following recommendations can be considered as future guideline follows:

- The coastal belt of Bangladesh is not free from disaster and crimes.
- Disaster mitigation is a burning issue for the coastal zone of Bangladesh where a large number of people live there.
- Integration, cooperation, coordination and harmonization among different DRR institutions in Bangladesh are very important to ensure the sustainability to manage the future disaster risk in Bangladesh.
- Disaster forecasting, coastal afforestation, embankment, awareness campaigns for capacity building and shelter centers etc. will be timely disseminated and proper implementation of relief and rehabilitation programme must be ensured at the post disaster.
- Insurance for coastal population must be enforced. Special provision must be made for women, children, the aged and disabled people. Crop insurance may be coined.
- Agricultural/development time schedule should be arranged in such a way that disaster period may be avoided.
- Education and training are very important in Bangladesh. Continuous training for public sector is very important to ensure the sustainability of DRR and CCA programmes.
- The sea and land route which are the suitable transit for smuggling and human trafficking must be supervised and controlled on regular basis.

- Hot spots of criminal activities of the study area should be monitored on regular basis.
- Law and enforcement should be stricter.
- Empowerment of the local government must be enhanced.
- Democratic practice must be done among the political parties and leaders.
- Proper education with disaster concern and patriotism must be emphasized.
- Public awareness would be increased in the view of disaster and crime.
- Cyclone shelters would be used for multiple purposes and be modern with hygiene facilities.
- Security of life and property must be ensured and protected.
- To avoid the cyber crime, monitoring, controlling, accountability and awareness etc. must be ensured in the use of networking and ultra- modern devices.
- For better development in the coastal areas, more advanced research in the micro level would be emphasized.

7.3 Concluding Remarks

This chapter described the conclusion and recommendations for the coastal area of Bangladesh. It has depicted that crimes induced by disaster in the coastal area of Bangladesh. It also remarks that the study area would be controlled from the unethical activities induced by coastal disaster. For future planning and better development in the coastal areas of Bangladesh, more advanced and further research in the micro level would be emphasized here.

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Annexure I

Distribution of Crime with Types Accroding to Exclusive Coastal District of Bangladesh

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Cox'sbaz	2007	1	3	1	4	0	0	2	1	0	0	1	8	18	67	105
Chittag.	2007	1	6	4	10	3	0	11	0	1	1	5	12	53	216	322
Feni	2007	1	1	1	1	0	0	2	1	0	0	7	4	21	45	83
Noakhali	2007	1	3	1	3	0	0	9	0	1	0	5	4	10	82	118
Lakshmi.	2007	1	2	0	3	1	0	4	0	0	0	1	6	5	67	89
Bhola	2007	1	0	0	3	2	0	4	0	1	0	3	3	6	82	104
Patuakha	2007	1	0	3	5	0	0	2	2	0	0	0	3	5	108	128
Barguna	2007	1	1	0	6	0	0	3	3	0	0	1	3	7	66	90
Pirojpur	2007	1	0	0	3	2	0	4	0	1	0	3	3	6	82	104
Bagerhat	2007	1	0	3	4	0	0	30	0	1	0	2	5	17	109	171
Khulna	2007	1	1	1	5	4	1	2	1	0	0	1	7	20	74	117
Satkhira	2007	1	0	1	3	1	0	11	0	0	1	2	7	40	124	190
Cox'sbaz	2007	2	0	0	6	1	0	8	0	1	0	4	6	51	136	213
Chittag.	2007	2	12	1	8	3	0	19	0	1	0	7	23	28	224	326
Feni	2007	2	2	2	3	2	0	13	0	0	1	3	6	9	54	95
Noakhali	2007	2	2	0	2	3	0	10	0	0	0	6	13	22	83	141
Lakshmi.	2007	2	1	1	5	1	0	7	0	2	0	1	2	3	73	96
Bhola	2007	2	0	1	2	1	0	8	0	0	0	5	4	5	106	132
Patuakha	2007	2	0	0	5	1	0	2	1	0	0	0	6	4	97	116
Barguna	2007	2	2	1	1	0	1	5	2	1	0	0	3	10	57	83
Pirojpur	2007	2	0	2	5	1	0	9	1	0	0	6	4	3	79	110
Bagerhat	2007	2	0	3	3	0	0	19	0	0	0	6	7	13	76	127
Khulna	2007	2	0	0	3	2	1	9	0	3	0	0	6	7	62	93
Satkhira	2007	2	0	0	4	5	0	18	0	1	0	2	9	38	135	212
Cox'sbaz	2007	3	2	0	6	1	0	19	2	1	0	2	6	34	161	234
Chittag.	2007	3	10	1	9	3	1	20	0	1	1	6	30	40	297	419
Feni	2007	3	5	0	6	1	0	10	0	0	0	8	13	13	58	97

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Noakhali	2007	3	3	1	1	0	0	7	0	0	0	1	5	15	94	144
Lakshmi.	2007	3	2	1	3	2	0	13	0	0	0	1	7	11	74	114
Bhola	2007	3	0	0	3	0	0	9	0	0	0	0	3	5	151	171
Patuakha	2007	3	0	2	1	3	0	2	3	0	0	4	15	7	95	132
Barguna	2007	3	1	0	3	0	0	19	3	0	0	5	3	6	76	116
Pirojpur	2007	3	0	0	3	3	0	19	0	1	0	7	14	4	97	148
Bagerhat	2007	3	2	2	5	0	0	24	0	0	0	3	12	12	88	148
Khulna	2007	3	0	1	2	3	0	14	2	0	0	0	6	8	89	125
Satkhira	2007	3	0	1	4	2	0	31	0	2	0	1	11	43	173	268
Cox'sbaz	2007	4	0	4	4	4	0	21	0	3	1	2	10	31	127	207
Chittag.	2007	4	5	1	6	2	0	20	0	2	1	11	30	29	279	386
Feni	2007	4	0	1	1	0	0	9	1	0	0	3	3	15	58	91
Noakhali	2007	4	2	1	2	1	0	8	0	0	0	5	8	13	104	144
Lakshmi.	2007	4	0	0	2	1	0	5	0	1	0	5	4	9	73	100
Bhola	2007	4	1	0	0	1	0	11	0	0	0	4	4	5	124	150
Patuakha	2007	4	0	2	2	1	0	4	2	2	0	2	11	4	82	112
Barguna	2007	4	2	1	3	1	0	18	5	2	0	2	5	18	101	158
Pirojpur	2007	4	1	2	5	1	0	18	1	0	0	8	8	2	101	147
Bagerhat	2007	4	2	1	3	1	0	39	0	0	0	5	5	9	116	181
Khulna	2007	4	0	3	4	6	0	12	0	0	0	0	10	14	87	136
Satkhira	2007	4	0	0	5	1	0	30	0	1	0	3	11	37	174	262
Cox'sbaz	2007	5	3	0	2	3	0	12	0	3	0	4	6	21	140	194
Chittag.	2007	5	11	4	7	1	0	24	0	4	0	4	22	40	307	424
Feni	2007	5	2	0	5	1	0	14	0	0	0	6	15	12	51	106
Noakhali	2007	5	2	0	1	2	0	6	1	1	1	5	7	11	131	168
Lakshmi.	2007	5	1	0	2	0	0	8	0	0	0	4	3	7	87	112
Bhola	2007	5	1	0	1	0	0	10	0	2	0	2	3	3	132	154
Patuakha	2007	5	0	0	3	1	3	4	3	0	0	1	10	6	96	127
Barguna	2007	5	1	0	2	1	1	13	2	1	0	8	3	8	151	191
Pirojpur	2007	5	0	2	2	0	0	14	1	1	0	4	7	7	114	152
Bagerhat	2007	5	2	0	3	1	2	27	0	0	0	4	11	18	112	180
Khulna	2007	5	0	0	3	7	0	12	0	0	0	0	10	7	98	137

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Satkhira	2007	5	2	2	7	3	0	31	0	0	1	4	16	33	130	229
Cox'sbaz	2007	6	2	1	6	2	0	24	1	1	0	3	8	35	129	212
Chittag.	2007	6	12	0	8	0	0	31	1	3	0	6	24	29	336	450
Feni	2007	6	0	0	3	0	0	13	0	1	0	4	8	11	37	77
Noakhali	2007	6	1	0	5	0	1	16	0	0	0	7	10	9	105	154
Lakshmi.	2007	6	1	0	2	0	2	5	0	0	0	6	4	9	58	87
Bhola	2007	6	1	0	4	0	0	17	0	0	0	5	4	3	121	155
Patuakha	2007	6	0	1	2	0	0	6	4	1	0	4	14	5	104	142
Barguna	2007	6	2	1	4	1	1	13	4	2	1	2	3	7	101	142
Pirojpur	2007	6	0	2	6	0	0	11	0	0	0	5	8	3	90	125
Bagerhat	2007	6	1	2	9	1	0	15	0	1	0	6	11	13	124	183
Khulna	2007	6	1	2	2	4	0	18	1	0	0	2	6	10	92	138
Satkhira	2007	6	0	1	5	1	0	18	0	0	0	5	18	27	117	192
Cox'sbaz	2007	7	4	1	6	1	0	8	1	4	4	0	10	32	148	219
Chittag.	2007	7	9	3	4	1	0	27	1	1	0	6	31	31	244	358
Feni	2007	7	1	1	3	0	0	7	0	0	0	8	11	10	53	94
Noakhali	2007	7	0	1	1	0	0	11	0	0	0	4	17	8	72	114
Lakshmi.	2007	7	0	0	5	0	0	5	1	0	0	6	3	4	66	90
Bhola	2007	7	0	0	3	0	0	10	0	0	0	4	8	3	121	149
Patuakha	2007	7	1	0	2	1	0	5	3	1	0	3	8	5	94	123
Barguna	2007	7	2	0	4	5	0	20	0	2	0	2	7	7	78	127
Pirojpur	2007	7	1	0	2	0	0	11	0	1	0	7	6	2	61	91
Bagerhat	2007	7	0	4	4	0	0	24	0	0	0	12	8	11	94	157
Khulna	2007	7	0	1	3	6	0	14	0	0	0	4	6	22	102	158
Satkhira	2007	7	0	0	5	0	0	19	1	2	1	6	8	32	117	191
Cox'sbaz	2007	8	1	3	4	0	0	16	0	0	0	7	11	34	131	207
Chittag.	2007	8	7	3	12	0	0	24	0	4	1	6	29	30	236	352
Feni	2007	8	3	1	6	0	1	11	0	1	0	4	7	11	67	112
Noakhali	2007	8	1	0	3	0	0	13	1	0	0	1	3	18	84	124
Lakshmi.	2007	8	1	0	12	0	0	5	0	1	0	7	9	5	66	106
Bhola	2007	8	0	0	3	0	0	18	0	0	0	11	4	3	128	167
Patuakha	2007	8	0	0	3	5	0	7	5	0	0	0	8	5	102	139
Barguna	2007	8	0	0	3	6	0	17	1	0	0	4	5	3	104	143

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Pirojpur	2007	8	1	1	3	0	0	13	0	0	0	2	6	4	72	103
Bagerhat	2007	8	1	2	2	1	0	32	2	0	0	9	10	10	91	160
Khulna	2007	8	1	1	2	3	2	14	3	1	0	3	15	17	98	160
Satkhira	2007	8	5	0	2	3	0	22	0	0	0	8	4	40	66	150
Cox'sbaz	2007	9	2	1	2	0	0	20	0	2	0	5	11	16	136	195
Chittag.	2007	9	6	3	12	1	0	24	0	2	1	13	31	29	264	386
Feni	2007	9	1	2	3	1	2	14	0	1	0	1	9	12	68	114
Noakhali	2007	9	3	3	3	0	0	4	0	0	1	1	10	15	113	150
Lakshmi.	2007	9	0	2	2	0	0	5	0	0	0	2	5	5	64	83
Bhola	2007	9	1	1	9	0	0	12	0	0	0	2	6	2	108	141
Patuakha	2007	9	0	1	2	0	1	7	2	0	0	4	5	4	91	117
Barguna	2007	9	1	1	1	5	0	8	0	2	0	6	0	6	97	127
Pirojpur	2007	9	0	2	0	0	0	8	0	0	0	4	4	6	64	88
Bagerhat	2007	9	1	0	3	1	0	18	0	0	0	4	14	15	82	138
Khulna	2007	9	0	0	7	1	0	18	4	2	0	6	10	15	92	155
Satkhira	2007	9	2	0	3	2	0	12	2	0	0	4	14	29	51	119
Cox'sbaz	2007	10	1	1	2	0	0	15	1	0	0	6	6	29	99	160
Chittag.	2007	10	8	1	10	2	0	20	0	5	0	11	39	45	253	394
Feni	2007	10	0	0	4	1	1	7	0	1	0	5	7	16	64	106
Noakhali	2007	10	2	1	5	1	0	14	0	0	0	4	6	17	100	150
Lakshmi.	2007	10	0	1	1	0	0	5	0	0	0	1	3	9	76	96
Bhola	2007	10	1	0	5	1	0	11	0	0	0	5	4	2	105	134
Patuakha	2007	10	0	0	4	2	1	9	1	0	0	3	16	4	85	125
Barguna	2007	10	1	0	2	10	0	9	2	0	0	9	5	3	80	121
Pirojpur	2007	10	0	0	4	1	0	10	0	0	0	13	2	1	73	104
Bagerhat	2007	10	2	2	3	0	0	18	0	0	0	3	14	14	87	143
Khulna	2007	10	1	2	7	1	3	13	1	1	0	2	8	21	89	149
Satkhira	2007	10	0	0	2	0	0	21	0	0	0	7	16	34	76	156
Cox'sbaz	2007	11	1	0	3	1	0	21	0	0	0	6	9	41	121	203
Chittagong	2007	11	5	6	10	1	2	35	1	1	1	5	37	39	221	364
Feni	2007	11	1	0	4	0	0	8	1	1	0	4	7	12	50	88
Noakhali	2007	11	2	1	1	0	1	16	1	0	0	7	10	15	94	148

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Lakshmi.	2007	11	0	0	0	1	0	7	0	2	0	6	5	8	74	103
Bhola	2007	11	0	0	1	0	0	13	0	4	0	6	4	5	103	136
Patuakha	2007	11	0	0	3	0	0	3	5	0	0	2	12	3	100	128
Barguna	2007	11	0	0	2	3	1	11	0	0	0	3	3	1	77	101
Pirojpur	2007	11	0	0	1	0	0	3	0	2	0	2	1	6	65	80
Bagerhat	2007	11	2	0	3	1	0	17	0	2	0	4	16	13	79	137
Khulna	2007	11	1	1	2	1	0	13	1	0	0	4	11	17	87	138
Satkhira	2007	11	0	2	2	3	0	15	1	2	0	3	17	31	76	152
Cox'sbaz	2007	12	3	1	3	1	0	12	0	4	1	3	8	28	117	181
Chittag.	2007	12	5	4	7	2	0	34	0	1	0	7	21	45	203	329
Feni	2007	12	1	4	1	0	0	9	0	0	1	4	9	16	59	104
Noakhali	2007	12	1	2	4	0	0	9	0	0	0	8	6	19	108	157
Lakshmi.	2007	12	0	1	3	0	0	3	0	1	1	3	2	5	80	99
Bhola	2007	12	0	0	2	0	0	13	0	1	0	9	4	2	164	196
Patuakha	2007	12	0	5	5	0	0	2	4	1	0	5	10	3	133	169
Barguna	2007	12	2	0	2	0	0	15	0	0	0	0	4	1	115	142
Pirojpur	2007	12	1	0	4	0	0	5	1	1	0	6	7	5	73	103
Bagerhat	2007	12	1	0	2	0	0	22	0	1	0	4	14	18	110	172
Khulna	2007	12	0	0	3	1	0	8	0	1	0	5	10	23	89	140
Satkhira	2007	12	0	0	3	2	0	13	1	1	0	8	7	35	85	155
Cox'sbaz	2008	1	1	3	4	2	0	8	0	3	0	5	14	33	134	207
Chittag.	2008	1	6	1	11	1	0	25	0	0	1	10	28	38	162	283
Feni	2008	1	1	1	3	0	0	9	0	1	0	4	6	16	88	129
Noakhali	2008	1	0	5	1	1	0	7	0	3	0	7	6	13	50	93
Lakshmi.	2008	1	2	0	1	0	0	10	0	0	0	3	5	5	69	95
Bhola	2008	1	1	1	6	0	0	9	0	2	0	8	4	2	127	160
Patuakha	2008	1	0	1	2	3	0	1	4	3	0	5	13	7	153	192
Barguna	2008	1	1	1	2	2	1	13	0	1	0	2	5	3	113	144
Pirojpur	2008	1	1	0	1	0	0	8	0	2	0	1	4	3	60	80
Bagerhat	2008	1	0	0	5	3	0	14	0	1	0	5	14	11	95	148
Khulna	2008	1	0	1	2	0	0	13	0	0	0	5	6	32	91	150
Satkhira	2008	1	10	0	0	0	0	17	0	0	0	6	7	36	81	157

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Cox'sbaz	2008	2	2	1	3	1	0	14	1	5	0	3	11	27	123	191
Chittag.	2008	2	1	2	8	0	2	31	2	1	1	4	26	30	169	277
Feni	2008	2	6	1	3	0	0	9	0	1	1	4	8	11	90	134
Noakhali	2008	2	0	1	4	1	0	4	0	1	0	2	9	15	61	98
Lakshmi.	2008	2	2	0	2	0	0	4	0	0	0	3	6	9	51	77
Bhola	2008	2	1	1	7	0	3	12	0	2	0	6	2	2	118	154
Patuakha	2008	2	0	2	4	0	0	4	5	1	0	4	9	5	140	174
Barguna	2008	2	1	6	0	5	0	12	0	1	0	7	6	7	69	114
Pirojpur	2008	2	0	0	0	0	0	5	1	3	0	7	6	7	51	80
Bagerhat	2008	2	3	1	8	0	0	16	0	0	0	3	13	31	86	161
Khulna	2008	2	1	0	3	2	0	10	1	1	0	1	10	23	93	145
Satkhira	2008	2	0	0	4	0	0	17	0	0	0	5	13	63	59	161
Cox'sbaz	2008	3	3	4	5	0	0	7	2	1	0	3	12	30	126	193
Chittag.	2008	3	4	3	12	3	0	20	1	1	0	5	32	44	164	289
Feni	2008	3	1	0	3	0	0	14	0	3	0	9	7	23	104	164
Noakhali	2008	3	0	1	6	0	0	13	0	1	0	8	8	27	86	150
Lakshmi.	2008	3	1	1	2	0	0	9	1	0	0	5	5	11	74	109
Bhola	2008	3	1	2	4	0	0	16	0	5	0	4	4	1	131	168
Patuakha	2008	3	0	0	4	0	0	5	4	0	1	8	7	8	117	157
Barguna	2008	3	2	2	6	0	2	16	1	3	0	1	6	6	93	138
Pirojpur	2008	3	0	1	7	0	0	6	0	0	0	3	5	5	50	79
Bagerhat	2008	3	2	0	5	0	0	24	1	0	0	3	10	16	106	167
Khulna	2008	3	0	0	6	0	1	16	1	0	0	3	17	15	123	182
Satkhira	2008	3	1	0	5	4	0	17	5	0	2	2	15	43	88	182
Cox'sbaz	2008	4	0	1	3	2	0	10	1	7	0	5	11	29	149	218
Chittag.	2008	4	3	5	16	1	0	30	1	1	1	7	20	30	149	264
Feni	2008	4	0	0	2	0	0	6	0	1	0	1	8	29	77	124
Noakhali	2008	4	2	0	4	2	0	8	0	0	0	3	8	27	103	262
Lakshmi.	2008	4	0	0	8	0	0	7	0	1	0	4	10	12	78	157
Bhola	2008	4	0	0	3	0	0	17	0	3	0	1	7	3	127	161
Patuakha	2008	4	0	0	6	1	0	7	3	0	0	8	6	9	147	187

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Barguna	2008	4	0	4	5	0	2	25	0	0	0	9	9	7	97	158
Pirojpur	2008	4	0	0	1	0	0	10	0	1	0	4	3	3	69	91
Bagerhat	2008	4	1	0	4	0	0	31	2	2	0	3	11	10	128	192
Khulna	2008	4	0	1	3	1	0	9	0	2	0	3	8	27	119	173
Satkhira	2008	4	0	0	4	1	0	20	0	0	1	3	9	47	81	166
Cox'sbaz	2008	5	0	6	4	1	0	9	5	3	1	6	7	29	142	213
Chittag.	2008	5	7	3	10	0	0	44	2	2	0	2	24	27	169	290
Feni	2008	5	0	0	3	0	0	7	1	1	0	6	13	26	78	135
Noakhali	2008	5	4	2	2	1	0	14	0	0	1	3	4	15	102	148
Lakshmi.	2008	5	0	0	3	3	0	12	0	1	0	4	4	10	94	131
Bhola	2008	5	0	0	7	0	0	19	0	3	1	6	7	2	167	212
Patuakha	2008	5	1	2	3	1	1	16	6	0	0	2	14	12	151	209
Barguna	2008	5	1	2	4	1	2	15	0	1	0	1	4	5	126	162
Pirojpur	2008	5	0	0	6	0	0	10	0	1	0	7	6	3	72	105
Bagerhat	2008	5	0	0	1	0	0	26	0	0	0	7	13	13	126	186
Khulna	2008	5	1	0	5	1	1	16	0	0	0	2	14	29	130	199
Satkhira	2008	5	1	1	3	2	0	28	1	0	0	4	16	46	87	189
Cox'sbaz	2008	6	3	7	2	1	0	22	1	1	0	7	12	28	135	219
Chittag.	2008	6	0	2	8	0	1	42	0	2	0	3	21	31	153	263
Feni	2008	6	0	0	3	0	4	10	1	2	1	4	9	21	64	119
Noakhali	2008	6	1	1	2	2	0	9	0	1	1	9	9	23	79	137
Lakshmi.	2008	6	1	0	3	0	0	8	0	0	0	5	5	10	77	109
Bhola	2008	6	0	0	3	0	0	24	0	1	0	4	5	3	110	150
Patuakha	2008	6	0	1	4	2	0	17	5	2	0	7	9	7	138	192
Barguna	2008	6	2	8	2	2	1	17	1	2	0	3	7	9	90	144
Pirojpur	2008	6	0	1	5	1	0	5	2	3	0	7	3	2	87	116
Bagerhat	2008	6	2	0	5	1	0	28	0	1	0	9	23	29	235	333
Khulna	2008	6	1	0	8	2	0	16	0	3	0	3	11	36	113	193
Satkhira	2008	6	0	0	6	0	0	19	1	1	0	9	20	62	74	192
Cox'sbaz	2008	7	3	1	2	1	0	15	3	3	5	13	8	28	111	193
Chittag.	2008	7	8	2	10	0	1	20	1	1	0	6	36	32	133	250

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Feni	2008	7	0	0	6	0	3	5	1	0	0	2	8	8	104	137
Noakhali	2008	7	2	0	2	1	0	10	1	0	1	5	9	17	93	141
Lakshmi.	2008	7	1	1	4	0	0	9	0	2	0	4	10	42	65	138
Bhola	2008	7	1	0	5	0	0	15	0	2	0	10	5	6	93	137
Patuakha	2008	7	0	0	3	4	0	14	8	3	0	4	12	5	113	166
Barguna	2008	7	0	4	1	0	1	15	4	1	0	4	7	5	70	112
Pirojpur	2008	7	0	0	3	0	0	8	0	2	0	4	7	4	75	103
Bagerhat	2008	7	3	1	3	0	1	20	0	1	0	7	17	46	148	247
Khulna	2008	7	0	0	0	0	0	18	1	2	0	5	12	50	120	208
Satkhira	2008	7	1	0	5	2	0	26	1	0	0	5	3	43	102	188
Cox'sbaz	2008	8	4	1	7	0	0	5	4	1	1	6	14	31	149	223
Chittag.	2008	8	4	4	3	2	0	35	1	1	1	4	28	44	179	306
Feni	2008	8	1	3	3	0	1	7	1	1	0	4	10	18	76	125
Noakhali	2008	8	2	1	0	0	0	10	0	0	0	6	9	45	84	157
Lakshmi.	2008	8	0	0	0	0	0	6	0	1	0	5	14	14	100	140
Bhola	2008	8	0	0	6	0	0	27	0	3	0	6	8	6	118	174
Patuakha	2008	8	1	0	5	4	1	9	6	1	0	6	6	8	132	179
Barguna	2008	8	0	4	5	1	0	7	1	3	0	3	5	5	108	142
Pirojpur	2008	8	0	0	5	0	0	12	0	1	0	9	9	4	83	123
Bagerhat	2008	8	0	1	2	1	0	17	0	1	0	11	18	10	108	169
Khulna	2008	8	0	2	5	0	0	20	1	1	0	5	6	26	133	199
Satkhira	2008	8	1	2	2	2	0	25	2	1	0	6	2	51	99	193
Cox'sbaz	2008	9	2	2	5	1	0	13	0	2	2	4	14	29	129	203
Chittag.	2008	9	6	3	6	2	0	41	0	0	1	7	35	35	136	272
Feni	2008	9	1	1	2	0	0	10	3	4	0	2	6	12	78	119
Noakhali	2008	9	0	0	2	2	0	3	0	0	0	3	3	34	58	105
Lakshmi.	2008	9	0	0	2	1	0	4	1	0	0	5	9	10	128	160
Bhola	2008	9	0	0	5	0	0	11	0	1	0	5	3	6	125	156
Patuakha	2008	9	1	0	1	1	0	10	6	2	0	3	16	4	164	212
Barguna	2008	9	0	12	5	5	0	10	0	0	0	2	3	6	121	164
Pirojpur	2008	9	0	1	1	5	0	12	0	1	0	1	5	6	107	135
Bagerhat	2008	9	1	1	3	2	0	17	0	1	0	5	17	16	133	196

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Khulna	2008	9	0	1	4	0	0	15	0	2	0	2	11	29	120	184
Satkhira	2008	9	1	2	2	1	0	14	1	0	0	2	12	51	122	208
Cox'sbaz	2008	10	2	3	10	1	0	10	2	0	1	5	11	42	132	219
Chittag.	2008	10	2	5	10	1	2	35	1	1	2	5	21	32	126	243
Feni	2008	10	0	2	3	0	2	3	2	0	0	2	9	11	74	108
Noakhali	2008	10	2	1	1	0	0	11	0	0	0	5	11	33	66	130
Lakshmi.	2008	10	2	0	6	0	0	11	2	1	0	3	6	9	85	125
Bhola	2008	10	0	0	2	0	0	19	0	1	0	1	9	4	108	144
Patuakha	2008	10	0	1	3	3	1	20	4	1	0	3	6	2	112	156
Barguna	2008	10	0	4	0	1	1	17	2	0	0	4	7	6	80	122
Pirojpur	2008	10	1	0	4	0	0	7	0	0	0	2	5	2	86	107
Bagerhat	2008	10	3	1	5	0	0	24	0	0	0	6	14	22	108	183
Khulna	2008	10	0	0	4	1	0	14	0	2	0	4	4	40	127	196
Satkhira	2008	10	1	1	1	0	2	18	1	1	0	5	9	71	110	220
Cox'sbaz	2008	11	1	6	4	0	0	14	0	1	1	2	6	63	132	230
Chittag.	2008	11	7	1	15	1	0	40	0	0	1	2	16	40	111	235
Feni	2008	11	1	1	4	1	2	6	3	1	0	3	6	13	80	121
Noakhali	2008	11	3	1	1	1	0	5	1	0	1	1	4	32	44	94
Lakshmi.	2008	11	0	1	1	0	0	6	2	2	0	7	8	12	53	92
Bhola	2008	11	1	0	3	0	0	16	0	1	0	3	5	4	114	147
Patuakha	2008	11	1	0	1	2	0	12	6	3	1	4	14	3	136	183
Barguna	2008	11	1	3	3	5	1	16	0	0	0	1	5	6	82	123
Pirojpur	2008	11	1	0	3	0	0	11	0	0	0	7	4	1	70	97
Bagerhat	2008	11	0	1	5	1	0	23	0	0	0	4	16	19	92	161
Khulna	2008	11	0	1	7	2	0	12	0	5	0	7	12	21	88	155
Satkhira	2008	11	1	1	5	0	0	14	1	0	0	6	4	58	95	185
Cox'sbaz	2008	12	0	3	5	0	0	3	1	0	0	3	7	29	90	141
Chittag.	2008	12	1	4	10	1	0	24	0	0	1	2	7	30	106	186
Feni	2008	12	1	0	0	0	0	6	3	0	0	4	3	11	48	76
Noakhali	2008	12	2	2	4	0	0	8	0	0	1	1	2	16	53	89
Lakshmi.	2008	12	0	0	6	0	0	5	1	1	1	9	4	9	60	96
Bhola	2008	12	0	0	2	0	0	10	0	1	0	5	3	3	108	132
Patuakha	2008	12	2	1	5	1	0	7	2	0	0	3	6	3	144	174

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Barguna	2008	12	0	4	1	3	0	15	0	0	0	2	3	4	99	131
Pirojpur	2008	12	0	0	1	0	0	7	0	0	0	3	3	2	66	82
Bagerhat	2008	12	0	1	4	1	0	11	0	2	0	4	10	17	106	156
Khulna	2008	12	0	2	3	1	0	10	0	1	0	1	7	15	108	148
Satkhira	2008	12	0	1	3	1	0	4	0	0	1	9	4	37	63	123
Cox'sbaz	2009	1	2	4	4	1	13	13	1	1	2	1	9	26	80	146
Chittag.	2009	1	3	6	9	1	19	13	1	1	2	5	16	33	106	196
Feni	2009	1	2	0	5	0	7	6	2	0	0	1	11	14	54	95
Noakhali	2009	1	3	2	7	0	12	4	0	0	1	2	5	20	63	107
Lakshmi.	2009	1	5	1	2	0	8	1	0	0	0	8	5	12	63	97
Bhola	2009	1	1	0	1	1	0	14	0	0	1	6	3	4	109	140
Patuakha	2009	1	2	1	3	6	0	5	5	0	0	3	6	6	178	215
Barguna	2009	1	0	5	3	2	0	12	0	0	0	3	9	2	116	152
Pirojpur	2009	1	0	0	0	0	0	8	0	1	0	4	7	1	97	118
Bagerhat	2009	1	3	2	5	1	0	18	0	2	0	4	13	13	136	197
Khulna	2009	1	1	2	1	6	0	7	1	5	0	4	11	5	103	146
Satkhira	2009	1	1	0	2	2	0	9	0	0	0	5	4	44	95	162
Cox'sbaz	2009	2	1	2	6	0	0	21	5	1	4	6	6	36	111	199
Chittag.	2009	2	11	1	10	0	1	20	1	1	0	7	18	30	122	222
Feni	2009	2	0	1	3	0	0	5	3	0	0	1	10	15	70	108
Noakhali	2009	2	1	0	4	0	0	13	0	0	2	3	3	22	72	120
Lakshmi.	2009	2	2	0	2	0	0	6	0	0	1	2	5	9	59	86
Bhola	2009	2	0	1	5	0	0	15	0	0	0	4	3	4	115	147
Patuakha	2009	2	1	0	4	5	0	5	7	1	1	5	10	4	114	157
Barguna	2009	2	3	3	2	1	0	18	0	2	0	3	2	6	86	126
Pirojpur	2009	2	1	0	2	0	0	9	1	2	0	5	5	5	92	122
Bagerhat	2009	2	3	2	5	1	2	22	0	2	0	2	12	7	114	172
Khulna	2009	2	3	1	9	2	0	6	0	4	0	1	9	17	93	145
Satkhira	2009	2	0	2	3	2	0	8	0	0	0	2	11	55	73	156
Cox'sbaz	2009	3	1	2	4	0	0	18	2	3	0	7	10	41	135	223
Chittag.	2009	3	9	1	12	1	1	10	0	0	0	1	17	42	143	237
Feni	2009	3	1	0	7	0	0	6	4	1	0	3	7	16	81	126
Noakhali	2009	3	2	0	5	0	0	4	0	1	0	2	8	23	61	106

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Lakshmi.	2009	3	0	0	8	0	0	9	1	0	0	2	3	7	74	104
Bhola	2009	3	0	1	3	0	0	11	0	0	1	7	5	6	121	155
Patuakha	2009	3	0	1	4	2	0	6	5	1	0	3	5	8	122	157
Barguna	2009	3	0	5	1	3	0	9	0	2	0	6	6	1	93	126
Pirojpur	2009	3	0	0	1	1	0	12	0	0	0	4	6	3	105	132
Bagerhat	2009	3	1	0	5	1	0	20	0	1	0	6	12	14	149	209
Khulna	2009	3	1	0	2	4	0	8	0	2	0	0	10	22	112	161
Satkhira	2009	3	0	1	4	1	0	10	0	0	0	6	7	39	93	161
Cox'sbaz	2009	4	1	3	6	2	0	28	6	0	1	4	9	39	129	227
Chittag.	2009	4	4	3	14	1	0	27	0	1	1	3	12	55	147	269
Feni	2009	4	0	0	3	0	0	2	5	0	1	1	3	38	93	146
Noakhali	2009	4	1	1	3	2	0	10	1	1	0	2	4	56	61	142
Lakshmi.	2009	4	0	1	1	0	0	9	0	0	0	5	2	24	89	131
Bhola	2009	4	0	0	5	0	0	13	0	0	0	3	3	2	173	199
Patuakha	2009	4	0	1	4	2	0	12	8	0	0	3	13	6	100	149
Barguna	2009	4	0	5	4	2	0	11	0	1	0	2	10	1	95	131
Pirojpur	2009	4	0	0	3	0	0	17	1	3	0	4	9	5	114	156
Bagerhat	2009	4	1	2	2	2	2	25	0	2	1	4	14	17	147	219
Khulna	2009	4	2	1	7	2	0	13	0	4	0	3	9	23	113	177
Satkhira	2009	4	0	0	5	2	0	6	1	2	1	3	3	29	77	129
Cox'sbaz	2009	5	4	4	6	0	0	20	6	1	0	6	8	41	139	235
Chittag.	2009	5	7	1	10	0	0	20	1	3	0	1	12	68	177	300
Feni	2009	5	0	2	2	0	0	4	2	3	0	2	6	47	113	181
Noakhali	2009	5	6	2	6	1	0	5	0	0	0	3	9	34	77	143
Lakshmi.	2009	5	0	1	4	0	0	9	1	0	0	0	9	22	95	141
Bhola	2009	5	1	0	1	0	0	14	0	1	0	4	0	4	162	187
Patuakha	2009	5	0	0	6	0	0	7	7	1	1	2	4	5	120	153
Barguna	2009	5	2	3	6	6	1	17	1	1	0	4	3	3	104	151
Pirojpur	2009	5	0	1	3	2	0	21	1	1	0	6	4	8	107	154
Bagerhat	2009	5	1	0	11	0	0	13	0	0	0	5	12	14	116	172
Khulna	2009	5	2	0	11	3	0	15	0	3	0	2	11	17	110	174

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Satkhira	2009	5	2	1	10	2	2	22	1	0	2	4	2	35	110	193
Cox'sbaz	2009	6	3	5	7	2	0	15	3	3	1	3	12	35	139	228
Chittag.	2009	6	8	3	9	1	0	25	0	0	1	2	13	69	152	283
Feni	2009	6	0	0	4	0	0	3	1	0	0	1	9	42	109	169
Noakhali	2009	6	0	0	2	1	0	9	1	2	1	3	1	26	90	136
Lakshmi.	2009	6	2	0	4	1	0	6	1	1	0	2	0	16	101	134
Bhola	2009	6	0	1	2	0	0	18	0	0	0	2	2	3	140	168
Patuakha	2009	6	0	1	0	1	0	9	7	1	0	10	9	7	127	172
Barguna	2009	6	0	0	3	2	0	12	0	1	0	2	3	3	99	125
Pirojpur	2009	6	2	1	5	1	0	15	2	1	0	10	2	6	96	141
Bagerhat	2009	6	1	0	8	2	0	20	0	3	0	6	8	30	127	205
Khulna	2009	6	1	1	5	10	0	20	0	1	0	4	7	40	115	204
Satkhira	2009	6	0	2	3	0	0	19	2	0	0	3	11	42	130	212
Cox'sbaz	2009	7	1	2	5	2	0	19	1	0	1	6	6	39	132	214
Chittag.	2009	7	6	1	7	2	0	16	0	2	0	5	15	64	144	262
Feni	2009	7	0	0	2	0	0	11	2	0	0	3	8	29	88	143
Noakhali	2009	7	4	0	3	0	0	11	1	0	0	3	6	45	69	142
Lakshmi.	2009	7	0	0	1	1	0	9	2	0	0	2	5	15	97	132
Bhola	2009	7	0	0	2	1	0	20	0	1	0	4	7	5	101	141
Patuakha	2009	7	0	0	2	3	0	4	9	0	0	5	11	7	97	138
Barguna	2009	7	0	3	4	3	0	11	1	1	0	1	3	3	80	110
Pirojpur	2009	7	1	0	5	0	0	7	0	2	0	5	4	5	86	115
Bagerhat	2009	7	1	1	10	0	0	29	0	1	0	7	13	20	108	190
Khulna	2009	7	1	2	4	5	0	13	0	5	0	5	11	34	114	194
Satkhira	2009	7	0	2	11	4	0	30	2	1	0	3	12	49	110	224
Cox'sbaz	2009	8	1	1	4	4	0	13	6	0	0	7	7	30	157	230
Chittag.	2009	8	4	5	11	1	0	35	2	1	1	4	15	65	132	276
Feni	2009	8	0	1	8	0	0	8	1	0	0	6	6	25	83	138
Noakhali	2009	8	0	1	4	1	0	8	1	2	0	4	7	34	83	145
Lakshmi.	2009	8	1	0	0	0	0	7	0	0	0	1	4	40	76	129
Bhola	2009	8	0	4	4	1	0	15	0	2	0	2	5	6	95	130
Patuakha	2009	8	0	3	3	1	0	6	4	0	0	11	7	7	144	184
Barguna	2009	8	0	3	3	3	0	9	0	1	0	1	7	4	87	117

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Pirojpur	2009	8	2	3	4	2	0	9	1	1	0	5	10	4	76	114
Bagerhat	2009	8	3	2	8	0	0	24	0	1	0	4	11	13	100	166
Khulna	2009	8	3	1	8	3	0	22	0	4	0	2	12	51	102	208
Satkhira	2009	8	0	2	7	3	0	19	1	2	0	7	6	45	127	219
Cox'sbaz	2009	9	0	1	10	4	0	8	2	3	1	5	10	28	123	195
Chittag.	2009	9	2	1	14	4	0	29	0	0	1	1	20	48	164	284
Feni	2009	9	0	0	4	0	0	7	0	1	0	0	5	25	86	128
Noakhali	2009	9	2	2	7	2	0	9	1	1	0	3	5	22	86	140
Lakshmi.	2009	9	0	0	5	1	0	3	1	0	0	1	2	16	90	119
Bhola	2009	9	0	1	0	1	0	20	0	0	0	2	3	6	105	138
Patuakha	2009	9	0	2	2	3	0	12	2	1	0	1	4	8	131	166
Barguna	2009	9	1	1	2	8	1	11	0	1	0	1	2	5	79	112
Pirojpur	2009	9	1	0	7	0	0	10	0	0	0	4	6	3	88	119
Bagerhat	2009	9	0	0	7	1	1	14	0	1	0	8	9	18	103	162
Khulna	2009	9	1	2	8	2	1	18	0	2	0	3	11	48	125	221
Satkhira	2009	9	1	0	5	5	0	27	1	4	0	8	3	52	188	294
Cox'sbaz	2009	10	2	1	3	2	0	11	3	2	1	1	9	46	145	226
Chittag.	2009	10	7	3	8	1	0	56	0	1	0	3	16	48	142	285
Feni	2009	10	0	0	2	0	0	6	0	0	0	1	3	37	79	128
Noakhali	2009	10	1	0	5	1	0	12	1	1	0	1	6	36	75	139
Lakshmi.	2009	10	1	0	1	1	0	8	2	1	0	0	5	15	87	121
Bhola	2009	10	1	1	1	0	0	16	0	1	0	3	3	6	101	133
Patuakha	2009	10	1	0	1	3	0	10	3	0	0	7	10	7	93	135
Barguna	2009	10	1	2	4	7	0	9	0	1	0	4	6	8	69	111
Pirojpur	2009	10	0	0	5	1	0	12	1	2	0	1	3	2	104	131
Bagerhat	2009	10	1	0	7	0	0	19	0	1	0	3	5	32	85	158
Khulna	2009	10	2	2	7	1	0	21	0	4	0	1	13	37	107	197
Satkhira	2009	10	0	0	4	1	0	20	1	1	0	3	6	56	154	248
Cox'sbaz	2009	11	0	1	7	3	0	21	5	0	1	2	5	40	123	208
Chittag.	2009	11	7	3	7	1	0	28	1	2	1	3	15	52	148	268
Feni	2009	11	0	0	2	0	0	9	0	0	0	2	3	38	77	131
Noakhali	2009	11	1	0	3	0	0	15	1	1	0	4	5	13	84	127

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Lakshmi.	2009	11	1	0	3	1	0	9	0	0	0	2	7	4	79	106
Bhola	2009	11	0	0	4	0	0	19	0	0	0	4	3	4	82	116
Patuakha	2009	11	0	1	3	0	0	6	4	2	0	2	7	4	121	150
Barguna	2009	11	1	2	2	4	0	12	1	3	0	4	6	9	76	120
Pirojpur	2009	11	2	1	4	3	0	11	0	1	0	3	1	2	64	92
Bagerhat	2009	11	0	3	3	0	0	15	0	0	0	5	6	21	79	132
Khulna	2009	11	0	2	3	0	0	22	0	3	0	0	8	34	100	172
Satkhira	2009	11	0	0	4	3	1	21	2	3	0	3	7	32	109	185
Cox'sbaz	2009	12	3	0	4	1	0	12	5	0	0	1	5	39	165	235
Chittag.	2009	12	4	0	12	0	0	29	0	1	0	3	19	62	169	299
Feni	2009	12	0	0	1	0	0	9	0	0	1	2	3	30	88	134
Noakhali	2009	12	1	0	5	2	0	11	0	1	0	6	10	28	90	154
Lakshmi.	2009	12	0	0	1	0	0	5	0	0	0	3	2	23	68	102
Bhola	2009	12	0	0	3	1	0	9	0	1	0	1	2	4	134	155
Patuakha	2009	12	0	2	5	1	0	6	6	1	0	3	6	5	158	193
Barguna	2009	12	0	3	4	5	0	13	1	2	0	4	4	3	91	130
Pirojpur	2009	12	1	0	1	0	0	5	0	0	0	4	4	7	75	97
Bagerhat	2009	12	1	2	3	0	0	23	0	1	0	4	11	13	84	142
Khulna	2009	12	0	1	2	0	0	20	0	4	0	2	11	20	108	168
Satkhira	2009	12	1	0	5	2	0	19	1	0	1	5	2	25	147	208
Cox'sbaz	2010	1	1	0	8	0	0	7	6	0	2	1	4	48	152	229
Chittag.	2010	1	6	1	16	1	0	28	0	0	1	3	20	103	157	336
Feni	2010	1	1	0	3	0	0	7	0	0	0	3	6	33	75	128
Noakhali	2010	1	1	0	9	0	0	6	0	0	0	3	9	30	55	113
Lakshmi.	2010	1	1	0	0	1	0	12	0	0	0	4	1	18	66	103
Bhola	2010	1	0	0	1	0	0	10	0	0	0	2	5	4	96	118
Patuakha	2010	1	0	0	1	0	0	5	3	1	0	3	5	6	126	150
Barguna	2010	1	1	0	4	1	1	6	1	1	0	4	1	1	104	125
Pirojpur	2010	1	0	0	0	0	0	3	1	3	0	1	5	12	70	95
Bagerhat	2010	1	1	1	4	2	0	21	0	1	0	1	13	10	89	143
Khulna	2010	1	0	1	4	1	0	13	0	4	0	6	13	22	93	157
Satkhira	2010	1	0	0	6	1	0	26	1	2	1	4	8	33	138	220

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Cox'sbaz	2010	2	3	0	10	2	0	14	1	1	1	3	7	45	148	235
Chittag.	2010	2	3	2	8	1	0	20	1	3	3	2	17	84	142	286
Feni	2010	2	0	1	3	0	0	1	1	1	0	3	5	30	73	118
Noakhali	2010	2	1	0	5	0	0	14	1	1	0	2	5	17	60	106
Lakshmi.	2010	2	1	0	1	1	0	6	0	0	0	2	3	5	76	95
Bhola	2010	2	0	0	3	0	0	9	0	0	0	1	0	0	89	105
Patuakha	2010	2	0	0	1	1	0	4	3	2	0	6	3	9	99	128
Barguna	2010	2	0	0	1	4	1	5	0	1	0	3	2	6	81	104
Pirojpur	2010	2	0	0	1	0	0	8	0	0	0	2	3	11	61	86
Bagerhat	2010	2	0	1	4	2	0	21	0	1	0	5	9	10	82	135
Khulna	2010	2	0	0	3	0	0	9	0	2	0	1	10	36	119	180
Satkhira	2010	2	1	0	2	1	0	23	0	1	1	9	5	33	136	212
Cox'sbaz	2010	3	0	0	4	1	0	14	5	2	1	3	7	50	154	241
Chittag.	2010	3	5	3	12	0	0	34	2	0	0	5	20	105	183	369
Feni	2010	3	0	0	3	0	0	11	0	0	0	0	5	31	57	107
Noakhali	2010	3	1	2	10	0	2	20	0	0	0	4	9	28	92	168
Lakshmi.	2010	3	1	0	1	0	0	11	0	0	1	2	3	19	92	130
Bhola	2010	3	0	1	4	1	0	20	0	0	0	2	0	3	108	139
Patuakha	2010	3	0	0	5	5	0	9	2	0	0	5	10	3	125	164
Barguna	2010	3	1	2	5	1	0	7	1	0	0	4	5	5	81	112
Pirojpur	2010	3	0	0	3	2	0	10	1	0	0	3	6	8	65	98
Bagerhat	2010	3	2	1	7	0	0	24	0	2	0	3	7	8	106	160
Khulna	2010	3	1	0	6	0	0	29	0	4	0	1	10	27	117	195
Satkhira	2010	3	0	0	4	0	0	37	0	3	1	2	9	44	191	291
Cox'sbaz	2010	4	2	0	3	2	0	23	11	2	1	4	8	61	140	257
Chittag.	2010	4	3	1	21	1	0	54	0	0	0	1	19	123	176	399
Feni	2010	4	1	0	2	0	0	9	0	0	0	5	5	32	69	123
Noakhali	2010	4	4	1	5	3	0	14	0	0	0	2	9	34	125	197
Lakshmi.	2010	4	0	0	2	1	0	7	2	0	0	2	0	32	72	108
Bhola	2010	4	0	0	1	0	0	18	0	0	0	0	4	2	100	125
Patuakha	2010	4	0	1	4	5	0	11	7	2	0	4	10	4	104	154
Barguna	2010	4	0	0	3	1	0	6	2	4	0	3	7	9	82	114
Pirojpur	2010	4	1	0	2	0	0	5	3	1	1	1	5	4	74	98

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Bagerhat	2010	4	2	1	8	2	0	29	0	0	0	4	12	17	100	175
Khulna	2010	4	1	1	5	1	0	21	0	4	0	4	15	30	98	180
Satkhira	2010	4	0	0	9	3	0	31	2	4	1	7	8	42	175	282
Cox'sbaz	2010	5	2	3	7	0	0	20	11	2	1	3	3	39	147	238
Chittag.	2010	5	1	0	13	3	0	51	0	0	2	5	29	83	165	353
Feni	2010	5	0	0	3	0	0	12	0	0	0	3	5	41	85	149
Noakhali	2010	5	2	0	2	0	0	10	0	1	0	2	4	38	135	194
Lakshmi.	2010	5	0	0	2	0	0	14	0	0	0	4	2	21	111	154
Bhola	2010	5	0	1	1	0	0	22	0	1	0	2	5	3	114	149
Patuakha	2010	5	0	0	3	1	0	9	8	3	0	3	14	5	116	162
Barguna	2010	5	1	1	2	5	0	11	2	1	0	3	3	6	88	123
Pirojpur	2010	5	0	2	3	0	0	7	0	2	1	5	4	3	100	127
Bagerhat	2010	5	3	1	10	0	0	34	0	2	0	0	8	20	113	191
Khulna	2010	5	2	1	3	0	0	36	0	0	0	1	7	30	77	157
Satkhira	2010	5	1	1	5	5	0	34	1	2	0	6	5	36	140	236
Cox'sbaz	2010	6	2	2	2	0	1	20	5	1	0	0	7	16	138	194
Chittag.	2010	6	6	3	9	6	0	47	0	0	0	0	14	62	169	316
Feni	2010	6	1	2	4	0	0	7	0	0	2	2	7	34	58	117
Noakhali	2010	6	1	0	3	0	0	16	0	1	2	1	5	15	106	150
Lakshmi.	2010	6	0	0	2	0	0	9	3	0	0	5	6	13	84	122
Bhola	2010	6	0	1	2	0	0	16	0	0	0	1	1	5	102	128
Patuakha	2010	6	1	0	6	1	0	8	3	2	0	5	4	7	150	187
Barguna	2010	6	0	0	2	9	0	4	0	4	0	3	4	6	89	121
Pirojpur	2010	6	4	1	3	2	0	9	0	2	0	3	12	9	91	136
Bagerhat	2010	6	1	1	9	1	0	30	0	1	0	4	9	21	109	186
Khulna	2010	6	2	3	3	0	0	25	1	6	0	0	6	30	113	189
Satkhira	2010	6	0	1	4	1	0	59	0	0	0	8	6	25	180	284
Cox'sbaz	2010	7	1	0	4	6	0	21	10	1	4	5	10	39	154	255
Chittag.	2010	7	1	0	10	0	0	50	0	0	2	4	20	138	154	379
Feni	2010	7	0	0	4	0	0	6	0	0	0	2	6	45	86	149
Noakhali	2010	7	1	0	3	3	0	14	0	0	0	5	8	32	113	179
Lakshmi.	2010	7	0	0	1	1	0	9	0	0	0	1	5	23	95	135

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Bhola	2010	7	1	1	5	0	0	21	0	3	0	3	4	9	77	124
Patuakha	2010	7	0	0	2	4	0	6	6	1	0	7	7	6	145	184
Barguna	2010	7	2	2	8	7	0	13	0	0	0	3	6	4	69	114
Pirojpur	2010	7	1	2	8	0	0	19	2	2	0	1	11	9	82	137
Bagerhat	2010	7	0	0	9	2	0	32	0	2	0	5	10	27	88	175
Khulna	2010	7	4	2	3	0	0	27	1	2	0	3	8	32	94	176
Satkhira	2010	7	2	3	8	3	0	42	1	3	0	12	15	28	148	265
Cox'sbaz	2010	8	2	1	6	6	0	25	0	0	0	2	9	23	166	240
Chittag.	2010	8	2	2	13	1	2	36	1	0	3	3	27	58	203	351
Feni	2010	8	1	2	6	0	0	6	0	2	0	2	10	29	78	136
Noakhali	2010	8	1	0	6	1	0	13	0	0	0	2	5	20	117	165
Lakshmi.	2010	8	1	0	4	0	0	11	0	1	0	3	1	10	107	138
Bhola	2010	8	0	0	4	0	0	16	0	1	0	1	6	7	88	123
Patuakha	2010	8	0	0	1	3	0	6	2	0	0	4	4	6	150	176
Barguna	2010	8	0	2	3	1	0	9	0	1	0	4	4	4	90	118
Pirojpur	2010	8	0	1	8	0	0	14	2	1	1	9	7	8	95	146
Bagerhat	2010	8	1	0	8	4	0	29	0	5	0	2	13	17	118	197
Khulna	2010	8	0	0	4	1	0	29	0	4	0	2	17	32	101	190
Satkhira	2010	8	1	2	5	0	0	37	0	0	0	8	22	22	203	300
Cox'sbaz	2010	9	2	0	8	7	0	18	0	0	2	2	5	42	166	252
Chittag.	2010	9	0	5	13	2	0	26	1	0	0	4	20	108	170	349
Feni	2010	9	0	0	2	0	0	5	1	0	0	3	2	46	95	154
Noakhali	2010	9	0	2	6	0	0	26	0	0	1	4	11	40	126	216
Lakshmi.	2010	9	0	1	1	0	0	2	0	0	0	1	1	27	102	135
Bhola	2010	9	0	0	2	0	0	21	0	0	0	2	1	3	111	140
Patuakha	2010	9	0	0	3	0	0	5	6	2	0	7	8	10	113	154
Barguna	2010	9	1	1	7	3	0	15	1	0	0	3	3	6	72	111
Pirojpur	2010	9	0	2	6	1	0	14	0	2	0	3	10	6	116	161
Bagerhat	2010	9	0	1	6	2	0	40	0	1	0	1	13	22	122	208
Khulna	2010	9	2	3	10	1	0	25	0	0	0	4	5	24	99	173

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Satkhira	2010	9	1	2	2	2	0	43	0	3	0	6	10	31	160	260
Cox'sbaz	2010	10	2	0	4	3	0	23	1	0	2	3	5	28	146	217
Chittag.	2010	10	3	0	12	1	0	47	0	1	0	11	23	44	166	308
Feni	2010	10	0	4	5	0	0	6	0	0	0	1	5	27	61	109
Noakhali	2010	10	2	1	6	1	0	26	0	0	0	3	6	17	92	154
Lakshmi.	2010	10	0	1	1	0	0	19	1	0	0	1	2	24	95	144
Bhola	2010	10	0	0	2	0	0	23	0	0	1	5	1	2	79	113
Patuakha	2010	10	1	1	0	5	0	7	6	2	0	8	5	4	94	133
Barguna	2010	10	1	0	4	4	0	12	2	0	2	0	5	4	62	96
Pirojpur	2010	10	3	2	2	0	0	14	2	3	0	4	8	5	107	150
Bagerhat	2010	10	1	3	5	0	0	21	0	3	0	1	13	16	103	166
Khulna	2010	10	3	2	10	0	0	27	1	2	0	2	14	25	87	173
Satkhira	2010	10	0	1	3	0	0	43	2	7	0	11	16	22	127	232
Cox'sbaz	2010	11	0	0	4	2	0	21	0	0	0	4	3	40	163	237
Chittag.	2010	11	2	1	7	1	0	32	0	0	0	3	19	81	175	321
Feni	2010	11	0	0	4	1	0	8	2	0	1	1	6	48	53	124
Noakhali	2010	11	2	0	2	2	0	17	1	0	1	4	10	26	100	165
Lakshmi.	2010	11	2	1	3	1	0	8	1	1	0	3	0	16	88	124
Bhola	2010	11	0	0	2	0	0	18	0	0	1	2	0	4	90	117
Patuakha	2010	11	0	0	1	0	0	3	5	0	0	3	9	4	115	140
Barguna	2010	11	0	1	4	12	0	12	0	1	0	0	3	7	83	123
Pirojpur	2010	11	1	0	0	0	0	12	3	4	2	4	4	2	97	129
Bagerhat	2010	11	1	0	7	1	2	28	0	2	0	4	19	17	87	168
Khulna	2010	11	0	1	7	0	0	29	0	2	0	1	11	26	74	151
Satkhira	2010	11	1	0	3	2	0	39	0	5	0	4	18	14	128	214
Cox'sbaz	2010	12	2	1	6	5	0	21	2	1	1	7	4	15	147	212
Chittag.	2010	12	3	3	9	2	0	26	0	0	0	2	22	47	153	267
Feni	2010	12	0	0	1	0	0	12	1	0	1	4	3	34	48	104
Noakhali	2010	12	1	0	3	1	0	16	0	1	0	6	6	13	89	136
Lakshmi.	2010	12	0	0	4	0	0	6	0	0	0	0	2	12	78	102
Bhola	2010	12	0	0	3	0	0	19	0	0	0	2	2	8	77	111
Patuakha	2010	12	0	0	3	1	0	4	6	0	0	2	4	11	136	167

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Barguna	2010	12	0	2	5	6	0	13	1	2	0	4	1	2	86	122
Pirojpur	2010	12	1	2	0	0	0	9	1	1	1	1	8	2	97	123
Bagerhat	2010	12	2	2	3	0	0	25	0	1	0	3	11	14	95	156
Khulna	2010	12	3	1	2	2	0	30	0	2	0	1	9	18	93	159
Satkhira	2010	12	1	0	5	0	0	33	0	2	0	10	10	18	107	188
Cox'sbaz	2011	1	1	1	3	5	0	21	2	1	1	0	4	13	160	212
Chittag.	2011	1	6	4	9	0	0	25	0	0	3	6	28	46	150	277
Feni	2011	1	1	0	2	0	0	2	0	0	0	3	8	23	57	96
Noakhali	2011	1	3	0	4	1	0	16	0	2	1	4	8	10	68	117
Lakshmi.	2011	1	1	0	4	0	0	7	0	0	0	3	1	15	67	98
Bhola	2011	1	0	0	2	3	0	8	0	1	0	1	1	2	83	101
Patuakha	2011	1	0	1	0	4	0	7	3	0	0	4	3	9	118	149
Barguna	2011	1	0	0	3	8	0	14	0	0	1	2	8	6	73	115
Pirojpur	2011	1	1	1	2	0	0	7	0	0	0	1	8	0	89	109
Bagerhat	2011	1	0	0	3	0	0	23	0	1	0	1	9	15	103	155
Khulna	2011	1	0	0	5	1	0	31	0	2	0	2	11	20	115	187
Satkhira	2011	1	0	2	3	1	0	32	1	2	0	5	8	14	125	193
Cox'sbaz	2011	2	2	0	1	0	0	30	1	0	1	5	7	33	163	243
Chittag.	2011	2	6	1	9	0	0	39	0	0	2	5	25	76	152	318
Feni	2011	2	0	2	4	0	0	5	1	1	0	0	3	55	51	122
Noakhali	2011	2	5	0	5	0	0	13	0	1	3	5	13	32	84	161
Lakshmi.	2011	2	0	1	2	0	0	8	0	0	0	3	4	30	81	129
Bhola	2011	2	0	0	3	0	0	7	0	0	0	2	3	2	90	107
Patuakha	2011	2	0	1	6	0	0	5	7	1	0	4	5	13	97	139
Barguna	2011	2	1	0	7	13	0	9	0	1	0	1	3	7	58	100
Pirojpur	2011	2	0	2	2	0	0	13	0	1	0	3	13	6	97	137
Bagerhat	2011	2	1	2	5	2	0	21	0	0	1	8	8	20	79	147
Khulna	2011	2	0	1	6	2	0	27	1	4	0	2	10	12	115	180
Satkhira	2011	2	0	1	3	0	0	39	0	2	0	6	12	13	111	187
Cox'sbaz	2011	3	2	0	9	4	0	28	4	0	3	3	12	35	145	245
Chittag.	2011	3	8	3	8	3	0	59	0	1	1	4	13	58	163	321
Feni	2011	3	1	1	1	0	0	4	0	0	0	3	12	48	62	132
Noakhali	2011	3	6	0	3	0	0	23	0	2	2	5	8	32	118	199

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Lakshmi.	2011	3	1	1	2	0	0	7	0	1	0	5	6	19	81	123
Bhola	2011	3	0	1	1	0	0	8	0	0	0	1	3	2	92	108
Patuakha	2011	3	0	1	2	1	1	1	4	0	0	4	6	3	106	129
Barguna	2011	3	0	1	1	27	0	12	1	0	1	2	3	3	72	123
Pirojpur	2011	3	0	2	3	0	0	12	0	5	0	5	7	1	72	
Bagerhat	2011	3	3	0	3	0	0	22	0	0	0	2	5	21	69	125
Khulna	2011	3	0	1	3	1	0	16	0	1	0	3	8	12	81	126
Satkhira	2011	3	0	0	5	0	0	37	0	4	2	8	10	16	99	181
Cox'sbaz	2011	4	1	0	5	5	0	36	3	0	10	2	9	50	184	305
Chittag.	2011	4	0	0	7	0	0	49	0	1	2	4	13	59	159	294
Feni	2011	4	0	2	1	0	0	8	2	3	0	1	5	32	65	119
Noakhali	2011	4	2	0	5	0	0	15	0	0	1	4	10	39	107	183
Lakshmi.	2011	4	0	1	1	0	0	8	0	1	1	0	3	21	83	119
Bhola	2011	4	0	0	0	1	0	13	0	0	1	2	0	5	98	120
Patuakha	2011	4	0	0	4	4	0	2	4	0	0	3	3	3	121	144
Barguna	2011	4	0	2	3	50	0	18	1	0	0	0	5	3	62	144
Pirojpur	2011	4	1	0	3	2	0	9	2	4	1	0	3	3	102	130
Bagerhat	2011	4	0	1	2	1	0	29	0	2	1	5	7	22	135	205
Khulna	2011	4	1	2	5	2	0	36	0	3	0	6	7	18	120	200
Satkhira	2011	4	2	1	4	1	0	37	0	3	1	10	14	17	176	266
Cox'sbaz	2011	5	1	0	6	6	0	35	4	0	1	7	5	39	185	289
Chittag.	2011	5	1	2	13	2	0	42	1	0	0	2	20	31	170	284
Feni	2011	5	2	2	2	1	0	0	1	0	1	0	2	34	50	95
Noakhali	2011	5	2	0	9	0	0	29	0	0	1	4	15	13	120	193
Lakshmi.	2011	5	0	1	3	0	0	10	0	1	0	1	3	16	113	148
Bhola	2011	5	0	0	3	0	0	13	0	0	1	3	1	4	87	112
Patuakha	2011	5	0	0	4	21	0	6	12	1	0	3	3	4	105	159
Barguna	2011	5	0	2	3	49	0	11	0	1	0	5	2	0	70	143
Pirojpur	2011	5	3	0	1	2	0	16	1	0	0	2	5	1	100	131
Bagerhat	2011	5	1	2	7	3	3	38	0	0	0	7	13	29	101	204
Khulna	2011	5	3	1	4	0	0	35	0	2	0	2	9	21	115	192

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Satkhira	2011	5	0	0	5	0	0	56	0	2	0	12	10	14	178	277
Cox'sbaz	2011	6	2	0	3	4	0	32	3	1	5	3	5	31	154	243
Chittag.	2011	6	5	1	4	1	1	28	1	0	1	2	9	22	131	206
Feni	2011	6	1	0	6	0	0	3	1	0	2	3	2	18	62	98
Noakhali	2011	6	2	0	5	1	0	65	0	1	4	6	8	12	90	194
Lakshmi.	2011	6	1	1	4	0	0	13	0	0	0	1	7	2	80	109
Bhola	2011	6	0	0	1	0	0	5	3	1	1	2	2	3	86	104
Patuakha	2011	6	0	0	5	27	0	6	3	1	0	2	8	6	118	176
Barguna	2011	6	0	0	1	57	0	11	0	1	0	1	7	5	70	147
Pirojpur	2011	6	1	0	2	1	0	17	1	0	0	2	1	0	96	127
Bagerhat	2011	6	1	1	1	3	0	36	0	0	2	3	16	14	89	166
Khulna	2011	6	1	0	5	3	0	35	0	2	0	6	14	9	115	190
Satkhira	2011	6	0	3	3	0	0	57	0	1	0	6	12	16	184	282
Cox'sbaz	2011	7	1	0	6	2	0	31	1	0	7	7	6	41	165	267
Chittag.	2011	7	1	6	13	1	0	34	0	0	1	4	17	46	187	310
Feni	2011	7	1	0	4	0	0	4	4	0	0	7	3	50	61	134
Noakhali	2011	7	3	0	5	1	0	69	0	1	3	1	5	22	97	207
Lakshmi.	2011	7	1	1	3	0	0	12	1	2	0	4	6	14	96	140
Bhola	2011	7	1	0	3	0	0	14	3	2	0	2	1	8	76	110
Patuakha	2011	7	0	0	4	16	0	6	3	0	1	5	7	7	108	157
Barguna	2011	7	0	0	4	49	0	21	2	2	1	7	3	5	56	150
Pirojpur	2011	7	0	2	5	0	0	23	2	2	0	4	5	3	78	124
Bagerhat	2011	7	1	2	3	0	0	51	0	1	0	4	13	29	112	216
Khulna	2011	7	1	2	3	2	0	42	0	2	0	2	9	14	140	217
Satkhira	2011	7	2	0	3	0	0	61	0	0	0	4	4	30	183	287
Cox'sbaz	2011	8	2	0	10	4	0	23	2	0	1	5	19	66	202	334
Chittag.	2011	8	3	1	9	2	0	46	0	0	1	4	22	45	196	329
Feni	2011	8	0	1	6	5	0	7	9	0	0	2	8	48	80	166
Noakhali	2011	8	2	0	5	1	0	74	0	0	0	5	7	14	104	213
Lakshmi.	2011	8	0	0	4	1	0	17	0	0	0	1	7	6	130	166
Bhola	2011	8	0	1	0	0	0	13	0	0	0	1	4	5	93	117
Patuakha	2011	8	0	1	6	11	0	8	3	1	1	4	13	7	126	181
Barguna	2011	8	0	0	3	20	0	25	0	2	0	1	4	17	71	143

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Pirojpur	2011	8	0	1	4	0	0	20	4	3	0	3	3	1	95	134
Bagerhat	2011	8	0	1	3	2	0	30	0	2	0	2	12	13	105	170
Khulna	2011	8	0	2	1	0	0	35	0	2	0	7	9	9	177	242
Satkhira	2011	8	2	0	1	0	0	61	0	4	0	5	6	34	205	318
Cox'sbaz	2011	9	2	3	5	5	0	29	3	1	0	4	7	45	186	290
Chittag.	2011	9	4	0	10	3	0	45	1	0	2	5	24	70	173	337
Feni	2011	9	2	0	2	1	0	8	11	3	0	4	7	47	86	171
Noakhali	2011	9	0	0	5	2	0	105	1	2	0	5	4	22	126	272
Lakshmi.	2011	9	1	0	2	2	0	17	0	0	0	1	6	13	119	160
Bhola	2011	9	0	0	3	0	0	11	4	1	0	3	2	8	84	116
Patuakha	2011	9	1	1	5	8	0	10	7	2	0	2	8	14	122	180
Barguna	2011	9	0	1	2	28	0	11	0	0	0	7	3	8	94	154
Pirojpur	2011	9	0	3	2	0	0	23	1	1	1	4	4	4	105	148
Bagerhat	2011	9	0	2	5	0	0	34	0	4	0	5	9	20	118	197
Khulna	2011	9	1	2	3	1	0	56	0	4	0	9	9	13	145	243
Satkhira	2011	9	1	1	3	0	0	80	0	1	1	9	13	22	162	293
Cox'sbaz	2011	10	2	3	4	4	0	34	6	0	1	8	16	61	197	336
Chittag.	2011	10	2	2	8	1	0	49	0	0	1	2	27	66	170	328
Feni	2011	10	0	1	2	2	0	11	4	1	0	4	11	61	80	177
Noakhali	2011	10	1	2	3	2	0	146	0	1	1	4	11	11	115	297
Lakshmi.	2011	10	1	0	3	1	0	15	0	1	0	2	2	10	110	145
Bhola	2011	10	0	0	3	0	0	17	3	0	0	2	1	4	90	120
Patuakha	2011	10	0	1	3	7	0	7	6	2	0	7	1	12	117	163
Barguna	2011	10	0	1	3	11	0	13	2	0	0	3	1	16	85	135
Pirojpur	2011	10	0	1	4	0	0	15	0	0	0	2	3	1	128	154
Bagerhat	2011	10	3	1	5	2	0	34	0	0	0	9	16	35	108	213
Khulna	2011	10	1	2	4	0	0	34	0	3	0	6	6	23	158	237
Satkhira	2011	10	0	1	3	1	0	51	4	2	0	9	9	20	191	291
Cox'sbaz	2011	11	1	0	8	4	0	33	6	0	1	3	8	48	170	282
Chittag.	2011	11	2	2	5	0	0	31	0	2	3	3	17	55	175	295
Feni	2011	11	0	0	2	2	0	7	2	1	0	2	4	42	66	128
Noakhali	2011	11	1	0	6	1	0	123	0	1	1	5	11	11	110	270

District	Year	Month	Dacoity	Bandity	Murder	Law Violence	Riot	Molestation	Child Kidnapping	Plunder	Police Attack	Burglary	Theft	Recovery Case	Other Case	Total Case
Lakshmi.	2011	11	0	0	3	1	0	12	0	0	0	2	11	16	120	165
Bhola	2011	11	1	0	5	0	0	18	0	0	1	2	2	7	86	122
Patuakha	2011	11	0	0	5	6	0	8	6	0	1	1	7	3	139	176
Barguna	2011	11	0	0	7	11	0	9	1	1	0	6	0	11	86	132
Pirojpur	2011	11	0	0	3	0	7	26	2	2	1	1	5	3	110	160
Bagerhat	2011	11	0	4	1	1	0	38	0	0	1	8	5	19	116	193
Khulna	2011	11	0	0	4	0	0	29	0	0	0	3	9	17	145	207
Satkhira	2011	11	0	2	2	2	0	33	10	4	0	10	3	34	148	248
Cox'sbaz	2011	12	1	1	6	2	0	26	5	0	2	2	5	36	213	299
Chittag.	2011	12	1	4	10	1	1	29	0	0	1	4	26	46	153	276
Feni	2011	12	2	1	1	2	0	2	3	2	0	3	3	30	69	118
Noakhali	2011	12	1	0	5	1	0	69	0	0	1	9	9	11	116	222
Lakshmi.	2011	12	0	0	3	0	0	9	0	0	0	1	2	18	116	149
Bhola	2011	12	1	1	7	1	0	8	0	2	1	0	2	11	99	133
Patuakha	2011	12	0	0	2	15	0	6	3	1	0	2	3	4	148	184
Barguna	2011	12	0	2	3	6	0	21	1	0	0	2	2	11	103	151
Pirojpur	2011	12	2	1	0	1	0	10	1	2	0	3	4	5	129	158
Bagerhat	2011	12	0	1	4	1	0	39	0	0	0	4	8	28	132	217
Khulna	2011	12	0	1	7	0	0	23	0	3	0	5	5	11	156	211
Satkhira	2011	12	0	2	1	0	0	41	0	6	0	7	2	25	111	195

Sources: Police Headquarters Dhaka 2012

Annexure II

Individual Hazard Severity Index

Cyclone	1	2	3	4	5		Severity Index					FINAL	Status
Name of Upazila	Very Sever	Sever	Moderate	Low	VeryLow	Total							
Taltali	11	7	3	0	0	21	0.52	0.67	0.43	0	0	1.62	Sever
Kotwali	15	4	2	0	0	21	0.71	0.38	0.29	0	0	1.38	Very Sever
Amtali	17	4	0	0	0	21	0.81	0.38	0	0	0	1.19	Very Sever
Barguna Sadar	29	1	1	0	0	31	0.94	0.06	0.1	0	0	1.1	Very Sever
Patharghata	19	2	0	0	0	21	0.9	0.19	0	0	0	1.1	Very Sever
Bhola Sadar	15	8	3	0	0	26	0.58	0.62	0.35	0	0	1.54	Sever
Borhanuddin	16	3	2	1	0	22	0.73	0.27	0.27	0.18	0	1.45	Very Sever
Charfession	21	4	2	0	0	27	0.78	0.3	0.22	0	0	1.3	Very Sever
Daulatkhan	13	6	1	0	1	21	0.62	0.57	0.14	0	0.24	1.57	Sever
Lalmohan	18	2	0	0	0	20	0.9	0.2	0	0	0	1.1	Very Sever
Monpura	9	2	0	0	0	11	0.82	0.36	0	0	0	1.18	Very Sever
Bauphal	9	3	0	3	0	15	0.6	0.4	0	0.8	0	1.8	Sever
Dashmina	14	4	1	0	0	19	0.74	0.42	0.16	0	0	1.32	Very Sever
Galachipa	8	3	1	0	0	12	0.67	0.5	0.25	0	0	1.42	Very Sever
Kalapara	10	2	0	0	0	12	0.83	0.33	0	0	0	1.17	Very Sever
Mathbaria	9	4	1	0	0	14	0.64	0.57	0.21	0	0	1.43	Very Sever
Anwara	8	2	2	0	0	12	0.67	0.33	0.5	0	0	1.5	Very Sever
Banshkhali	8	6	2	0	0	16	0.5	0.75	0.38	0	0	1.63	Sever
Chittagohg Sadar	9	4	0	0	0	13	0.69	0.62	0	0	0	1.31	Very Sever
Mirsharai	8	7	6	0	0	21	0.38	0.67	0.86	0	0	1.9	Sever
Sandwip	8	4	0	0	0	12	0.67	0.67	0	0	0	1.33	Very Sever
Sitakunda	5	4	2	0	0	11	0.45	0.73	0.55	0	0	1.73	Sever

Cyclone	1	2	3	4	5		Severity Index					FINAL	Status
Name of Upazila	Very Sever	Sever	Moderate	Low	VeryLow	Total							
Chakaria	2	4	5	1	1	13	0.15	0.62	1.15	0.31	0.38	2.62	Moderate
Cox's Bazar Sadar	2	3	8	2	0	15	0.13	0.4	1.6	0.53	0	2.67	Moderate
Kutubdia	8	3	1	0	0	12	0.67	0.5	0.25	0	0	1.42	Very Sever
Maheskhali	9	2	0	0	0	11	0.82	0.36	0	0	0	1.18	Very Sever
Ramu	0	2	5	4	0	11	0	0.36	1.36	1.45	0	3.18	Moderate
Teknaf	5	4	1	0	0	10	0.5	0.8	0.3	0	0	1.6	Sever
Ukhia	3	5	3	1	0	12	0.25	0.83	0.75	0.33	0	2.17	Sever
Sonagazi	6	2	4	0	0	12	0.5	0.33	1	0	0	1.83	Sever
Ramgati	5	2	2	2	1	12	0.42	0.33	0.5	0.67	0.42	2.33	Sever
Companiganj	4	5	2	1	1	13	0.31	0.77	0.46	0.31	0.38	2.23	Sever
Hatiya	9	3	1	0	0	13	0.69	0.46	0.23	0	0	1.38	Very Sever
Mongla	16	6	2	0	0	24	0.67	0.5	0.25	0	0	1.42	Very Sever
Sarankhola	12	1	3	0	0	16	0.75	0.13	0.56	0	0	1.44	Very Sever
Dacope	24	14	0	0	0	38	0.63	0.74	0	0	0	1.37	Very Sever
Koyra	25	6	4	0	0	35	0.71	0.34	0.34	0	0	1.4	Very Sever
Assasuni	10	9	4	4	0	27	0.37	0.67	0.44	0.59	0	2.07	Sever
Shyamnagar	25	8	5	0	0	38	0.66	0.42	0.39	0	0	1.47	Very Sever

Annexure II

Earthquake	1	2	3	4	5		Severity Index					FINAL	Status
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total							
Taltali	0	0	1	5	15	21	0	0	0.14	0.95	3.57	4.67	Very Low
Kotwali	0	0	5	10	2	17	0	0	0.88	2.35	0.59	3.82	Low
Amtali	0	0	0	3	9	12	0	0	0	1	3.75	4.75	Very Low
Barguna Sadar	0	0	0	6	25	31	0	0	0	0.77	4.03	4.81	Very Low
Patharghata	0	0	0	2	19	21	0	0	0	0.38	4.52	4.9	Very Low
Bhola Sadar	0	0	0	11	15	26	0	0	0	1.69	2.88	4.58	Very Low
Borhanuddin	0	0	1	7	12	20	0	0	0.15	1.4	3	4.55	Very Low
Charfession	0	0	0	5	22	27	0	0	0	0.74	4.07	4.81	Very Low
Daulatkhan	0	0	0	2	19	21	0	0	0	0.38	4.52	4.9	Very Low
Lalmohan	0	0	0	2	18	20	0	0	0	0.4	4.5	4.9	Very Low
Monpura	0	0	0	2	9	11	0	0	0	0.73	4.09	4.82	Very Low
Bauphal	0	0	0	3	12	15	0	0	0	0.8	4	4.8	Very Low
Dashmina	0	0	0	5	14	19	0	0	0	1.05	3.68	4.74	Very Low
Galachipa	0	0	0	4	9	13	0	0	0	1.23	3.46	4.69	Very Low
Kalapara	0	0	0	3	9	12	0	0	0	1	3.75	4.75	Very Low
Mathbaria	0	0	0	4	8	12	0	0	0	1.33	3.33	4.67	Very Low
Anwara	0	3	5	4	2	14	0	0.43	1.07	1.14	0.71	3.36	Moderate
Banshkhali	0	1	4	6	0	11	0	0.18	1.09	2.18	0	3.45	Moderate
Chittagohg Sadar	7	8	3	3	0	21	0.33	0.76	0.43	0.57	0	2.1	Sever

Earthquake	1	2	3	4	5		Severity Index					FINAL	Status
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total							
Mirsharai	0	4	6	4	0	14	0	0.57	1.29	1.14	0	3	Moderate
Sandwip	9	5	4	0	0	18	0.5	0.56	0.67	0	0	1.72	Sever
Sitakunda	0	2	9	4	2	17	0	0.24	1.59	0.94	0.59	3.35	Moderate
Chakaria	0	1	7	4	1	13	0	0.15	1.62	1.23	0.38	3.38	Moderate
Cox's Bazar Sadar	1	8	6	5	0	20	0.05	0.8	0.9	1	0	2.75	Moderate
Kutubdia	2	2	6	0	0	10	0.2	0.4	1.8	0	0	2.4	Sever
Maheskhali	0	5	2	2	3	12	0	0.83	0.5	0.67	1.25	3.25	Moderate
Ramu	4	3	3	0	0	10	0.4	0.6	0.9	0	0	1.9	Sever
Teknaf	0	3	3	5	0	11	0	0.55	0.82	1.82	0	3.18	Moderate
Ukhia	1	2	5	2	0	10	0.1	0.4	1.5	0.8	0	2.8	Moderate
Sonagazi	0	0	5	2	6	13	0	0	1.15	0.62	2.31	4.08	Low
Ramgati	0	0	0	2	8	10	0	0	0	0.8	4	4.8	Very Low
Companiganj	0	0	2	5	6	13	0	0	0.46	1.54	2.31	4.31	Low
Hatiya	0	0	1	4	9	14	0	0	0.21	1.14	3.21	4.57	Very Low
Mongla	0	0	2	6	14	22	0	0	0.27	1.09	3.18	4.55	Very Low
Sarankhola	0	0	0	4	8	12	0	0	0	1.33	3.33	4.67	Very Low
Dacope	0	0	0	15	20	35	0	0	0	1.71	2.86	4.57	Very Low
Koyra	0	0	3	12	25	40	0	0	0.23	1.2	3.13	4.55	Very Low
Assasuni	0	0	5	3	20	28	0	0	0.54	0.43	3.57	4.54	Very Low
Shyamnagar	0	0	1	3	10	14	0	0	0.21	0.86	3.57	4.64	Very Low

Flood	1	2	3	4	5		Severity Index						
Name of Upazila	**Very Sever**	**Sever**	**Moderate**	**Low**	**Very Low**	**Total**						**FINAL**	**Status**
Taltali	7	9	5	0	0	21	0.33	0.86	0.71	0	0	1.9	Sever
Kotwali	12	7	2	0	0	21	0.57	0.67	0.29	0	0	1.52	Sever
Amtali	9	6	3	0	0	18	0.5	0.67	0.5	0	0	1.67	Sever
Barguna Sadar	10	7	5	0	0	22	0.45	0.64	0.68	0	0	1.77	Sever
Patharghata	13	5	4	0	0	22	0.59	0.45	0.55	0	0	1.59	Sever
Bhola Sadar	15	8	3	0	0	26	0.58	0.62	0.35	0	0	1.54	Sever
Borhanuddin	2	7	6	5	2	22	0.09	0.64	0.82	0.91	0.45	2.91	Moderate
Charfession	12	6	5	0	0	23	0.52	0.52	0.65	0	0	1.7	Sever
Daulatkhan	2	4	11	0	1	18	0.11	0.44	1.83	0	0.28	2.67	Moderate
Lalmohan	1	6	11	5	0	23	0.04	0.52	1.43	0.87	0	2.87	Moderate
Monpura	6	2	3	0	0	11	0.55	0.36	0.82	0	0	1.73	Sever
Bauphal	2	3	10	1	0	16	0.13	0.38	1.88	0.25	0	2.63	Moderate
Dashmina	2	4	13	2	0	21	0.1	0.38	1.86	0.38	0	2.71	Moderate
Galachipa	5	3	2	0	0	10	0.5	0.6	0.6	0	0	1.7	Sever
Kalapara	6	2	4	0	0	12	0.5	0.33	1	0	0	1.83	Sever
Mathbaria	2	3	6	4	0	15	0.13	0.4	1.2	1.07	0	2.8	Moderate
Anwara	0	1	2	9	1	13	0	0.15	0.46	2.77	0.38	3.77	Low
Banshkhali	0	0	1	3	11	15	0	0	0.2	0.8	3.67	4.67	Very Low
Chittagohg Sadar	0	0	2	5	4	11	0	0	0.55	1.82	1.82	4.18	Low

Flood	1	2	3	4	5		Severity Index						
Name of Upazila	**Very Sever**	**Sever**	**Moderate**	**Low**	**Very Low**	**Total**						**FINAL**	**Status**
Mirsharai	0	0	3	4	15	22	0	0	0.41	0.73	3.41	4.55	Very Low
Sandwip	0	2	5	4	0	11	0	0.36	1.36	1.45	0	3.18	Moderate
Sitakunda	0	0	1	2	9	12	0	0	0.25	0.67	3.75	4.67	Very Low
Chakaria	0	0	1	3	11	15	0	0	0.2	0.8	3.67	4.67	Very Low
Cox's Bazar Sadar	0	0	6	4	6	16	0	0	1.13	1	1.88	4	Low
Kutubdia	0	2	8	6	1	17	0	0.24	1.41	1.41	0.29	3.35	Moderate
Maheskhali	0	1	8	5	0	14	0	0.14	1.71	1.43	0	3.29	Moderate
Ramu	0	0	2	5	4	11	0	0	0.55	1.82	1.82	4.18	Low
Teknaf	5	4	1	0	0	10	0.5	0.8	0.3	0	0	1.6	Sever
Ukhia	1	1	5	2	1	10	0.1	0.2	1.5	0.8	0.5	3.1	Moderate
Sonagazi	0	0	1	4	9	14	0	0	0.21	1.14	3.21	4.57	Very Low
Ramgati	1	1	5	2	1	10	0.1	0.2	1.5	0.8	0.5	3.1	Moderate
Companiganj	0	1	2	6	1	10	0	0.2	0.6	2.4	0.5	3.7	Low
Hatiya	3	5	2	1	0	11	0.27	0.91	0.55	0.36	0	2.09	Sever
Mongla	16	4	2	1	1	24	0.67	0.33	0.25	0.17	0.21	1.63	Sever
Sarankhola	0	1	8	3	0	12	0	0.17	2	1	0	3.17	Moderate
Dacope	0	7	15	5	2	29	0	0.48	1.55	0.69	0.34	3.07	Moderate
Koyra	16	9	5	0	0	30	0.53	0.6	0.5	0	0	1.63	Sever
Assasuni	0	9	4	4	1	18	0	1	0.67	0.89	0.28	2.83	Moderate
Shyamnagar	25	27	4	1	0	57	0.44	0.95	0.21	0.07	0	1.67	Sever

Annexure II

Landslide	1	2	3	4	5								
Name of Upazila	**Very Sever**	**Sever**	**Moderate**	**Low**	**Very Low**	**Total**	**Severity Index**					**FINAL**	**Status**
Taltali	0	0	1	7	13	21	0	0	0.14	1.33	3.1	4.57	Very Low
Kotwali	0	1	5	6	9	21	0	0.1	0.71	1.14	2.14	4.1	Low
Amtali	0	0	0	3	9	12	0	0	0	1	3.75	4.75	Very Low
Barguna Sadar	0	0	0	6	25	31	0	0	0	0.77	4.03	4.81	Very Low
Patharghata	0	0	0	2	19	21	0	0	0	0.38	4.52	4.9	Very Low
Bhola Sadar	0	0	0	11	15	26	0	0	0	1.69	2.88	4.58	Very Low

Landslide	1	2	3	4	5								
Name of Upazila	**Very Sever**	**Sever**	**Moderate**	**Low**	**Very Low**	**Total**	**Severity Index**					**FINAL**	**Status**
Borhanuddin	0	0	0	9	13	22	0	0	0	1.64	2.95	4.59	Very Low
Charfession	0	0	0	7	20	27	0	0	0	1.04	3.7	4.74	Very Low
Daulatkhan	0	0	0	6	15	21	0	0	0	1.14	3.57	4.71	Very Low
Lalmohan	0	0	0	4	16	20	0	0	0	0.8	4	4.8	Very Low
Monpura	0	0	1	2	8	11	0	0	0.27	0.73	3.64	4.64	Very Low
Bauphal	0	0	0	4	11	15	0	0	0	1.07	3.67	4.73	Very Low

Landslide	1	2	3	4	5								
Name of Upazila	**Very Sever**	**Sever**	**Moderate**	**Low**	**Very Low**	**Total**	**Severity Index**					**FINAL**	**Status**
Dashmina	0	0	0	6	13	19	0	0	0	1.26	3.42	4.68	Very Low
Galachipa	0	0	0	1	9	10	0	0	0	0.4	4.5	4.9	Very Low
Kalapara	0	0	0	3	9	12	0	0	0	1	3.75	4.75	Very Low
Mathbaria	0	0	0	3	9	12	0	0	0	1	3.75	4.75	Very Low
Anwara	0	3	4	2	1	10	0	0.6	1.2	0.8	0.5	3.1	Moderate
Banshkhali	0	2	3	6	0	11	0	0.36	0.82	2.18	0	3.36	Moderate

Landslide	1	2	3	4	5								
Name of Upazila	**Very Sever**	**Sever**	**Moderate**	**Low**	**Very Low**	**Total**	**Severity Index**					**FINAL**	**Status**
Chittagohg Sadar	0	2	7	8	4	21	0	0.19	1	1.52	0.95	3.67	Low
Mirsharai	0	1	3	2	5	11	0	0.18	0.82	0.73	2.27	4	Low
Sandwip	0	0	0	4	7	11	0	0	0	1.45	3.18	4.64	Very Low
Sitakunda	0	0	0	9	4	13	0	0	0	2.77	1.54	4.31	Low
Chakaria	0	0	7	2	1	10	0	0	2.1	0.8	0.5	3.4	Moderate
Cox's Bazar Sadar	1	5	8	3	0	17	0.06	0.59	1.41	0.71	0	2.76	Moderate

Landslide	1	2	3	4	5								
Name of Upazila	**Very Sever**	**Sever**	**Moderate**	**Low**	**Very Low**	**Total**	**Severity Index**					**FINAL**	**Status**
Kutubdia	0	0	8	2	1	11	0	0	2.18	0.73	0.45	3.36	Moderate
Maheskhali	0	2	9	6	5	22	0	0.18	1.23	1.09	1.14	3.64	Low
Ramu	0	2	7	3	0	12	0	0.33	1.75	1	0	3.08	Moderate
Teknaf	0	2	3	5	1	11	0	0.36	0.82	1.82	0.45	3.45	Moderate
Ukhia	1	2	5	2	0	10	0.1	0.4	1.5	0.8	0	2.8	Moderate
Sonagazi	0	0	0	3	9	12	0	0	0	1	3.75	4.75	Very Low

Landslide	1	2	3	4	5								
Name of Upazila	**Very Sever**	**Sever**	**Moderate**	**Low**	**Very Low**	**Total**	**Severity Index**					**FINAL**	**Status**
Ramgati	0	0	0	2	8	10	0	0	0	0.8	4	4.8	Very Low
Companiganj	0	0	2	3	11	16	0	0	0.38	0.75	3.44	4.56	Very Low
Hatiya	0	0	2	1	9	12	0	0	0.5	0.33	3.75	4.58	Very Low
Mongla	0	0	2	5	14	21	0	0	0.29	0.95	3.33	4.57	Very Low
Sarankhola	0	0	0	4	8	12	0	0	0	1.33	3.33	4.67	Very Low
Dacope	0	0	1	4	20	25	0	0	0.12	0.64	4	4.76	Very Low

Landslide	1	2	3	4	5								
Name of Upazila	**Very Sever**	**Sever**	**Moderate**	**Low**	**Very Low**	**Total**	**Severity Index**					**FINAL**	**Status**
Koyra	0	0	1	5	11	17	0	0	0.18	1.18	3.24	4.59	Very Low
Assasuni	0	0	0	8	20	28	0	0	0	1.14	3.57	4.71	Very Low
Shyamnagar	0	0	0	24	33	57	0	0	0	1.68	2.89	4.58	Very Low

Annexure II

River Erosion	1	2	3	4	5								
Name of Upazila	**Very Sever**	**Sever**	**Moderate**	**Low**	**Very Low**	**Total**	**Severity Index**					**FINAL**	**Status**
Taltali	10	7	4	0	0	21	0.48	0.67	0.57	0	0	1.71	Sever
Kotwali	2	6	12	2	0	22	0.09	0.55	1.64	0.36	0	2.64	Moderate
Amtali	2	4	17	0	0	23	0.09	0.35	2.22	0	0	2.65	Moderate
Barguna Sadar	15	10	6	0	0	31	0.48	0.65	0.58	0	0	1.71	Sever
Patharghata	1	5	12	2	0	20	0.05	0.5	1.8	0.4	0	2.75	Moderate
Bhola Sadar	15	8	3	0	0	26	0.58	0.62	0.35	0	0	1.54	Sever
Borhanuddin	10	7	2	3	0	22	0.45	0.64	0.27	0.55	0	1.91	Sever
Charfession	16	6	5	0	0	27	0.59	0.44	0.56	0	0	1.59	Sever
Daulatkhan	2	6	12	0	1	21	0.1	0.57	1.71	0	0.24	2.62	Moderate
Lalmohan	1	7	12	0	0	20	0.05	0.7	1.8	0	0	2.55	Moderate

River Erosion	1	2	3	4	5							
Name of Upazila	**Very Sever**	**Sever**	**Moderate**	**Low**	**Very Low**	**Total**	**Severity Index**					**FINAL**	**Status**
Monpura	9	2	0	0	0	11	0.82	0.36	0	0	0	1.18	Very Sever
Bauphal	9	3	2	1	0	15	0.6	0.4	0.4	0.27	0	1.67	Sever
Dashmina	12	4	3	0	0	19	0.63	0.42	0.47	0	0	1.53	Sever
Galachipa	9	2	1	0	0	12	0.75	0.33	0.25	0	0	1.33	Very Sever
Kalapara	9	2	0	0	0	11	0.82	0.36	0	0	0	1.18	Very Sever
Mathbaria	3	5	3	2	0	13	0.23	0.77	0.69	0.62	0	2.31	Sever
Anwara	0	0	1	10	0	11	0	0	0.27	3.64	0	3.91	Low
Banshkhali	0	0	0	4	12	16	0	0	0	1	3.75	4.75	Very Low
Chittagohg Sadar	1	1	5	4	0	11	0.09	0.18	1.36	1.45	0	3.09	Moderate
Mirsharai	0	0	6	14	2	22	0	0	0.82	2.55	0.45	3.82	Low
Sandwip	9	6	0	0	0	15	0.6	0.8	0	0	0	1.4	Very Sever

River Erosion	1	2	3	4	5							
Name of Upazila	**Very Sever**	**Sever**	**Moderate**	**Low**	**Very Low**	**Total**	**Severity Index**					**FINAL**	**Status**
Sitakunda	0	8	2	1	0	11	0	1.45	0.55	0.36	0	2.36	Sever
Chakaria	0	0	2	6	4	12	0	0	0.5	2	1.67	4.17	Low
Cox's Bazar Sadar	0	5	6	4	0	15	0	0.67	1.2	1.07	0	2.93	Moderate
Kutubdia	8	4	4	0	0	16	0.5	0.5	0.75	0	0	1.75	Sever
Maheskhali	9	3	0	0	0	12	0.75	0.5	0	0	0	1.25	Very Sever
Ramu	1	3	5	2	0	11	0.09	0.55	1.36	0.73	0	2.73	Moderate
Teknaf	6	4	3	0	0	13	0.46	0.62	0.69	0	0	1.77	Sever
Ukhia	5	6	1	0	0	12	0.42	1	0.25	0	0	1.67	Sever
Sonagazi	0	4	8	2	0	14	0	0.57	1.71	0.57	0	2.86	Moderate
Ramgati	14	3	0	0	0	17	0.82	0.35	0	0	0	1.18	Very Sever
Companiganj	1	3	5	1	0	10	0.1	0.6	1.5	0.4	0	2.6	Moderate

River Erosion	1	2	3	4	5								
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total	Severity Index					FINAL	Status
Hatiya	8	3	0	0	0	11	0.73	0.55	0	0	0	1.27	Very Sever
Mongla	12	6	4	1	1	24	0.5	0.5	0.5	0.17	0.21	1.88	Sever
Sarankhola	6	2	3	0	0	11	0.55	0.36	0.82	0	0	1.73	Sever
Dacope	0	11	5	5	2	23	0	0.96	0.65	0.87	0.43	2.91	Moderate
Koyra	4	12	6	0	0	22	0.18	1.09	0.82	0	0	2.09	Sever
Assasuni	0	9	10	4	1	24	0	0.75	1.25	0.67	0.21	2.88	Moderate
Shyamnagar	10	3	11	1	0	25	0.4	0.24	1.32	0.16	0	2.12	Sever

Annexure II

Salinity	1	2	3	4	5		Severity Index					FINAL	Status
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total							
Taltali	16	4	1	0	0	21	0.76	0.38	0.14	0	0	1.29	Very Sever
Kotwali	10	6	5	0	0	21	0.48	0.57	0.71	0	0	1.76	Sever
Amtali	18	3	0	0	0	21	0.86	0.29	0	0	0	1.14	Very Sever
Barguna Sadar	25	6	0	0	0	31	0.81	0.39	0	0	0	1.19	Very Sever
Patharghata	17	2	2	0	0	21	0.81	0.19	0.29	0	0	1.29	Very Sever
Bhola Sadar	19	5	3	0	0	27	0.7	0.37	0.33	0	0	1.41	Very Sever
Borhanuddin	13	7	2	0	0	22	0.59	0.64	0.27	0	0	1.5	Very Sever
Charfession	21	4	2	0	0	27	0.78	0.3	0.22	0	0	1.3	Very Sever
Daulatkhan	9	6	5	0	1	21	0.43	0.57	0.71	0	0.24	1.95	Sever
Lalmohan	13	4	3	0	0	20	0.65	0.4	0.45	0	0	1.5	Very Sever
Monpura	11	0	0	0	0	11	1	0	0	0	0	1	Very Sever
Bauphal	3	12	0	0	0	15	0.2	1.6	0	0	0	1.8	Sever
Dashmina	15	4	0	0	0	19	0.79	0.42	0	0	0	1.21	Very Sever
Galachipa	9	3	0	0	0	12	0.75	0.5	0	0	0	1.25	Very Sever
Kalapara	9	2	0	0	0	11	0.82	0.36	0	0	0	1.18	Very Sever
Mathbaria	4	7	0	0	0	11	0.36	1.27	0	0	0	1.64	Sever
Anwara	0	2	6	2	0	10	0	0.4	1.8	0.8	0	3	Moderate
Banshkhali	0	3	8	3	0	14	0	0.43	1.71	0.86	0	3	Moderate
Chittagohg Sadar	1	1	5	4	0	11	0.09	0.18	1.36	1.45	0	3.09	Moderate

Salinity	1	2	3	4	5		Severity Index					FINAL	Status
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total							
Mirsharai	0	3	10	2	0	15	0	0.4	2	0.53	0	2.93	Moderate
Sandwip	9	5	0	0	0	14	0.64	0.71	0	0	0	1.36	Very Sever
Sitakunda	0	8	2	1	0	11	0	1.45	0.55	0.36	0	2.36	Sever
Chakaria	0	0	4	7	5	16	0	0	0.75	1.75	1.56	4.06	Low
Cox's Bazar Sadar	1	5	8	4	0	18	0.06	0.56	1.33	0.89	0	2.83	Moderate
Kutubdia	8	3	1	0	0	12	0.67	0.5	0.25	0	0	1.42	Very Sever
Maheskhali	8	2	1	0	0	11	0.73	0.36	0.27	0	0	1.36	Very Sever
Ramu	5	8	1	0	0	14	0.36	1.14	0.21	0	0	1.71	Sever
Teknaf	8	2	0	0	0	10	0.8	0.4	0	0	0	1.2	Very Sever
Ukhia	12	4	1	0	0	17	0.71	0.47	0.18	0	0	1.35	Very Sever
Sonagazi	2	3	6	0	0	11	0.18	0.55	1.64	0	0	2.36	Sever
Ramgati	5	10	3	0	0	18	0.28	1.11	0.5	0	0	1.89	Sever
Companiganj	5	8	0	0	0	13	0.38	1.23	0	0	0	1.62	Sever
Hatiya	9	2	0	0	0	11	0.82	0.36	0	0	0	1.18	Very Sever
Mongla	14	9	1	0	0	24	0.58	0.75	0.13	0	0	1.46	Very Sever
Sarankhola	6	5	0	0	0	11	0.55	0.91	0	0	0	1.45	Very Sever
Dacope	30	6	2	0	0	38	0.79	0.32	0.16	0	0	1.26	Very Sever
Koyra	13	3	2	0	0	18	0.72	0.33	0.33	0	0	1.39	Very Sever
Assasuni	0	4	19	5	0	28	0	0.29	2.04	0.71	0	3.04	Moderate
Shyamnagar	14	6	2	0	0	22	0.64	0.55	0.27	0	0	1.45	Very Sever

Annexure II

Tsunami	1	2	3	4	5								
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total	Severity Index					FINAL	Status
Taltali	12	6	3	0	0	21	0.57	0.57	0.43	0	0	1.57	Sever
Kotwali	0	0	1	7	11	19	0	0	0.16	1.47	2.89	4.53	Very Low
Amtali	0	3	18	1	0	22	0	0.27	2.45	0.18	0	2.91	Moderate
Barguna Sadar	0	0	6	14	0	20	0	0	0.9	2.8	0	3.7	Low
Patharghata	0	0	2	17	2	21	0	0	0.29	3.24	0.48	4	Low
Bhola Sadar	12	5	7	4	0	28	0.43	0.36	0.75	0.57	0	2.11	Sever
Borhanuddin	0	0	1	7	13	21	0	0	0.14	1.33	3.1	4.57	Very Low
Charfession	0	4	21	2	0	27	0	0.3	2.33	0.3	0	2.93	Moderate
Daulatkhan	0	0	1	2	12	15	0	0	0.2	0.53	4	4.73	Very Low
Lalmohan	0	0	3	13	1	17	0	0	0.53	3.06	0.29	3.88	Low
Monpura	0	2	11	2	0	15	0	0.27	2.2	0.53	0	3	Moderate
Bauphal	0	0	0	2	12	14	0	0	0	0.57	4.29	4.86	Very Low
Dashmina	0	0	3	15	1	19	0	0	0.47	3.16	0.26	3.89	Low
Galachipa	0	3	9	2	0	14	0	0.43	1.93	0.57	0	2.93	Moderate
Kalapara	0	1	7	4	0	12	0	0.17	1.75	1.33	0	3.25	Moderate
Mathbaria	0	0	0	2	13	15	0	0	0	0.53	4.33	4.87	Very Low

Tsunami	1	2	3	4	5								
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total	Severity Index					FINAL	Status
Anwara	0	0	6	2	4	12	0	0	1.5	0.67	1.67	3.83	Low
Banshkhali	0	0	3	9	2	14	0	0	0.64	2.57	0.71	3.93	Low
Chittagohg Sadar	0	1	2	9	0	12	0	0.17	0.5	3	0	3.67	Low
Mirsharai	0	0	1	4	13	18	0	0	0.17	0.89	3.61	4.67	Very Low
Sandwip	0	2	9	1	0	12	0	0.33	2.25	0.33	0	2.92	Moderate
Sitakunda	0	0	1	8	2	11	0	0	0.27	2.91	0.91	4.09	Low
Chakaria	0	0	0	4	9	13	0	0	0	1.23	3.46	4.69	Very Low
Cox's Bazar Sadar	0	0	3	4	5	12	0	0	0.75	1.33	2.08	4.17	Low
Kutubdia	0	1	9	2	0	12	0	0.17	2.25	0.67	0	3.08	Moderate
Maheskhali	0	4	8	2	0	14	0	0.57	1.71	0.57	0	2.86	Moderate
Ramu	0	0	1	3	7	11	0	0	0.27	1.09	3.18	4.55	Very Low
Teknaf	0	2	12	1	0	15	0	0.27	2.4	0.27	0	2.93	Moderate
Ukhia	0	0	14	2	0	16	0	0	2.63	0.5	0	3.13	Moderate
Sonagazi	0	0	2	6	2	10	0	0	0.6	2.4	1	4	Low
Ramgati	0	0	3	5	10	18	0	0	0.5	1.11	2.78	4.39	Low
Companiganj	0	0	4	3	4	11	0	0	1.09	1.09	1.82	4	Low
Hatiya	1	5	0	2	2	10	0.1	1	0	0.8	1	2.9	Moderate
Mongla	0	0	1	14	9	24	0	0	0.13	2.33	1.88	4.33	Low

Tsunami	1	2	3	4	5							
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total	Severity Index					FINAL	Status
Sarankhola	0	1	3	7	1	12	0	0.17	0.75	2.33	0.42	3.67	Low
Dacope	0	0	2	11	25	38	0	0	0.16	1.16	3.29	4.61	Very Low
Koyra	0	0	2	13	8	23	0	0	0.26	2.26	1.74	4.26	Low
Assasuni	0	0	5	4	19	28	0	0	0.54	0.57	3.39	4.5	Low
Shyamnagar	0	0	7	15	4	26	0	0	0.81	2.31	0.77	3.88	Low

Tidal Surge	1	2	3	4	5		Severity Index					FINAL	Status
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total							
Taltali	3	6	10	2	0	21	0.14	0.57	1.43	0.38	0	2.52	Moderate
Kotwali	0	1	7	11	2	21	0	0.1	1	2.1	0.48	3.67	Low
Amtali	18	3	0	0	0	21	0.86	0.29	0	0	0	1.14	Very Sever
Barguna Sadar	10	10	6	5	0	31	0.32	0.65	0.58	0.65	0	2.19	Sever
Patharghata	4	17	2	0	0	23	0.17	1.48	0.26	0	0	1.91	Sever
Bhola Sadar	12	5	7	4	0	28	0.43	0.36	0.75	0.57	0	2.11	Sever
Borhanuddin	13	7	3	0	0	23	0.57	0.61	0.39	0	0	1.57	Sever
Charfession	21	4	2	0	0	27	0.78	0.3	0.22	0	0	1.3	Very Sever
Daulatkhan	9	6	5	0	1	21	0.43	0.57	0.71	0	0.24	1.95	Sever

Tidal Surge	1	2	3	4	5		Severity Index					FINAL	Status
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total							
Lalmohan	13	4	4	0	0	21	0.62	0.38	0.57	0	0	1.57	Sever
Monpura	11	0	0	0	0	11	1	0	0	0	0	1	Very Sever
Bauphal	3	12	0	0	0	15	0.2	1.6	0	0	0	1.8	Sever
Dashmina	4	15	0	0	0	19	0.21	1.58	0	0	0	1.79	Sever
Galachipa	9	3	0	0	0	12	0.75	0.5	0	0	0	1.25	Very Sever
Kalapara	9	3	0	0	0	12	0.75	0.5	0	0	0	1.25	Very Sever
Mathbaria	3	5	4	0	0	12	0.25	0.83	1	0	0	2.08	Sever
Anwara	0	11	3	1	0	15	0	1.47	0.6	0.27	0	2.33	Sever
Banshkhali	2	5	2	1	0	10	0.2	1	0.6	0.4	0	2.2	Sever

Tidal Surge	1	2	3	4	5		Severity Index					FINAL	Status
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total							
Chittagohg Sadar	1	10	2	1	0	14	0.07	1.43	0.43	0.29	0	2.21	Sever
Mirsharai	4	10	3	0	0	17	0.24	1.18	0.53	0	0	1.94	Sever
Sandwip	9	5	0	0	0	14	0.64	0.71	0	0	0	1.36	Very Sever
Sitakunda	1	9	2	1	0	13	0.08	1.38	0.46	0.31	0	2.23	Sever
Chakaria	0	4	6	4	1	15	0	0.53	1.2	1.07	0.33	3.13	Moderate
Cox's Bazar Sadar	0	1	8	4	1	14	0	0.14	1.71	1.14	0.36	3.36	Moderate
Kutubdia	8	1	1	0	0	10	0.8	0.2	0.3	0	0	1.3	Very Sever
Maheskhali	8	4	0	0	0	12	0.67	0.67	0	0	0	1.33	Very Sever
Ramu	0	2	11	3	0	16	0	0.25	2.06	0.75	0	3.06	Moderate

Tidal Surge	1	2	3	4	5		Severity Index					FINAL	Status
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total							
Teknaf	8	2	0	0	0	10	0.8	0.4	0	0	0	1.2	Very Sever
Ukhia	3	6	2	0	0	11	0.27	1.09	0.55	0	0	1.91	Sever
Sonagazi	2	6	4	0	0	12	0.17	1	1	0	0	2.17	Sever
Ramgati	0	10	3	1	0	14	0	1.43	0.64	0.29	0	2.36	Sever
Companiganj	0	7	3	1	0	11	0	1.27	0.82	0.36	0	2.45	Sever
Hatiya	7	2	1	0	0	10	0.7	0.4	0.3	0	0	1.4	Very Sever
Mongla	9	14	1	0	0	24	0.38	1.17	0.13	0	0	1.67	Sever
Sarankhola	4	5	3	0	0	12	0.33	0.83	0.75	0	0	1.92	Sever
Dacope	11	16	2	0	0	29	0.38	1.1	0.21	0	0	1.69	Sever

Tidal Surge	1	2	3	4	5		Severity Index					FINAL	Status
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total							
Koyra	65	29	16	0	0	110	0.59	0.53	0.44	0	0	1.55	Sever
Assasuni	0	0	5	4	16	25	0	0	0.6	0.64	3.2	4.44	Low
Shyamnagar	35	15	7	0	0	57	0.61	0.53	0.37	0	0	1.51	Sever

Annexure-II

WaterLogging	1	2	3	4	5		Severity Index					FINAL	Status
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total							
Taltali	0	0	3	7	11	21	0	0	0.43	1.33	2.62	4.38	Low
Kotwali	0	0	15	4	1	20	0	0	2.25	0.8	0.25	3.3	Moderate
Amtali	0	0	2	15	4	21	0	0	0.29	2.86	0.95	4.1	Low
Barguna Sadar	0	1	10	9	15	35	0	0.06	0.86	1.03	2.14	4.09	Low
Patharghata	0	2	7	14	4	27	0	0.15	0.78	2.07	0.74	3.74	Low

WaterLogging	1	2	3	4	5		Severity Index					FINAL	Status
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total							
Bhola Sadar	0	0	3	8	15	26	0	0	0.35	1.23	2.88	4.46	Low
Borhanuddin	0	0	2	7	12	21	0	0	0.29	1.33	2.86	4.48	Low
Charfession	0	0	2	4	21	27	0	0	0.22	0.59	3.89	4.7	Very Low
Daulatkhan	0	0	13	2	3	18	0	0	2.17	0.44	0.83	3.44	Moderate
Lalmohan	0	0	2	8	10	20	0	0	0.3	1.6	2.5	4.4	Low
Monpura	0	0	1	2	9	12	0	0	0.25	0.67	3.75	4.67	Very Low
Bauphal	0	0	11	1	3	15	0	0	2.2	0.27	1	3.47	Moderate
Dashmina	0	0	14	4	1	19	0	0	2.21	0.84	0.26	3.32	Moderate
Galachipa	0	0	7	3	0	10	0	0	2.1	1.2	0	3.3	Moderate
Kalapara	0	0	1	2	8	11	0	0	0.27	0.73	3.64	4.64	Very Low
Mathbaria	0	2	3	7	0	12	0	0.33	0.75	2.33	0	3.42	Moderate
Anwara	0	0	1	8	1	10	0	0	0.3	3.2	0.5	4	Low
Banshkhali	0	0	2	4	5	11	0	0	0.55	1.45	2.27	4.27	Low
Chittagohg Sadar	0	0	9	1	2	12	0	0	2.25	0.33	0.83	3.42	Moderate
Mirsharai	0	0	13	2	2	17	0	0	2.29	0.47	0.59	3.35	Moderate
Sandwip	0	0	0	5	7	12	0	0	0	1.67	2.92	4.58	Very Low
Sitakunda	0	0	3	6	5	14	0	0	0.64	1.71	1.79	4.14	Low
Chakaria	0	0	7	2	1	10	0	0	2.1	0.8	0.5	3.4	Moderate
Cox's Bazar Sadar	0	0	10	4	1	15	0	0	2	1.07	0.33	3.4	Moderate

WaterLogging	1	2	3	4	5		Severity Index					FINAL	Status
Name of Upazila	Very Sever	Sever	Moderate	Low	Very Low	Total							
Kutubdia	0	0	1	2	11	14	0	0	0.21	0.57	3.93	4.71	Very Low
Maheskhali	0	0	1	6	2	9	0	0	0.33	2.67	1.11	4.11	Low
Ramu	0	0	1	4	8	13	0	0	0.23	1.23	3.08	4.54	Very Low
Teknaf	0	0	1	4	5	10	0	0	0.3	1.6	2.5	4.4	Low
Ukhia	0	1	5	9	1	16	0	0.13	0.94	2.25	0.31	3.63	Low
Sonagazi	0	0	4	2	6	12	0	0	1	0.67	2.5	4.17	Low
Ramgati	0	1	2	11	1	15	0	0.13	0.4	2.93	0.33	3.8	Low
Companiganj	0	3	2	9	1	15	0	0.4	0.4	2.4	0.33	3.53	Low
Hatiya	0	0	1	3	5	9	0	0	0.33	1.33	2.78	4.44	Low
Mongla	0	0	1	1	11	13	0	0	0.23	0.31	4.23	4.77	Very Low
Sarankhola	0	0	3	8	1	12	0	0	0.75	2.67	0.42	3.83	Low
Dacope	0	2	1	5	24	32	0	0.13	0.09	0.63	3.75	4.59	Very Low
Koyra	0	0	1	6	20	27	0	0	0.11	0.89	3.7	4.7	Very Low
Assasuni	0	0	4	13	1	18	0	0	0.67	2.89	0.28	3.83	Low
Shyamnagar	0	0	0	1	25	26	0	0	0	0.15	4.81	4.96	Very Low

Annexure-III

Average Disaster Severity Index

	Disaster						
Name of Upazila / Thana	**Cyclone**	**Flood**	**Erosion**	**Salinity**	**Tidal surge**	**Total**	**Average**
Amtali	1.19	1.67	2.65	1.14	1.14	7.79	1.558
Anwara	1.5	3.77	3.91	3	2.33	14.51	2.902
Assasuni	2.07	2.83	2.88	3.04	4.44	15.26	3.052
Banshkhali	1.63	4.67	4.75	3	2.2	16.25	3.25
Barguna Sadar	1.1	1.77	1.71	1.19	2.19	7.96	1.592
Bauphal	1.8	2.63	1.67	1.8	1.8	9.7	1.94
Bhola Sadar	1.54	1.54	1.54	1.41	2.11	8.14	1.628
Borhanuddin	1.45	2.91	1.91	1.5	1.57	9.34	1.868
Chakaria	2.62	4.67	4.17	4.06	3.13	18.65	3.73
Charfession	1.3	1.7	1.59	1.3	1.3	7.19	1.438
Chittagohg Sadar	1.31	4.18	3.09	3.09	2.21	13.88	2.776
Companiganj	2.23	3.7	2.6	1.62	2.45	12.6	2.52
Cox's Bazar Sadar	2.67	4	2.93	2.83	3.36	15.79	3.158
Dacope	1.37	3.07	2.91	1.26	1.69	10.3	2.06
Dashmina	1.32	2.71	1.53	1.21	1.79	8.56	1.712
Daulatkhan	1.57	2.67	2.62	1.95	1.95	10.76	2.152
Galachipa	1.42	1.7	1.33	1.25	1.25	6.95	1.39
Hatiya	1.38	2.09	1.27	1.18	1.4	7.32	1.464
Kalapara	1.17	1.83	1.18	1.18	1.25	6.61	1.322
Kotwali	1.38	1.52	2.64	1.76	3.67	10.97	2.194
Koyra	1.4	1.63	2.09	1.39	1.55	8.06	1.612

	Disaster						
Name of Upazila / Thana	**Cyclone**	**Flood**	**Erosion**	**Salinity**	**Tidal surge**	**Total**	**Average**
Kutubdia	1.42	3.35	1.75	1.42	1.3	9.24	1.848
Lalmohan	1.1	2.87	2.55	1.5	1.57	9.59	1.918
Maheskhali	1.18	3.29	1.25	1.36	1.33	8.41	1.682
Mathbaria	1.43	2.8	2.31	1.64	2.08	10.26	2.052
Mirsharai	1.9	4.55	3.82	2.93	1.94	15.14	3.028
Mongla	1.42	1.63	1.88	1.46	1.67	8.06	1.612
Monpura	1.18	1.73	1.18	1	1	6.09	1.218
Patharghata	1.1	1.59	2.75	1.29	1.91	8.64	1.728
Ramgati	2.33	3.1	1.18	1.89	2.36	10.86	2.172
Ramu	3.18	4.18	2.73	1.71	3.06	14.86	2.972
Sandwip	1.33	3.18	1.4	1.36	1.36	8.63	1.726
Sarankhola	1.44	3.17	1.73	1.45	1.92	9.71	1.942
Shyamnagar	1.47	1.67	2.12	1.45	1.51	8.22	1.644
Sitakunda	1.73	4.67	2.36	2.36	2.23	13.35	2.67
Sonagazi	1.83	4.57	2.86	2.36	2.17	13.79	2.758
Taltali	1.62	1.9	1.71	1.29	2.52	9.04	1.808
Teknaf	1.6	1.6	1.77	1.2	1.2	7.37	1.474
Ukhia	2.17	3.1	1.67	1.35	1.91	10.2	2.04

Source: Field Study, 2012-2013

Annexure-IV

Questionnaire

Crimes and Disaster : A Scenario of the Coastal Region of Bangladesh

1. Identification:

1.1 Name of Respondent (preferably Head of Household)

1.2 Name of Respondent's Father:

1.3 Holding No:

Village/Name of Road:

Post Office:

Thana/Upazila:

District :

Mobile/phone(if have)

1.4 Age:

1.5 Marital Status:

1.6 Sex:

1.7 How long have you been living here?

a) 0-5 years b) 6-10 years c) 11-15 years d) 16-20 years

e) above 20 years

1.8 Education Qualification:

a) Post Graduate b) Graduate c) Higher Secondary/Equivalent

d) Secondary/ Equivalent e) Below Secondary f) Illiterate

1.9 Occupation:

a) Doctor b) Engineer c)Teacher d) Government Officer

e)Social Worker f) Politician g) Lawyer h) Business man

i) Farmer j) NGO worker k) Service holder l) Fisherman m) Other

2. Disaster Related information:

2.1 Determine you area in ranking position based on disaster tendency?

a) Cyclone b)Flood c)Waterlogging d)Riverbank erosion

e)Drought f) Landslide g)Earthquake h)Tsunami i)Salinity Intrusion

J) Other

2.2 What is the reason behind the disaster of your area?

a) Global warming b) Deforestation c) High rainfall d) Siltation of river bed e) River Current with speed f) Narrowness of river embankment g) Penetration saline water h)Lack of sufficient water drainage I) Sea level rise m) other

2.3 What time of the year does disaster appear to your area ?

2.4 When does the disaster appear in a day?

2.5What types of loss or damage that you feel during disaster?

2.6 Is the existing system of reducing measures of disaster in your area enough?

2.7 Who are the most vulnerable of your area during disaster?

2.8 Deliver your opinion in controlling disaster of your area.

3. Crime related information:

3.1 Do any activity of crime increase after disaster in your area?

a) What types of crimes may increase after disaster in your area?

b) What is the cause of it?

3.2What type of crimes can be observed vigorously in your area?

3.3 Identify the hotspots of crimes in your area.

3.4 What are the factors that are responsible of crime tendency of your area?

3.5 In what time of the year are the crimes occurred highly of your area?

3.6 Does the crime occurred highly in day or night?

3.7 Do you victim of any type crime after disaster?

3.8 Are the existing measures of controlling crimes of Government and Non government service sufficient to your area?

3.9 Is there any social disorder except crime observed in your locality?

3.10 Give your opinion in controlling the crimes of your locality?

Name of enumerator of the questionnaire:

Address of enumerator:

Mobie No :

Date:

Signature

Annexure-V

Survey Photograph